

**Ioan Abrudan - Coordinator**

**Proceedings of the 3rd  
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International Management Conference**

# **A new dilemma: between East and West**

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# **Dilemmas of Management**

# Strategies for marketing of Indian healthcare services internationally

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## Abstract

*The Healthcare sector is among the most rapidly growing sectors in the world economy. By looking at Human Development index 2011 of different countries, India is placed at 134<sup>th</sup> position among 177 countries. It is estimated to be about \$3 trillion per year in the OECD countries alone and is expected to rise to \$7 trillion by 2015. It is also reflected in the growing number of companies engaged in joint ventures and collaborative arrangements in the health services sector and in the increased cross-border exchange and dissemination of information, education, and training in this sector.*

*The critiques agree that India's core strength derives from own resources- natural and Human. Here the author (researcher) felt the discrepancy and mismatch between International market potential and Indian resources available in Healthcare sector. One could fore see the Healthcare sector as wealth care sector in the years to come. An extensive desk research and discussions with experts made the researcher, to arrive at following conclusions: 1. It is confidentially predicted that over next decade, Asia will have fastest growing health tourist populations in world. How ever many Asian countries such as Thailand, Indonesia and India have sought to explore potential in International Healthcare sector. In the changing scenario especially aftermath of Asian financial crisis, India would have made long strides to tap the potential of international Healthcare sector, but Indian Healthcare sector failed to attract health tourists by providing world class facilities. The reasons found to be failure to make use of Technology, Human resources and Barriers on migration of medical professionals. 2. Factors that have led to the increasing popularity of medical travel include the high cost of Healthcare in affluent countries, long wait times for certain procedures, the ease and affordability of international travel, and improvements in both technology and standards of care in many countries. In the light of above Cost advantage that the Indian Hospitals have was not portrayed as strategy for attracting International Health Tourists from all over the world. 3. The competitive advantage of the development of Alternative medicine was never used as strategy to offer solutions to some of critical diseases that patients suffering from. 4. Lack of coordination and integration of various systems, authorities, and apex bodies also lead to failure in tapping potential in Healthcare sector. 5. Non- Promotion of competitive advantage that India has over other nations lead to slow growth in making Indian Healthcare sector as wealth sector.*

*In this paper, we made an attempt to develop few strategies to make Indian Healthcare sector, to focus its marketing efforts to tap the potential and demand for cost effective and quality Healthcare in world markets, especially in the wake of global recession.*

## International Trade in Health Services: Introduction

Globalization over the past two decades has affected a wide range of sectors, directly or indirectly. Spurred in part by technological advances and by national political and economic compulsions, the process of globalization has led to the emergence of new forms of business opportunities, processes, and organizations. It has made necessary the establishment of international rules and regulatory frameworks in areas which were previously the exclusive domain of domestic policies. The health sector is one such area which has been significantly affected by globalization despite its public good and noncommercial nature. The Healthcare

sector is among the most rapidly growing sectors in the world economy. It is estimated to be about \$3 trillion per year in the OECD countries alone and is expected to rise to \$7 trillion by 2012<sup>1</sup>. Globalization of health services is reflected in the emergence of new kinds of Healthcare organizations over the past decade and in the increased cross-border delivery of health services through movement of personnel and consumers and through cross-border electronic and other means. It is also reflected in the growing number of companies engaged in joint ventures and collaborative arrangements in the health services sector and in the increased cross-border exchange and dissemination of information, education, and training in this sector. Globalisation by some analysts is considered as a ‘process of closer interaction of human activities across a range of spheres including economic, political, social and cultural aspects occurring globally along three dimensions: spatial, temporal and cognitive’ (Lee, 2000). However, Labonte et al. (2002) contends that this conclusion fails to address the ‘drivers’ of contemporary globalization, namely the changes in global capitalist organization and associated macroeconomic policies that have been a source of rising global inequalities. Robertson (1992:8) opined that there is a broader view and description of globalization; and globalization as a concept refers both to the compression of the world and intensification of consciousness of the world as a whole enhances both concrete global interdependence and consciousness of the global whole in the twentieth century’. This is very useful conceptualization of globalization for the purposes of understanding Healthcare in an era of diminishing national, technological, mental and physical limitations & boundaries in the delivery of Healthcare services.

### **Overview of global trade in health services** **Modes of trade in health services**

Health services can be traded in various ways. Borrowing from the characterization of various modes of supply under the GATS framework, trade in health services occurs via four modes of supply. The General Agreement on Trade in Services conceptualizes services trade via four modes of supply. These include cross-border trade, consumption abroad, commercial presence, and movement of natural persons (as opposed to juridical entities).

#### **1 Cross-border delivery (mode 1)**

The first mode is **cross-border delivery** (mode 1) of health services. The latter includes shipment of lab samples, diagnosis, and clinical consultation done via traditional mail channels. It also includes electronic delivery of health services or tele-health services. The latter makes use of interactive audiovisual, and data communications to provide services such as diagnosis, second opinions, lab testing, surveillance, consultations, transmission of and access to specialized data, records, and information, and continuing education and upgrading of skills.

#### **2. Consumption abroad (mode 2)**

The second mode of health services trade is **consumption abroad** (mode 2). This refers to the movement of consumers to the country providing the service for diagnosis and treatment. Such trade is driven by differences in cost, quality, and availability of treatment across countries as well as factors such as natural endowments, existence of alternative medicines and treatment procedures, long waiting lists for treatment in the source country, and cultural, linguistic, and geographic proximity between sending and receiving countries. Consumption abroad in health services also consists of movement of health professionals and students for receiving medical and paramedical education and training abroad. For instance, patients from developed countries such as the US and the UK can get bypass surgeries or transplants done at one-fourth or one-fifth of the cost in high quality corporate and super specialty hospitals in developing countries such as India, indicating the tremendous scope for gains from trade due to cost differences.

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<sup>1</sup> UNCTAD/WHO (1998), Chapter 3, p. 55 and UNCTAD (April 1997). The OECD countries account for 90 per cent of world Healthcare expenditures. There is significant variation in per capita health expenditures with some LDCs spending \$5 per year to developed countries such as the US spending \$3,500 per year. The sector’s share in GDP also varies significantly across countries, from as low as 2 per cent or 3 per cent to over 10 per cent in some developed countries.

**3. Commercial presence (mode 3):** The third mode of trade in health services is **commercial presence** (mode 3) which involves the establishment of hospitals, clinics, diagnostic and treatment Centres, and nursing homes. Countries have become increasingly open to foreign direct investments in order to upgrade and modernize their Healthcare infrastructure and training facilities. For instance, developing countries such as India, Indonesia, Nepal, Maldives, Sri Lanka, and Thailand have opened their markets to foreign collaboration in the health services sector. The growing trend towards commercial presence in health services is evident from the many regional Healthcare networks and chains that have been formed in recent years. For instance, the Singapore based Parkway Group has acquired hospitals in Asia and Britain and has created an international chain of hospitals, Gleneagles International, through joint ventures with partners in Malaysia, Indonesia, Sri Lanka, India, and the UK. However, a few corporate hospitals in developing countries such as India are looking towards regional markets for establishing hospital chains and in the areas of hospital operations and management.

**4. Movement of health personnel (mode 4)** Finally, health services can be traded through the **movement of health personnel**, (mode 4) including doctors, specialists, nurses, paramedics, midwives, technicians, consultants, trainers, health management personnel, and other skilled and trained professionals. In fact, this mode along with consumption abroad constitute the bulk of trade in health services today. The factors driving cross-border movement of health service providers include wage differentials between countries, search for better working conditions and standards of living, search for greater exposure, training and improved qualifications, and demand-supply imbalances between receiving and sending countries in the health sector. Trade in health services via movement of persons mainly consists of exports of health providers from developing to developed countries and between developing countries in certain parts of the world.

#### **Implications of trade in health services**

It is difficult to say whether trade in health services is good or bad since there are many competing considerations. The net impact depends on the specifics of the country and its national Healthcare system, the regulatory environment, the strategies adopted to facilitate or constrain trade, and the externalities associated with such trade for the rest of the economy. Each mode has its benefits and attendant adverse consequences and thus needs to be assessed in turn. It is important to note two points at the outset. The first point is that many of the negative outcomes discussed in this section have existed for some time and are present even today. The question to ask, however, is whether the increasing globalization of health services is likely to aggravate such outcomes and pose additional challenges. The second point is that the welfare implications of health services trade vary depending on whose welfare one is considering. In the following section, the welfare implications are considered for society or the country at large and not that of the individual service provider or consumer.

#### **Barriers to trade in health services**

There are numerous constraints to trade in health services. Some are justified on public policy grounds while others are motivated by purely protectionist objectives and political economy reasons. Many of these barriers simultaneously cut across the different modes of supply. There are three broad categories of barriers to trade in health services. These include: (a) restrictions on entry and terms of practice by foreign health service providers; (b) restrictions on foreign direct investment in the health sector and in related sectors; and (d) domestic infrastructural, regulatory, and capacity constraints.

#### **Reasons to travel to another country for treatment**

Currently medical tourists are traveling in large numbers abroad where the quality of healthcare is equal to anywhere else in the world and yet the cost is significantly lower. These regions also offer numerous options for touring, sight-seeing, shopping, exploring, and yes, even lounging on sun drenched beaches. Although India, the East Indies, and South America are currently the most popular choices for medical tourists, the industry is growing so rapidly that more and more countries and medical centers around the world are beginning to tailor services aimed specifically

at medical tourists, and the expectation is that the options for where medical tourists can choose to travel will continue to increase at a rapid pace.

In general the reasons to choose medical tourism include: Avoid waiting list in native countries; Less cost; Quality accommodation and nursing care; Touring the place.

Medical Treatment in West = A tour to India + Medical Treatment + Savings

### **Indian Healthcare sector- competitive advantage in international markets:**

Health is wealth! Without sound health we cannot achieve anything in our life, nor enjoy what ever we have. In service sector the concept of Medical Tourism, which is catching up at lightning speed across the world. The ultimate concept of medical tourism is a tour to surrounding destination, medical treatment and savings. People from advanced countries, including the United States and Europe, see a benefit in traveling to developing third world countries, like India, Thailand, Philippines, South Africa, etc. while combining medical treatments with inexpensive vacation. The emergence of the medical tourism as a booming industry and the key management aspects that will help India establish as Healthcare Destination. The total expenditure on health by the Centre and States together is only 1 percent of GDP. We should raise it to 2-3 percent in 2012, and 25 percent in 2020.

### **Strategies for Globalising Indian Healthcare services:**

1. Promoting Advantage of Low Cost of Healthcare
2. Supplying Skilled Health Workforce to Global Markets
3. Promoting Indian System of Medicine as Alternative System through Medical Tourism

#### **1. Promoting Advantage of Low Cost of Healthcare**

India is emerging as a major destination for healthcare due to low cost of healthcare treatment prevailing in India. Indian hospitals are cost effective than many developed countries such as USA and Europe. Even when compared to other South-East Asian countries, such as Thailand and Singapore, India scores better, with the cost of procedures cheaper by around 20 percent. There are estimates that by 2008, companies in USA will be spending as much on healthcare as they made profits, forcing the scaling back or withdrawal of benefits. As precaution, some firms have begun considering treatment for their employees in low cost destinations. Thus, low cost healthcare services coupled with internationally acceptable medical practices would position India as an attractive healthcare destination. Estimates show that the average success rate of cardiac surgeries in Indian hospitals compares favourably with developed countries. The success rate of Indian physiotherapists helping patients regain their physical fitness and prevent cardiac problems is at an average of 99.5 percent, at par with leading cardiac centers around the world.

Table 1: Foreign tourists arrival in India 1999-2009

<b>Year</b>	<b>Foreign Tourists Arrival</b>	<b>Annual Growth</b>
1999	2481928	5.2
2000	2649378	6.7
2001	2537282	-4.2
2002	2384364	-6.0
2003	2726214	14.3
2004	3457477	26.8
2005	3918610	13.3
2006	4447167	13.5
2007	5081504	14.3
2008	5282603	4.0
2009	5108579	-3.3

Source: Bureau of Immigration, India

Around 5 millions of tourists visited India to seek Medical care. Many people from the developed world come to India for the rejuvenation promised by yoga and Ayurvedic massage, but few consider it a destination for hip replacement or brain surgery. Indian Corporate hospitals can excel in Cardiology, Joint-replacement, orthopedic surgery, gastroenterology, ophthalmology, transplants and urology to name a few. The various specialties covered are Neurology, Neurosurgery, Oncology, Ophthalmology, Rheumatology, Endocrinology, ENT, Pediatrics, Pediatric Surgery, Pediatric Neurology, Urology, Nephrology, Dermatology, Dentistry, Plastic Surgery, Gynecology, Pulmonology, Psychiatry, General Medicine & General Surgery. The various facilities in India include full body pathology, comprehensive physical and gynecological examinations, dental checkup, eye checkup, diet consultation, audiometry, spirometry, stress & lifestyle management, pap smear, digital Chest X-ray, 12 lead ECG, 2D echo colour doppler, gold standard DXA bone densitometry, body fat analysis, coronary risk markers, cancer risk markers, carotid colour Doppler, spiral CT scan and high strength MRI. There is also a gamut of services ranging from General Radiography, Ultra Sonography, Mammography to high end services like Magnetic Resonance Imaging, Digital Subtraction Angiography along with intervention procedures, Nuclear Imaging. The diagnostic facilities offered in India are comprehensive to include Laboratory services, Imaging, Cardiology, Neurology and Pulmonology. The Laboratory services include biochemistry, hematology, microbiology, serology, histopathology, transfusion medicine and RIA.

All medical investigations are conducted on the latest, technologically advanced diagnostic equipment. India is not only cheaper but the waiting time is almost nil. This is due to the outburst of the private sector which comprises of hospitals and clinics with the latest technology and best practitioners.

Table 2

<b>Nature of Treatment</b>	<b>Approximate Cost in India (\$) *</b>	<b>Cost in other Major Healthcare Destination (\$) *</b>	<b>Approximate Waiting Periods in USA / UK (in months)</b>
Open heart Surgery	4,500	> 18,000	9 - 11
Cranio-facial Surgery and skull base	4,300	> 13,000	6 - 8
Neuro-surgery with Hypothermia	6,500	> 21,000	12 - 14
Complex spine surgery with implants	4,300	> 13,000	9 - 11
Simple Spine surgery	2,100	> 6,500	9 - 11
Simple Brain Tumor			
-Biopsy	1,000	> 4,300	6 - 8
-Surgery	4,300	> 10,000	
Parkinsons			
-Lesion	2,100	> 6,500	9 - 11
-DBS	17,000	> 26,000	
Hip Replacement	4,300	> 13,000	9 - 11

\* These costs are an average and may not be the actual cost to be incurred.

### **Cost Comparison - India vs United States of America (USA)**

Significant cost differences exist between U.K. and India when it comes to medical treatment.

India is not only cheaper but the waiting time is almost nil. This is due to the outburst of the private sector which comprises of hospitals and clinics with the latest technology and best practitioners.

Table 3 Procedure Charges in India & US (US \$):

Procedure	Cost (US\$)	
	United States	India
Bone Marrow Transplant	2,50,000	69,000
Liver Transplant	3,00,000	69,000
Heart Surgery	30,000	8,000
Orthopedic Surgery	20,000	6,000
Cataract Surgery	2,000	1,250

Table 4 Comparison of the cost of few of the Dental treatment procedures between USA and India

Dental procedure	Cost in US (\$)*		Cost in India (\$)*
	General Dentist	Top End Dentist	Top End Dentist
Smile designing	-	8,000	1,000
Metal Free Bridge	-	5,500	500
Dental Implants	-	3,500	800
Porcelain Metal Bridge	1,800	3,000	300
Porcelain Metal Crown	600	1,000	80
Tooth impactions	500	2,000	100
Root canal Treatment	600	1,000	100
Tooth whitening	350	800	110
Tooth colored composite fillings	200	500	25
Tooth cleaning	100	300	75

\* These costs are an average and may not be the actual cost to be incurred.

### Cost comparison between India vs. UK

Medical healthcare trip to India may be beneficial in many aspects. The standard healthcare sector in India offers quality treatment to the patients. The team of efficient surgeons at different hospitals who are experienced enough performs treatment to many complicated diseases<sup>2</sup>. With the development of science and technology, the medical treatment services has enhanced to a great extent. In addition to that the cost of the treatments in India is comparatively low in comparison to the European countries. Below is the table that shows the cost comparison of different treatment procedure in UK and India.

Table: 5 Cost comparison with UK exclusively

Procedure	India (\$)	UK (\$)
Heart bypass	10000	18000
Heart valve replacement	9000	-----
Hip replacement	9000?	13000
Knee replacement	8500	
Spinal fusion	5500	6500
Open Heart Surgery (CABG)	7500	43000
Total Knee Replacement	6300	52000
Hip Resurfacing	7000	48000
LA Hysterectomy	4000	24000
Lap Cholcystectomy	3000	20000
Spinal Decompression Fusion	5500	65000
Obesity Surgery (Gastric Bypass)	9500	70000

Source: <http://www.tsiindia.com/medicare-india/india-vs-uk>.

<sup>2</sup> <http://www.tsiindia.com/medicare-india/india-vs-uk.html>

The methodologies of the treatment in India are latest and at par to the international standards. That is why, patients from the abroad come to India to get the best of medical treatment services.

### Cost Comparison - India vs United Arab Emirates (UAE)

Significant cost differences exist between UAE and India when it comes to medical treatment. India is not only cheaper but the waiting time is almost nil. This is due to the outburst of the private sector which comprises of hospitals and clinics with the latest technology and best practitioners.

### India vs. Thailand

Medical tourism in India is advantageous in terms of cost saving and standard treatment facility. Indian hospitals offer low treatment cost compared to medical treatment cost in Thailand<sup>3</sup>. The staffs of different standard hospitals in India communicate in English which enables the treatment procedure much easier for the patient. In addition to that, the standard Indian hospitals seems to offer cheapest medical services, while the same treatment costs more in Thailand. You can compare some treatment cost in both the countries from the below furnished table that shows medical cost comparison in India vs. Thailand.

Table 6 cost comparison India Vs Thailand

Procedure	Cost in Thailand (\$)	Cost in India (\$)
Cardiac Surgery	14,250	4,000
Bone Marrow Transplant	62,500	30,000
Liver Transplant	75,000	45,000
Orthopedic Surgery	6,900	4,500
Coronary Angioplasty	13,000	11,000
Heart Bypass	12,000	10,000
Hip Replacement	12,000	9,000
Gastric Bypass	13,000	11,000

Source: <http://www.tsiindia.com/medicare-india/india-vs-thailand>.

The above statistics justifies choosing medical tourism in India instead of going for medical tourism in Thailand. The standard of various treatment procedures are at par to the international standards. So, the patients can ensure best treatment facility from the Indian hospitals.

### India vs. Singapore

Treatment cost saving is the reason why patients avail medical tourism in India. It is advantages in terms of treatment cost. Indian hospitals offer low treatment cost for various surgeries at different standard hospitals in India. The cost of medical treatment in India is quite low in comparison to the medical cost in Singapore<sup>4</sup>. Different hospitals in India seem to offer surgeries at cheap cost and reliable services. Here is the comparison of treatment cost in Singapore and India from the below furnished table.

Table: 7 Cost comparison with Singapore Vs India

Procedure	Cost in Singapore (\$)	Cost in India (\$)
Cardiac Surgery	14,000	4,000
Liver transplant	75,000	45,000
Heart Bypass	12,000	10,000
Hip Replacement	12,000	9,000
Gastric Bypass	13,000	11,000

Source: <http://www.tsiindia.com/medicare-india/india-vs-singapore>

<sup>3</sup> <http://www.tsiindia.com/medicare-india/india-vs-thailand.html>

<sup>4</sup> <http://www.tsiindia.com/medicare-india/india-vs-singapore.html>



The standard of treatment procedures at different Indian hospitals are at par to the international standards. So, the patients can ensure best treatment facility in Indian hospitals.

Healthcare in India excels in treatments relating to cardiothoracic surgery, joint replacement, transplants, orthopedic surgery, ophthalmology, and urology to name a few. Indian medical institutes offer gamut of services ranging from general medicine & surgery for many diseases and complications. Some of the hi-tech treatments at Indian hospitals include pathology, comprehensive physical and gynecological examinations, dental checkup, eye checkup, cancer risk markers, spiral CT scan and MRI. All the above mentioned treatment processes are carried out with standard and latest medical technology and equipment at par with the international treatment standards.

**2. Supplying Skilled Health Workforce to Global Markets**

As a consequence of escalating costs of healthcare and aging populations, in developed countries, has resulted in an increase in the demand for healthcare services. The overall trend is associated with major health system restructuring initiatives, technological advances, and changing social values. Health workforce is central to advancing health. The health sector, more than any other sector, depends on people to carry out its mission. In any Healthcare system, it is health workers— professionals, technicians, and auxiliaries—who determine what services will be offered; when, where, and to what extent they will be utilized; and as a result, what impact the services will have on the health status of individuals. The success of health activities depends largely on the effectiveness and quality with which these resources are managed.

The number of people aged 65 and over will double as a proportion of the global population, from 7% in 2000 to 16% in 2050. By then, there will be older people than children (aged 0–14 years) in the population for the first time in human history.

**More elderly:** The immediate consequence of fewer children and more elderly is that the median age of a society increases. In his 2007 study on ageing in Japan, Florian Coulmas states that “in 1989, the elderly of 65 years and older accounted for 11.6% of Japanese population.” In 2006, this proportion had reached 20%, just short of the mark that indicates the transition from an aged to a hyper-aged society. However, the most recent data from the Government of Japan shows that as of March 2008, the number of people over the age of 65 has reached 21.6%.

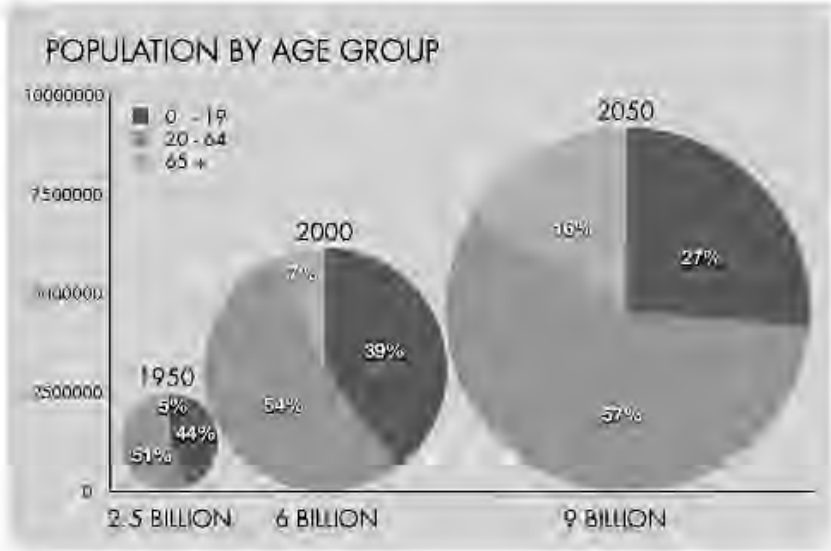


Figure 1

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2006 Revision and World Urbanization Prospects: The 2005 Revision, <http://esa.un.org/unpp>

According to Coulmas, there are three different types of society based on the proportion of elderly as follows:

Ageing society: 7-14% of the population are 65 years or older.

Aged society: 14-21% of the population are 65 years or older.

Hyper-aged society: 21% or more of the population are 65 years or older.

So we can conclude that Japan has now crossed into the “hyper-aged” category. Perhaps that Population living from outside of Japan can check on the status of their country and also reflect upon the implications of each phase in the transition to a hyper-aged society, using Japan’s experience of a guide.

### Centenarians are a growing segment of today’s ageing population

More distinctive is the tremendous increase in the oldest old (of which Ms. Yamazaki is a wonderful example). There are now more than 32,000 centenarians in Japan, 85% of whom are women. This number has steadily increased since 1970, when there were only 310 Japanese citizens aged over 100. Between 2005 and 2025, centenarians will be the age group with the highest increase.

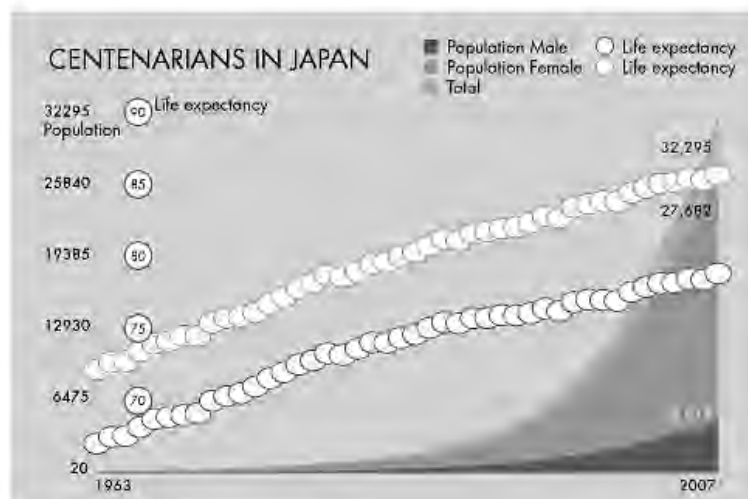


Figure 2

Japan is the country with the highest number of centenarians, and by 2030, more than 25% of its population is expected to be at least 85 years old.

### Developed and Developing Countries travel the same path, at a different pace

Women outlive men in virtually all societies. A few developing countries have higher male life expectancy than female, but, on average, the female advantage in most developing countries is slightly less than five years. The gender gap is generally projected to decrease in developed countries and increase in developing countries.

Ageing affects all societies – high-income as well as low and middle-income societies – but at a different pace. **India has a population that is growing younger and that will continue to supply young people to the labor force for a long time**<sup>5</sup>. Approximately 1/3 of the world’s population is either Indian or Chinese, but the populations of China and India are quite different from each other. By 2005, China had less than 20% more people. By 2025, their populations will be about equal. After that, India will have a larger population. The Indian population with the age group of 20- 46 will be higher than any country in the world, where Indian Government can take measures to expand Healthcare Infrastructure, health workforce to meet the demand in Global market place.

<sup>5</sup> “Chindia”: A misleading portfolio concept, January 01, 2008, accessed at: <http://seekingalpha.com/article/58725-chindia-a-misleading-portfolio-concept>

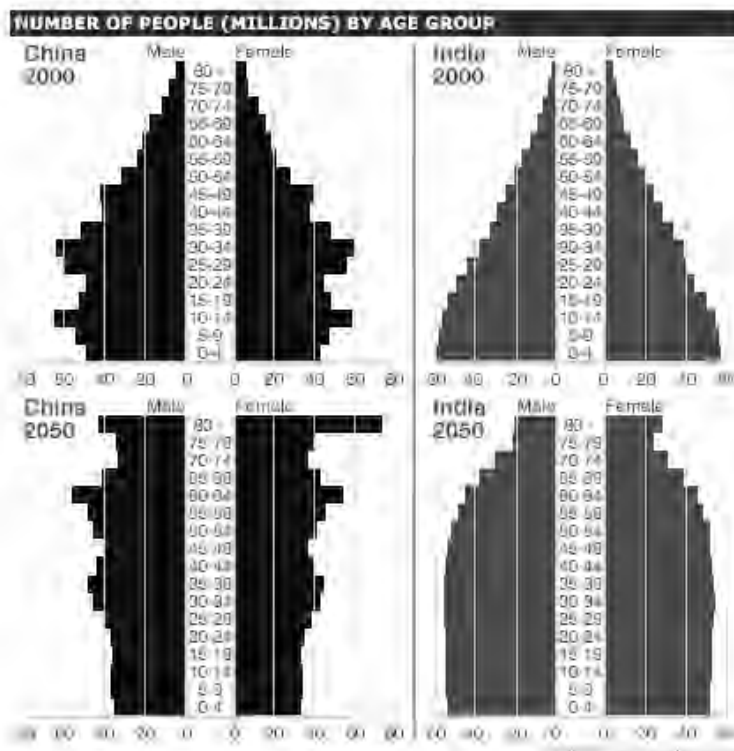


Figure 3

Source<sup>6</sup>: <http://news.bbc.co.uk/2/shared/spl/hi/guides/456900/456964/html/nn2page1.stm>

**Here India can take remarkable advantage of supplying young skilled health work force to other countries.** Health workers are not just individuals but integral parts of functioning health teams in which each member contributes different skills and performs different functions. Developing capable, motivated and supported health workers is essential for achievement of national and global health goals. Today, all countries face health workforce challenges. The types of problems vary across regions and countries; include shortages, imbalances and low productivity. One of the major problems for nearly all countries is an overall human resource shortage, which leaves gaps within the existing infrastructure and services, both within and outside the public sector. Overall shortages are commonly aggravated by skewed distribution within countries and movement of health workers from rural to urban areas, from public to private (for-profit and not-for-profit), or to jobs outside the health sector. Contributing factors include insufficient investment in pre-service training, migration, work overload, inadequate growth opportunities and work environment issues (infrastructure, technical, safety amongst others).

### Current Scenario of Health workforce in India

The state of human resources for health in India is diverse and multifaceted. They range from rigorously trained biomedical specialists and super-specialists at one end to an assortment of community and household based healers at the other. One half of this continuum is studded with trained and qualified doctors of allopathic or modern biomedicine, psychiatrists, dentists, radiographers, a range of paramedical professionals – nurses, pharmacists, laboratory technicians, and a number of allied personnel – policy makers, health planners and managers, social workers, psychologists, researchers, health educators and promoters, and health technologists. While the other half is replete with the richness of India's traditional healing systems. Here one finds professionally trained and University qualified practitioners of Ayurvedic, Unani, Homeopathic, Siddha and Naturopathic medical traditions. One also comes across informally trained providers through apprenticeships, traditional and household birth attendants, bone setters, a variety of folk and magico-religious healers with disease specific specializations,

<sup>6</sup> BBC News: China & India- Key facts accessed at: <http://news.bbc.co.uk/2/shared/spl/hi/guides/456900/456964/html/nn2page1.stm>

and community or household elders learned in the art of traditional healing and indigenous remedies.

Private Sector has more contribution in Indian Healthcare and can take the lion share in catering the needs of domestic and prospective International Medical Tourists. There are around 1,00,000 plus leading Indian hospitals in delivering Tertiary care in India as well abroad.

### **3 Promoting Indian System of Medicine As Alternative System Through Medical Tourism**

India has an incomparably rich heritage in ancient systems of medicine that make up a veritable treasure house of knowledge for both preventive and curative Healthcare. These systems, through their safe, effective, and inexpensive treatments, have the potential to make a significant contribution to the Healthcare of the common people. But their true potential is still largely unrealized, despite a large and well-dispersed infrastructure. It is evident that very effective and time tested. Indian medicine systems i.e. Ayurvedic, Eunami, Naturopathy, Sidda etc. have lost official patronage with advent of British rule; colonial masters considered these systems are unscientific and unreliable. But India's rich heritage in ancient systems of medicine with its variable treasure house of knowledge can make a significant contribution to Healthcare. Indian health systems are considered as complemented and Alternative systems of Medicine (CAM) can offer remedies in the treatment chronic ailments like digestive disorders, asthma, arthritis. In the changing demographics and epidemiological scenario, longevity has increased and people are more vulnerable to chronic ailments require long-term and expensive therapies which may not be affordable by an ordinary man. CAM can fill this critical gap and provide safe and cost effective treatment for many diseases. It is high time to look in to this matter to develop an integrated Healthcare unit which combines modern Allopathy with complementary and alternative medicine system to offer comprehensive health are solutions to the patients and to society at large.

India is one of the most sought after destinations for medical tourism. In the year 2004, some 150,000 medical tourists from UK, US, Middle East and other foreign countries visited India seeking medical care in Indian hospitals. Since then, medical tourism in India has been growing at the rate of 20% per annum. Cheaper treatment is a huge attraction and during recession, that's a big fact. In 2009, Indian hospitals treated 4.5 lakh patients from other countries against topper Thailand which treated about 10 lakh patients. A significant factor for India's popularity as a medical tourism hub is the absence of long waiting time to avail medicare that is very common in the US, UK and Canada<sup>7</sup>. India is the most touted healthcare destination for countries like South-East Asia, Middle East, Africa, Mauritius, Tanzania, Bangladesh and Yemen with 12 percent patient inflow from developing countries. Predictions reveal that Asia will have one of the fastest growing tourist populations in the world. In this globalized era, tourism has always been considered on top priority in India with the Governments at the centre as well as the states making highly focused efforts to exploit the tourism resources offered at the national and local level.

India has a rich and living tradition of healing. As early as Characa 4000 bc, Sushrut, the father of surgery, stressed the need to integrate theory and practice. 'What is observed and demonstrated directly in practice and what is intuited by Shastra have to be mutually and judiciously integrated for the growth of knowledge.' India's strength has been this attitude of continuous creative assimilation of practical knowledge.

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<sup>7</sup> [http://zenithresearch.org.in/images/stories/pdf/2011/Oct/ZIJMR/16\\_vol-1\\_issue-6\\_%20%20Ramesh\\_Paper.pdf](http://zenithresearch.org.in/images/stories/pdf/2011/Oct/ZIJMR/16_vol-1_issue-6_%20%20Ramesh_Paper.pdf)



Source: <http://2012/03/global-ayurveda-festival>

The reports estimate that medical tourism in India is growing by 30 per cent a year. Today, Kerala Tourism is a global super brand and is regarded as one of the destinations with the highest brand recall. This ancient art of healing has been in practice for over 5000 years, and was also the mainstream medicine in the ancient times. Derived from its ancient Sanskrit roots – “ayur”(life) and “ved” (knowledge) – and offering a rich, comprehensive outlook to a healthy life, it is the only medical science in this universe which is useful even when one is not ill<sup>8</sup>.

As a move in promoting medical tourism, many hospitals are deemed as “corporate hospitals” that specially cater to the needs of medical tourists in India. Apart from offering world class treatments, they offer various services that make medical tourists’ stay in India hassle free. The country’s National Health Policy declares that treatment of foreign patients is legally an “export” and deemed “eligible for all fiscal incentives extended to export earnings.” Government and private sector studies in India estimate that medical tourism could bring between \$1 billion and \$2 billion US into the country by 2012. The spectrum of global attitudes to ISM& H (Indian Systems of Medicine & Homeopathy) varies from derisive ridicule to unconditional reverence. At one extreme, there is an organized tirade against Ayurveda as comprising toxic metal therapy and, at the other, a fundamentalism raising Ayurveda to a religious dogma, capable of solving all health problems. Instead of these fixed stances, we need a balanced, scientifically open and curiosity-driven mindset.

### Global and Local Attitudes to Indian Systems of Medicine

Table: 8 Number of Companies manufacturing Ayurvedic & Herbal Products in India exporting to rest of the world:

S.No.	Type of the company	Number
1.	Active Ingredients, Intermediates, Excipients & Other Raw Materials	7139
2.	Ayurvedic & Herbal Cosmetics & Personal Care	2322
3.	Ayurvedic & Herbal Extracts	778
4.	Ayurvedic & Herbal Products	5180
5.	Ayurvedic Medicines for General Health & Common Diseases	3206
6.	Healthcare Products	2185
7.	Henna, Natural Henna, Herbal Henna And Products	702
8.	Herbal Food & Ayurvedic Health Supplements	898
9.	Homeopathic Medicines	524
10.	Menthol, Essential Oil and Aromatic Oil	2209
11.	Pure Herbs	3123
12.	Herbal Veterinary Medicines & Animal Health Products	505

Source: <http://dir.indiamart.com/industry/ayurvedic-herbal.html>

<sup>8</sup> International Journal of Multidisciplinary Research Vol.1 Issue 6, October 2011, ISSN 2231 5780

## Perceptions and Profile of Medical Tourists

International patients seeking medical services across borders or globally look at more than just cost comparisons in their search for the right physician and right facility to address specific needs. The top priorities include

Table: 9 Expectations of Medical Tourists

S.No	Factors
1.	<b>Credentials</b> - recognized international accreditations & certifications
2.	<b>Experience</b> - board certified doctors, training, years of experience.
3.	<b>Patient References</b> - patient testimonials, before & after pictures.
4.	<b>Specific Treatment Methods</b> - uniqueness of center & procedures offered.
5.	<b>Comprehensive Solution</b> - provide complete solution to a treatment.
6.	<b>Reputation</b> - locally as well as internationally e.g., publications, research papers.
7.	<b>Language</b> - effectively communicate in patient's preferred language.
8.	<b>Geographic Location</b> - local conveniences, transportation services, attractions.
9.	<b>Cost</b> - clear price list, services included in the package, pricing options.
10.	<b>Benchmark Data</b> - any comparative information that will convince patients

A suggestion gaining ground is for medical courses to include Yoga and the ISM so that practitioners are able to get the best of all aspects of medical knowledge. Another proposal before the Government is to have a medical facility combining western medicine and ISM to provide comprehensive medical treatment as it is not possible to open hospitals having facilities for only traditional medicine (TM). Similarly, the World Health Organization (WHO) has been emphasizing that inclusion of TM in Healthcare would have a positive impact. It would be particularly so if the practitioners of TM are also trained in certain key elements of allopathy and vice versa. IM is a new paradigm in Healthcare that focuses on the synergy and deployment of the best aspects of diverse systems of medicine, in the best interest of the patients and the community. Attention to clinical evidence, long-term usage and safety, accessibility, economic considerations and culture compatibility constitute the key elements of IM. Fulder stated that the line separating TM and MM has become fuzzy. The blending of TM-MM is more active. The scope of IM in the promotion of health and prevention of diseases is immense. Particularly for chronic and degenerative diseases, ISM have much to offer to MM. At all levels of Healthcare-the home, school, community, dispensaries, nursing homes and hospitals-the integrative elements of ISM have to be identified, procured and deployed.

**Following Table** lists some of the common conditions wherein ISM can play a significant role. This list is by no means complete. There is an urgent need to carry out Ayurvedic pharmaco-epidemiological studies to identify drug and non-drug modalities widely used in the field. Studies have been initiated for diabetes mellitus and arthritis.

Table: 10 Scope of Indian systems of medicine

Acute	Subacute	Chronic
Wounds and burns	Eczema	Diabetes
Sprains/swellings	Indigestion	Arthritis
Pyrexia	Menorrhagia	Asthma
Colds and influenza	Sinusitis	Cancer
Diarrhoea	Constipation	Parkinson disease
Conjunctivitis	Herpes	Irritable bowel syndrome
Malaria	Splenomegaly	Acid peptic disease
Urticaria	Urinary infection	Memory-cognition
Dysmenorrhoea	Leucorrhoea	Chronic fatigue

## Horizons and Deliverables: Programmes and Performance

The process of integration of ISM in national Healthcare can be strategically perceived at three horizons:

**Horizon I:** Ayurvedic/Unani (ISM) physicians have to be incorporated into all PHC teams, with adequate therapeutic resources at their disposal. They should be trained in basic PHC skills and emergency obstetrics (Desai, Sadhana, FOGSI, 2005).

**Horizon II:** All municipal and district-level hospitals would have full-fledged ISM outpatient departments (OPDs) and wards, panchakarma and dispensaries with adequate resources. The hospital management should be sensitized and trained to give due importance to ISM in patient care.

**Horizon III:** Tertiary medical centres should have advanced ISM centres, incorporating education, research and sophisticated services. Private-public partnerships will have to be encouraged. IT-80 G and charitable status will be granted to hospitals depending on the size of the infrastructure and usage of ISM, defined on a case-by-case basis, such as general hospitals, specialty hospitals, etc. The deliverables for each horizon will have to be congruent with the goals envisaged. Following Table lists the deliverables under each horizon.

Table 11 ISM Horizons and Deliverables

Horizon I	Horizon II	Horizon III
Knowledge, attitudes, practices survey: PHC/ISM	Local self-government health officials:	ISM Centers of excellence and model spread
PHC learning internship	Ambulant ISM care in private-public domains	Ordinance of IT-80 G and ISM
Survey of facilities at PHC and needs	Resources for ISM: Central, State and local levels	Private-public enterprises, ISM priority
Current number of ISM personnel	Linkages with PHCs: Aushadhis	Bridges with ISM hospitals
CME for PHC/ISM	Computers and Ayusoft (C-DAC)	CME workshops for ISM
Panchayat participation	Mobiles and tele-ISM	Panchakarma units
Health needs and ISM	Communications/education	Rehabilitation ISM
ISM in medical colleges	Panchakarma units	Computer networks
Complementarity	Management synergy	Specialty integration
Records and documentation	ISM dispensaries	Research and education

CME: continuing medical education; PHC: primary Healthcare; ISM: Indian systems of medicine; C-DAC: Centre for Development of Advanced Computing

### Measures to be taken to reach Global Markets

The global market in herbal products in alternative systems of medicine is estimated to be \$62 billion. India's share in this is very meager. Even within the country the share of ISM & H products is only a modest Rs. 4,200 crore ; Ayurvedic drugs and formulations account for over 80% of the products.

What factors have been important in the success of those organizations that have made inroads in the international market? First of all, having an international brand reputation can give global marketing efforts a boost. The Mayo Clinic, which boasts 10,000 patients annually from 120 countries, and Johns Hopkins, which boasts 7,000 patients annually from 90 countries, is two examples of internationally recognized brand names. These organizations work hard to build and maintain their brands internationally while they market to international patients.

Creating a Tourism Development & Marketing Plan is the primary rule for any successful tourism. The plan should include several details like product development, upgrades and improvements, positioning and/or branding, attractions and events, visitor amenities and services, marketing and public relations, public/private partnerships, recruitment, funding and budgets, and organizational responsibilities. With the destination firmly established as the 'Wellness Capital of Asia', achieving

world-class status is next on the national agenda. But this will not be possible only by the government alone. The private stake holders have to play a significant role in this. It is has become imperative for players of Indian health tourism to enter into alliances with one another.

The three stages of an effective marketing plan applicable for tourism services are reviewed here. The first stage is a thorough analysis of the market, including resources, competitors, and the business environment. The second stage is to decide on the strategic choices of how to segment markets, to determine the sectors to be targeted, and to plan an appropriate product positioning and the last stage is to determine the marketing mix, which in its most basic sense means how the product will be offered to consumers – (both intermediaries and tourists), the price that will be charged, how the product will be communicated, and how it will be placed or distributed. A very important part of any marketing communication plan is to set up realistic and measurable targets/goals through effective identification, allocation and implementation of the available resources. There are two kinds of targets that are required to be looked into – Short term and Long term.

### **Striking in International Markets**

Marketing to international patients means more than just offering a little information in Spanish/ other language on your Web site. It requires a dedicated business effort with operational and clinical support throughout the organization. Assuming you can build a team that will focus on the special needs of these patients, a number of general marketing and communications strategies may help build your reputation, draw attention to your services, and attract new patients.

First of all, it's important to create a **Web site that addresses** international patients stating your expertise. While the Web isn't the answer to international marketing, it is a critical component of a good marketing program for obvious reasons. Organizations that have built successful international patient programs steer patients to dedicated Web sites, offer multiple languages, and provide support services and dedicated staff to assist prospective patients. Mayo offers customized forms (e.g., need a Turkish International Appointment Request Form?) on its Web site, which also link back to information about the offices of their overseas representatives. That level of detail and customization ultimately sets Mayo apart from the hundreds of other medical centers that simply send a much broader and less targeted message abroad.

Having a **well-trained call center** and support staff also helps marketing efforts. A good example has been set by Johns Hopkins maintains an International Patient Services group through its Johns Hopkins International ([www.hopkinsmedicine.org/international](http://www.hopkinsmedicine.org/international)) division, with staff that can coordinate all aspects of a patient's care, including travel, cultural, and personal needs. The Cleveland Clinic International Center ([www.clevelandclinic.org/ic](http://www.clevelandclinic.org/ic)) coordinates much of The Cleveland Clinic's foreign business and patient contacts. Other providers offer personal interpreters, travel and scheduling services, and call center operators to answer toll-free numbers.

### **Recommendations**

A developing country like India can adopt a mechanism for healthcare delivery for medical tourists to strengthen its economy. Some of the suggestions following an analysis of the case studies and literature review are:

1. Create an efficient and economic human resource pool (skilled medical and paramedical professionals), Offer competitive costs and high quality of care to medical tourists while being aware of the language barrier. Create high quality infrastructure, medical equipments, good clinical outcomes, attractive tourist destinations with maintenance of confidentiality of the patient by the hospital staff. Indian Policy makers shall encourage investments in healthcare sector; over the years, the private sector in India has gained a significant presence in all the sub-segments of medical education and training, medical technology and diagnostics, pharmaceutical manufacture and sale, hospital construction and ancillary services, playing major role in providing quality medical care. Over 75% of the human resources and advanced medical technology, 68% of an estimated 15,097 hospitals and



37% of 623,819 total beds in the country are in the private sector. The composition of private sector in India is diverse with large number of sole practitioners or small nursing homes having bed capacities of less than 20. There are also several corporate entities, including pharmaceutical firms, and non-resident Indians (NRIs), Here networking of hospitals are highly recommended to share expertise and resources to have symbiotic effect. Joining hands with International Insurance Providers, Travel Operators and other ancillary services will make Indian to have edge over peer countries who are striving hard to explore medical tourism opportunities.

2. Government spending is less than 25% against the average spending of 30-40 % in other developing countries. But there is subtle increase in Healthcare costs which has become High financial burden on the poor. Due to under-funding, preventive and primary care and public health functions are yet to meet their objectives. Government & Policy makers shall increase health Investment & expenditure and plan for long term and nursing care for senior citizens in view of Increasing burden of new diseases and health risks. Govt. shall revive CGHS Schemes for Government Employees;ESIS Schemes for benefit of community at large, Recent Initiative - covering mass populace PAN India may pave way for standardisation.
3. Government shall permit more medical institutions in all streams of medicine to offer varied courses to cater the needs of global society. It is observed that lack of adequate healthcare infrastructure is a prime factor denying access to international patient healthcare
4. Good coordination amongst the different stakeholders and the host country needs to assure that the cost and quality of care offered are commensurate. Greater government participation with stringent policy making to standardize quality of healthcare at all levels and litigation to protect the medical tourists against malpractice, post-operative complication and ethical concerns (organ transplantation and 'reproductive tourism'). About 80% of the representatives of the multi-specialty hospitals in this study assert this recommendation along with the Public-Private Partnership (PPP) model for the participating hospitals for greater efficiency and resource allocation. Incentivize the participating hospitals where government needs to give the medical tourism sector an 'infrastructure-status' as with the Information Technology (IT) sector in India to boost Healthcare investment.
5. Arrange easy availability of doctors by means of tele-medicine, video-conferencing and sharing of personal contact phone numbers of the doctors for round-the-clock availability in the event of a post-operative complication (For instance, the tele-medicine at Fortis hospital which links 54 countries to assist the medical tourists). Need for a **unified national healthcare image** of the country rather than private hospital-specific brand image to promote medical tourism, as in Singapore. Internet based clinics for AYUSH may be promoted to facilitate reach to long distant patients for their initial check-ups and pre-operative treatments. Policy makers shall encourage AYUSH practitioners.
6. **Healthcare insurance sector** needs to step up its activities to promote medical tourism by offering low-cost premiums through such companies as Blue Cross and Blue Shield. Penetration of health insurance in India is low; health insurance is estimated at around 10% of total population. However, majority of the health insured in India are covered under social health insurance or community-based health insurance, and the penetration of commercial insurance may be around 1% only. The reasons for low penetration of commercial health insurance is due to low level of innovation in health insurance products, exclusions and administrative procedures governing the policies, and chances of co-variate risks, such as epidemics, which keeps the premiums high. Joint ventures with prospective market (Ageing Populated countries) based players. Then it will pave way for more inflow of medical tourists.
7. Special **provision at the airport** with dedicated immigration facilities to assist medical tourists both pre-operatively and post-operatively with availability of Medical visas to allow the medical tourists to recuperate for a longer time post-operatively.

8. There is an exigency for stringent policy formulation to **monitor the number** of medical tourists visiting the host country (India) and to **incentivize** the participating hospitals. The current Indian **National Health Policy of 2002** is primarily meant for promoting medical tourism in the primary and secondary healthcare sectors. Hence, a unique policy formulation is required to regulate the **tertiary** (specialised) Healthcare provision for medical tourists. Public healthcare professionals need to be engaged while formulating **regulatory policies** along with stringent **clinical governance policies** of the private healthcare sector to overcome the challenges of this sector. **Macroeconomic policies** need to be formulated to assure that the local residents of the host country actually realise the benefits of medical tourism and to avoid diversion of resources away from reducing the endemic disease burden (such as AIDS, TB and Malaria in India). At the same time Accreditation of healthcare service providers may be encouraged which is a voluntary process by which an authorised agency or organisation evaluates and accredits health services according to a set of standards describing the structures and processes that contribute to desirable patient outcomes. Accreditation can thus be understood as an indicator of professional achievement and quality of care. Health services are increasingly coming under independent evaluation by accreditation agencies in many countries.
9. Government shall make it mandatory to all Indian hospitals to seek international accreditation from global agencies to standardise their protocols and project their international quality of healthcare delivery. As of October 31, 2011, there are 10 hospitals in India accredited by JCI. India is ninth largest country in the world with more than six JCI accredited hospitals. In addition, several Indian hospitals are in the process of getting accreditation. The accreditation shall win the confidence of International tourists. Government shall conduct a drive to promote voluntary accreditation.
10. **Tax** should be levied on medical travelers and the revenue obtained should be channelized to offer subsidized medical care for the domestic lower-income patients. In addition, **transparent pricing policies** across the hospitals needs to be established to protect the medical tourists. **Proactive country-specific marketing strategies**, seminars and talks need to be organised extensively to educate the patients.
11. In India, in addition to existence of modern medicine, indigenous or traditional medical practitioners continue to practice throughout the country. Popular indigenous healthcare traditions include Ayurveda, Siddha, Unani, Homeopathy, Naturopathy, and Yoga, wherein science-based evidences are being sought. Innovations are being undertaken and professionalism is being introduced. Such strategies could be strengthened further in order to attract more international customers. There have also been instances of healthy collaborations of traditional knowledge systems with modern medicines. For example in some cases, heart patients with acute problems undergo a surgery and then during the recovery period their treatment is supplemented with the use of Ayurvedic or Yogic solutions. Similarly in the case of Asthmatic patients, Yogic exercises and dietary restrictions can help in speedy recovery. Convergence of traditional healthcare solutions – Yoga along with Ayurveda – is also increasingly becoming popular to attract international customers, who are familiar with one system and to introduce the benefit of other.
12. Many cultural beliefs have implications for healthcare, which may be direct or indirect. The manner in which services are packaged and promoted or the terms used or notions conveyed in promotional materials may create problems in cross-cultural communication. Even asking about the ability to pay for medical services may create an uncomfortable situation for the patient and his or her family. A good place to start is with promotional brochures and patient forms. They should be printed in the major languages of the patients who seek services with identified organization. Avoid the mistake, however, of carrying out word-for-word translations from English, since many concepts and words in English don't convert easily to other languages. Hence special provision shall be made available for better comfort.

13. Creating a Medical Tourism Development Authority. Marketing Plan is the primary rule for any successful tourism. The plan should include several details like product development, upgrades and improvements, positioning and/or branding, attractions and events, visitor amenities and services, marketing and public relations, public/private partnerships, recruitment, funding and budgets, and organizational responsibilities. With the international tourism booming up, it is the high-time for devising effective marketing strategies for promoting and rightly positioning Indian Health Tourism sector on the international platform. India may require an investment of Rs.1,40,000 Crores by 2014 for achieving its full potential. The private stake holders have to play a significant role in this. With the tourism perspective both comparative and competitive advantages should be considered when considering competitiveness. Comparative advantage relates to inherited or endowed resources such as climate, scenery, flora and fauna, while competitive advantage would relate to such created items as health and medical care stations, heritage/ historic attractions, events, transport networks, government policy, the quality of management and skills of workers.
14. The central and state governments shall provide support for promotion and development of events specifically aimed at tapping the medical tourists; these may be organized at important global locations, with an eye to attract the cost conscious patients from industrialized countries, with the assistance of travel organizers and tour operators. Indian corporate hospitals may be provided with incentives for active promotion of medical tourism. both from public and private sectors shall be e-enabled i.e. stationed on the first step of the e-technology ladder i.e. at least have a computer and e-mail address for their business. This will improve their accessibility in terms of not only business, but also to training and advice from experts. In turn, The Ministry of Tourism shall develop linkages with other medical tourism service providers to promote India to its target audience through many different channels to increase the reach of its communications. It will explore the use of new media like podcasting to sell India as a vibrant recuperative destination.

### **Conclusion**

In the wake of opportunities available to Indian Healthcare providers like the Tatas, Apollo Group, Fortis, Max, Wockhardt, Piramal, Duncan, Ispat and Escorts have to make use of the latest technical equipment and the services of highly-skilled medical personnel, to provide a variety of general as well as specialist services. More over it is proved that these services are available at extremely competitive prices, encouraging patients not only from developing countries but even from a number of developed ones to come to India for specialized treatment. In the next 10 years, tertiary care in India will be predominantly private healthcare and extensive public & private partnerships. The secondary care would be private & public healthcare and selective public & private partnerships. A huge number of International patients are traveling to India to seek quality healthcare at a fraction of the cost back home. They are admitted at private hospitals with state-of-the-art equipment and medical practitioners trained abroad, these 'five-star' hospitals now attract a new breed of international traveller - the 'medical tourist'. Owing to India's prodigious population, the strengths in Healthcare sector is doctors treat twice the number of patients in comparison to doctors in the west, domestic aviation has been opened to the private sector, foreign investments are encouraged and a number of incentives are in place. India is considered as a safe destination compared to other countries Foreigners are visiting India for serious medical help as well as rejuvenation therapies and other specific purposes.

## References

**Adams O. and C. Kinnon**

1997

“Measuring Trade Liberalization against Public Health Objectives: the Case of Health Services”, WHO Task Force on Health Economics, Technical Briefing Note, WHO,.

**Aloisio F.**

2000

“Possible Brain Drain in Health Sector once Malta joins EU”, Malta Independent, Feb 20, , Issue No. 400.

**Bettcher D., D. Yach, and G. Emmanuel Guidon**

2000

“Global Trade and Health: Key Linkages and Future Challenges”, WHO Bulletin 78(4),. Canadian International Business Strategy (CIBS), “Life Sciences Branch, Health Industries, 1999-2000”

**Chanda, R.**

1999

“Movement of Natural Persons and Trade in Services: Liberalizing Temporary Movement of Labour under the GATS”, Working Paper No. 51, Indian Council for Research on International Economic Relations, New Delhi, November.

**Cohen R.**

1997

“Brain Drain Migration”

**Desker B.**

1991

“Singapore and the Provision of Medical Services for the Region, Singapore Medical Journal , Vol 32, pp. 388-390.

**De Voretz, DJ**

1999

“The Brain Drain is Real and it Costs Us”, Options Politiques, September.

**Dimfield, V.**

1998

“Canadian Physicians and the Brain Drain”, Canadian Medical Association Submissions to Parliament, June 9,.

**Freeman, Gomez-Dantes, and Frenk (eds.)**

1995

Health Systems in an Era of Globalization: Challenges and Opportunities for North America, Institute of Medicine, Washington DC and National Academy of Medicine, Mexico Cit

**Frenk J., A. Gomez-Dantes, O. Adams, E. Guidon**

2000

“The Globalization of Healthcare”, International Cooperation in Health, Oxford Medical Publications.

**Gish O.**

1999

“Brain Drain”, short note, Lahore, November 1.

**Kennedy D.**

2000

“Doctors Told to Curb Health Tourism”, The Times, Aug 7.

**Kinnon C.**

1995

“WTO: What’s in it for WHO”, WHO Task Force on Health Economics Geneva, October.

**Leon F.**

2000

“Modernization and Foreign Trade in Health Services”, Social Development Division, ECLAC Series 37, Santiago, March.

**Oyowe A.**

1997

“Brain Drain: Colossal Loss of Investment for Developing Countries”, IRI-L, May 8,

**Rahman K.**

2000

“Trade in Health Services: Bangladesh’s Perspective”, Daily Star, Dhaka.

**Saltman R.**

1997

“Globalization and the Future of Public Funding for Healthcare Services”, Eurohealth, Vol 3, No.3, Autumn.

UNCTAD, “International Trade in Health Services: Difficulties and Opportunities for Developing Countries”, Background Note by UNCTAD Secretariat,

Developing Countries in International Health Services Market, June 20, 1997,

Report of the Expert Meeting on Strengthening the Capacity and Expanding Exports of Developing Countries in the Services Sector: Health Services, Geneva, July 1997, TD/B/COM.1/7.

WHO, GATS and International Trade in Health Services in South East Region, WHO,

“International Trade Agreements and their Implications for Health”, South East Asia Regional Office, Sept 2, 1998

World Trade Organization, “Implications for Health Policy”

## **Between Scylla and Charybdis: filling in the gap in training of cross – culturally fit managers**

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### **Abstract**

**Purpose:** to study the problem of management styles, cultural adaptation and tolerance adapting, ability to work in an international team in the specific educational sphere matching global standards and satisfying East and West cultures

**Methodology/approach:** researching the studies in the cross - cultural adaptation, methods of factor analysis, empirical testing included adapting developed scales verifying the model with sample of 1500 students are used.

**Findings:** influence of cross – cultural adaptation in the educational, teaching and future business environment; identification of “the most adoptable nationality”, differences between integrative and communicative competitions of Asian and African students

**Research limitations/implications:** The study of theoretical and empirical data allowed to develop conceptual model to prepare innovative professionals taking into account the formation of an organized social and educational environment.

**Practical implications:** creation of the special adaptation model in the devoted University

**Key words:** Tolerance, cross – cultural communications, global education

Integration and internationalization of the economic and social processes in the modern society contribute to the emergence of special cross – cultural environment for business communication. Hence taking into account cross – cultural peculiarities is by all means the key factor of the effective market development and strategic management.

Yet another factor and argument in favor of the development of the business entities is integrative intellectual potential of all staff. Modern society requires absolutely new type of specialists, able to adapt to permanently dynamic environment, innovative behavior, application of the new technologies in the spheres of science, economy and production.

The successful manager should have special set of the competences which would characterize him as a human and a specialist. Social, personal, economical, organizational, managerial, scientific and cross – cultural competences are the base permitting the graduates to orient in the labor market and to be ready for the continuation of the education.

The given work is devoted to the most mysterious process – education in the modern internationalized university and studying the process of cultural adaptation.

In the process of new Russian model formation - federal universities - there are active efforts to expand the international contingent of foreign students, within there are obvious weaknesses in the administrative services of the university, faculty and student organizations in the adaptation of international students. Obviously, this is reflective to the existing reality expressing the successful integration of Russia into the global economy, as in the West and the East.

Presented research is made on the basis of the new Russian universities representative – Ural Federal University. Ural Federal University was set up as a merger of Ural State University and Ural State Technical University in the city of Ekaterinburg in the summer of 2011. There are only eight federal Universities in Russia; their federal status entitles them to a special support from the federal government.

Now Ural Federal University (UrFU) is one of the largest Universities in Russia. More than 50 000 students attend its 16 institutes, among them there are more than 1200 international students representing more than 40 nationalities. UrFU offers more than 120 programmes on Bachelor's and 80 programmes on Master's level in a diverse range of subject areas including engineering and natural sciences, mathematics, social and political science, liberal arts, economics, and management. According to the QS World University Ranking in 2011 UrFU is among the top 500 Universities in the world. The course to internationalization requests recruitment of big amount of international students and to save natural cross – cultural environment – implementation of the adaptation policy.

We carried out an extensive literature review to build a conceptual model. The bulk of studies in the cross - cultural adaptation is represented by foreign researchers, in particular:

1. cross - cultural communication
2. tolerance
3. organizational changes
4. management styles

Russian studies are devoted to comparative analysis of national cultural characteristics in Russia and abroad. In the paper there is an attempt to develop a mechanism for the formation of tolerant interaction skills in cross - cultural environment. Methods of factor analysis, empirical testing included adapting developed scales verifying the model with sample of 1500 students are used.

Now we would to speak more concrete about the tolerance research and after that about adaptation model in the internationalized university.

Nowadays the social and economic situation in Russia is that the country's ethnic composition changed due to migrants from neighboring Russia's geopolitical space: the "conflict" zones, the former Soviet republics, as well as China. And we can speak about legitimate flow of migrants and at the same time about illegal flow from near and far abroad. Sometimes because of their activities or behavior, they become a catalyst for the negative attitude towards them, creating and exacerbating persistent negative stereotypes. Prevention of various types of extremism and ethnic intolerance has the significant importance for multinational Russia. It should be emphasized that the priority is to acquire prevention work among young people. On the other hand, international labor migration plays a very important role in the development of international economic relations. Today the society already understands that without usage of the migrant labor it's very difficult to operate the Russian economy.

Thus, the complex of problems in international relations includes both internal and external factors.

Youth is the reflection of the relations level between nations, ethnic and religious representatives in society because of the most rapidly responding to the socio-economic and political changes. Youth and student characteristics are perfectionism, high civil position, special social role, which encourages the dynamics of ideological quests.

Now we would like to study the concept of tolerance, as well as examine the possibility of improving the content and organization of tolerance education in higher education.

In the "Declaration of Principles of Tolerance" approved by resolution of the General Conference of UNESCO on 16 November 1995 the "tolerance" is defined as "respect, acceptance and appreciation of the rich diversity of our world's cultures, our forms of expression and ways of

being human, not concession, condescension or indulgence" but " active attitude prompted by recognition of the universal human rights and fundamental freedoms". Russian sources interpretation of the term tolerance is somewhat different. For example, in the "New Philosophical Encyclopedia" Tolerance is defined "as the quality that characterizes the relationship to another person as the equal person and expressed in the conscious suppression of feelings of rejection caused by all that marks the other (appearance, manner of speech, tastes , lifestyle, beliefs). Tolerance implies mood for understanding and dialogue with others, recognition and respect for his right to be different". In "Sociological Dictionary" there three formulations: "1. Tolerance to other's way of life, behavior, customs, feelings, opinions, ideas, beliefs. 2. Endurance to the adverse emotional factors. 3. Missing of responses to a negative factor by reducing the sensitivity to its effects".

The opinion of Prof. Drobizheva should be noticed: the tolerance - is a way of philosophy, especially, respect for others, a value system that recognizes the diversity of the world, the willingness to cooperate.

In principle, the appearance in the Russian lexicon borrowed words suggests major changes in processes in the field of public relations. It is interesting to find out what does student mean by the term "tolerance" and how to build tolerance in the student society.

To evaluate the issues has allowed the questioning of students of technical and humanities directions of Ural Federal University. About 1300 students participated in the experiments. The results are presented in Tables 2 and 3.

Table 2 – The notion "tolerance"

№	The example of notion	Index
1	Recognition, respect and promote the rights of people of different ethnic, social, ethnic, and other features	503
2	Tolerance for different opinions, beliefs	407
3	Ability and willingness to engage in dialogue	221
4	Art of living next to the dissimilar	69
5	Desire to resolve conflicts without violence	73
6	Kindness	27

In general, students demonstrate an understanding that tolerance is formed and adjusted and express practical recognition and respect for beliefs and actions of others. At the same time, 30% of students associate tolerance with the existence of an understanding of a different opinion and different beliefs. 17% of respondents are willing and eager to discuss the arguments problems.

Conscious manipulation of the concept of "tolerance" promotes positive interaction between students and the enrichment of the young man a new and different cultural heritage, social experience.

In the curriculum of higher education institutions, students are introduced to this term in the courses of Russian history, culture and philosophy. Tolerance among young people is an active moral power, position, and willingness to be tolerant in the name of positive interaction with other cultures, ethnic groups, people of different nationalities and religious beliefs.

The literature notes the following fact: almost half of the students taking an active interest to the new "other" people. This figure represents a good basis for the development of tolerance, as it is manifestations of interest to others, with the curiosity of dissent begin understanding.



Table 3 - Potential for tolerance among students

No	A method for forming	Index
1	To form between students respect to the diversity of world cultures and civilizations, a willingness to understand and work with people of different nationalities	472
2	To promote the development of students' standards of tolerant behavior and skills of intercultural interaction	328
3	To help to constructive interaction of social groups with different values, religious and political orientation, reduce social tension	250
4	To reflect the diversity of cultural values, ideas, and opinions in society	110
5	Discloses an anti-social nature of extremism in its various forms	140

Prevalent problem in the resolution of the problem, according to the majority of students (60%) is the focus on the final result - to help students to respect the diversity of world cultures and civilizations through the development of cross-cultural communication standards. It should be noted, some of the students (20%) noted the importance of understanding the mechanism of achieving the goal of a tolerant education - to promote constructive interaction of social groups with different cultural values, thereby reducing the social tension among students.

This table is fully reflects the words of Federico Mayer, the general director (1987-99gg) UNESCO: "Life in diversity is a source of serious problems for the communities in which our children are growing up. In a world where the interchange of cultures takes in magnitude, "living together" values and skills training has become a priority of education".

Concept of tolerance is highly connected with the adaptation process, the process of cross – cultural competence development and successful management of the cross – cultural adaptation process of the foreign students in universities is one of the most important points in the education. Effective adaptation increasing the level of studying, student become highly motivated.

In our opinion, the cross - cultural adaptation of students is such kind of student interaction with the national university, in which there is the harmonization of requirements and expectations of the subjects with their capabilities and real environment. Tools to evaluate the problems of foreign students to adapt to the new environment are developed by the authors and include questionnaires, interviews, and free-form conversation with students and alumni. In the survey were involved 750 people, foreign students studying at the moment, as well as graduates of the University. Special attention is paid to the behavioral characteristics of students from Mongolia, China and Guinea. It should be noted that in the Ural universities traditionally trained a large number of students from China and Mongolia. Our countries share a long term relationship, particularly in the training of highly qualified personnel. As for Guinea, it is new and perspective area of recruitment.

Processed survey data are presented in tables and figures. The relatively high aspiration of foreign students to acquire knowledge should be noticed: almost all respondents identified the learning process as a positive factor of entering the university. Extremely interesting is the fact that a multi-national student community interests greatly the foreign "students", in fact they have a desire to get closer, to ensure the unity and mutual penetration. It is interesting to note that the "stumbling block" for all international students is the difficulty of learning the Russian language, in addition, the adaptation to other difficult life and dramatically different climatic conditions.

Table 4 – Positive aspects of foreign student's education in RF

№	Factor	Quantity of students who choose somevariant		
		The Mongols	The Chinese	The Guinean
1	Studying at the university	38	70	22
2	Students from different countries	41	68	22
3	Independence	35	63	12
4	Citz, sightseeing	18	43	13
5	Weather, clima	14	15	6
6	Uniting in the expot	21	67	12
7	Different way of life	24	7	11
8	Activities outside the university	5	41	3
9	Ability for physical training	43	47	20

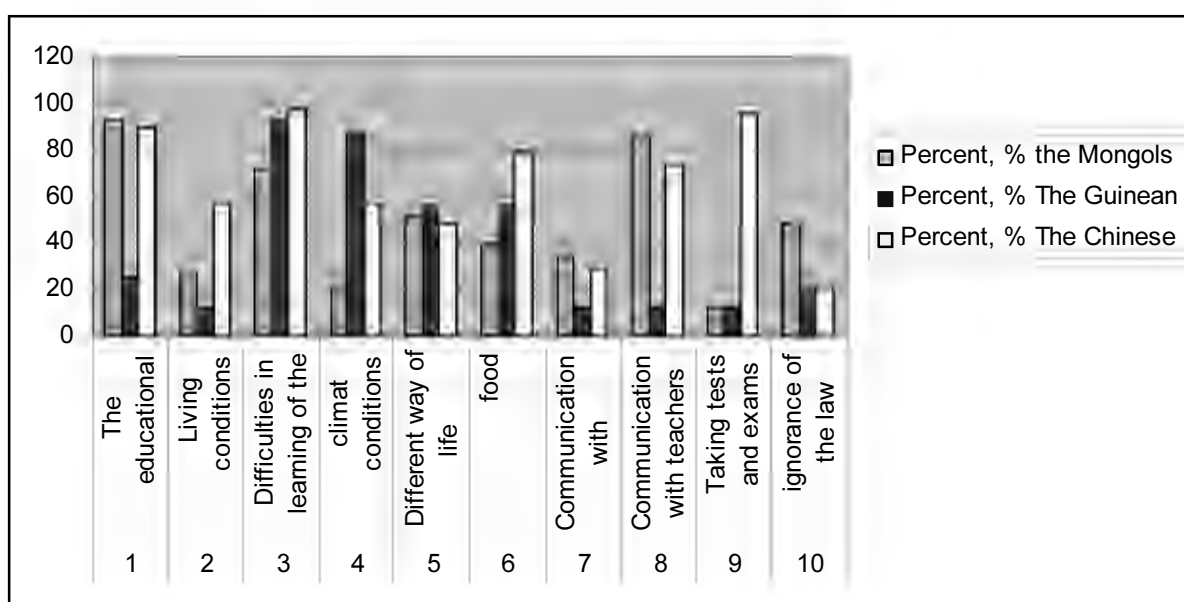


Figure 1. The main problems of studying in Russian Federation

On the other hand, there is a difference between African and Asian students: students from Guinea to the unpretentious food, is quite happy with their living conditions, they do not have any problems in communicating with students or with teachers.

This study allows us to conclude that the adaptation of international students is a process of mutual addiction, interpenetration of interests, the diffusion of traditions and cultures, and the ability to ensure the unity and diversity of basic values.

Management of adaptation and integration of university students solve strategic tasks - to ensure international harmony and interaction of ethnic groups.

Thus, the main conclusions are:

1. the literature review and empirical testing allow to identify key factors that can potentially, positively or negatively, influence cross – cultural adaptation in the educational, teaching and future business environment
2. Factor analys is directed to identify the nationality, which is easier to deal with in business - processes and social conditions
3. The significant differences between Asian and African students in the integration and communication features are revealed
4. Language and cultural integration play an important role in the positive relationships (business and social result oriented) of foreigners with communities.

## References

**Drobizheva L.M.**

2000

Social dimensions of ethnic stability and strength// World of Russia. №2. P. 68 – 77

**Myasojedov S.P.**

2003

The basis of cross – cultural management: how to deal with the representatives of different countries and cultures: Tutorial. – M.: Delo, 2003. – 256 p.

**New Philosophical encyclopedia**

2000

M.: Misl, 2000. – T. 1-4. – 2659 p. – ISBN 5-244-00961-3

**www.tolerance.ru** - "Declaration of Principles of Tolerance" approved by resolution of the General Conference of UNESCO on 16 November 1995

**www.urfu.ru** site of the Ural Federal university

# Balancing Western and Eastern Corporate Values: Social Responsibility Framework

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## Abstract

**Purpose** – to find some institutional contours of the nationally or regionally grouped CSR models in order to provide a useful framework for global corporations' effective social strategy.

**Methodology/approach** - a theoretic framework of business and government social responsibility interrelation, which is developed with reference to local conditions of BRIC countries, is studied

**Findings** –suggested institutional contours of cross-cultural models of social responsibility consider essential types of ideological, economic, political and the public work, directed on harmonisation of balance of interests of all stakeholders.

**Research limitations/implications** –The quantitative part of the research is based on the open sources statistics and descriptors, the qualitative part is based on the survey of top-management in the selected countries and is limited by their approach to the problem, which might be not quite reflective the global corporate course

**Practical implications** – in order to overcome a changing business environment it is proposed to use a model that establishes the contribution of cross-cultural effects, considering the critical value of new knowledge creation and transfer in the growing number of eastern and western cross-borders transactions

**Originality/value** – Value of the presented regional CSR models consists in the developed approach of measurement and forecasting of optimum balance of the state, corporate and public interests.

**Key words:** CSR, Values, Globalism.

## Introduction

It is well-known, that national governments and businesses are still lacking sustainable social efficiency towards local and global communities, especially in the emerging markets. Hence a search for the working steady model of public-private partnership that would balance all the interested global parties is still in progress. In our opinion, the defining frames of such a partnership should be based on the systematic approach to social responsibility which is substantially defined by institutional norms and economic culture of a country.

## Corporate Preconditions in Russia

A result of a continuous process of capitalist development of the western countries is the complex balanced regulation system of mutual relations of private businesses, government and civil society in the social and economic development sphere of countries and separate territories. Nowadays in some countries businesses participate in social problem-solving motivated by tailor-made stimuli and privileges and is regulated by the commercial, tax, labor, and ecological legislation. National models of social partnership match national models of the Social State. The

concept of social partnership is fixed in constitutions, social and labor law of the western countries [Belyaeva, 2010].

The analysis of the world-wide practice and theories allows for allocating some types of CSR that vary depending on orientation vector of programs and state participation [Mulej et al 2011, Banerjee (2008); Sethi (1975), Carroll 1991, Davis 1973, Freeman 1984, Granovetter 1985, McGuire 2003, Scott 2000]. The existent international models of social partnership could be divided into three groups according the role ("weight") of partners and level of the normative agreements:

- **conciliatory model** according to which three equal subjects participate in forming and social policy: businessmen, the state and labor unions; the distinctive feature is the high level of centralization of contractual process; the given model is typical for Scandinavian countries, Australia and the Netherland; it is partially used in Germany and Switzerland;
- **conservative-liberal model**, known for the reduced role of labor unions in social policy development; it is extended in France;
- **pluralistic model** characterized by decentralization of contractual process at the firm level (and even of their branches); it is used in Great Britain, Canada, the USA, and Japan.

Using traditional models of social partnership, one can understand more deeply the genesis of models of socially responsible businesses in the global regions of the world [Matten and Moon, 2008]. In our opinion, all these features have made essential impact on formation of the Russian model of corporate responsibility. Though there are still many academic disputes concerning national model of corporate governance.

In Russia, this process is standing in its initial stages of the development and occurs in the conditions of state's dominant positions, extremely poor development of institutions of the civil society, and oligarchic development of businesses( e.g. Belyaeva, Canen 2011, Kostin 2007). Thus, rules of institutional cooperation, roles of different parties and levels of their participation in the social development are only starting to be formed.

The term «corporate development» it-self has appeared in the Russian academic sources in the middle 1990s` ; questions of efficiency of the given approach and corresponding tools are still under deep discussion in the local business environment. Social responsibility of the Russian businesses takes sources in aimless philanthropy of 1990s`, and in the western understanding it has started its development only in 2001-2003.

At the same time Russia was included into the BRICS group considering a common perspective on economic and political growth. Although BRICS countries are geographically and ideologically apart, there are new mechanisms to integrate them into the world economic culture. The desire of the BRICS companies to enter in the international market and to become worthy participants in the world economy makes them search for effective mechanisms of managing CSR as a strategic part of business policy.

In accordance with the classical social responsibility, persistent tendency to invest into enterprises and companies promising the highest profit per invested assets is observed on the competitive market. In case a firm which has undertaken particular responsibility towards society is incapable to transfer its social costs to the customers and has to cover them at its own expense, this will lead to decrease of rate of return on capital and also to situation when investors will seek to invest into socially irresponsible firms because they will ensure them the maximum profits. Besides even if in all organizations of a particular country additional social costs had appeared because their directors had perceived this activity as one of objectives of their own business, survival of national branches of industry would have been endangered by foreign competitors that have no intention of bearing such costs.

The cross-cultural approach makes the understanding of the social responsibility when entering new markets easier. We aim to find some institutional contours of the nationally or regionally

grouped CSR models in order to provide a useful framework for global corporations trying to suggest an effective social strategy.

### **Social Responsibility as a Measurement of Values in Russia**

One of the basic problems of sharing CSR principles at the moment is the short-term orientation of strategy of development of the companies, their dependence on stock market. W. Buffett marks possibility of negative consequences of the companies' orientation on short-term investors for long-term development of the company [Buffet, 2009].

The basic element of social and economic transformations is an embedding of the Russian economic culture in processes of world corporate development by integration of general values into the business environment of the company. Social responsibility is shown at different levels of social and business systems. As it is already noted above, many researchers mark necessity of stronger contribution of Board of directors to development of corporate responsibility and building the corresponding corporate culture.

The corporate culture is helpful in understanding different symbols and activities; therefore it enables the stakeholders to find the most suitable solution (Halme M., Laurila J. 2009). Moreover, using corporate structures, as a dimension in the description of corporate governance process can be useful in exploring values, which are required but maybe do not exist at the time of research. Ethics control enables determining how the decisions are taken to support an increase of long-term value in an enterprise, and how they correspond to justice requirements regarding resource distribution.

Communication between leadership and socially responsible development of the company is the characteristic of the Russian model of social responsibility of businesses. High value of leadership in a control system routes in the Soviet understanding of "leader" as "the head"; accordingly, leadership in realization of corporate social responsibility can be considered as a technique of efficiency-increase of the company. The strategy based on leadership demands a wide use of their resources and the coordinated work of their followers/subordinates, which is the western characteristic of leadership.

The corporations with leadership as the management type in Russia most successfully form the internal business processes, and also relations with their external business environment; for this reason they can be considered as socially responsible. The phenomenon of leadership in a corporation and in frames of the corporate relations system is the mechanism that uses innovative approaches through potential of the "higher" degree in inventing the organizational, social and economic superiority over competitors. It might be the main result of transformation of corporate social development.

Russia has a possibility to take lessons from foreign experience. So, achievement of the new 'social contract' between the state, business community, and civil society, while this problem is fixed in the European social model, is open for Russians as well. Certainly, each country has her features of unique development, tradition, national interests. But in the context of globalization all members of world economy need to solve similar problems related to the interests of individuals, protection of their advantage, living conditions and work, social protection. World models of corporate social responsibility form vectors both of the social architecture of the Russian business, and the variants of its development that match the calls of the 21<sup>st</sup> century.

### **Balance of Corporate Value in BRIC**

Strategies of interrelation of the state and a business are based on the approved national and international documentation in the field of economic and social development.

Value of the presented regional CSR models (with some further specifications) consists in the developed approach of measurement and forecasting of optimum balance of the state, corporate and public interests. The application of the national strategies facilitates fresh and novel insights to understanding of SR in international setting.

The analysis of world practice allows allocating some types of corporate social responsibility that vary depending on orientation vector of programs and state participation. The suggested institutional contours of cross-cultural models of social responsibility consider essential types of ideological, economic, political and the public work, directed on harmonisation of balance of interests of all stakeholders.

In this paper the author attempts to generalize all the factors making for building an innovative CSR business model in Russia. From our point of view, it's just this model that the economy needs to improve the investment attractiveness of both the country's business and the country at all. Since Russia is still compared to other BRIC economy it is logical to find correlation of the Russian model of CSR and BRIC countries.

Despite the big similarity, Brazil, India, and China stand at different steps of CSR implementation. At present Brazil seems to be the leader in introduction of CSR principles (Belyaeva, Canen 2011). It can be caused by the thought-over policy of the government aimed at a sustainable development, and by active work of public organizations, networks «Instituto Ethos», introduction of the national standard of reporting NBR 16001, carrying out of social audit, and application of social share index ISE. At the same time the Chinese CSR institutes are more and more active (Canen and Canen 2009).

In the BRIC countries along with «the advanced» socially responsible group of companies there is a negatively minded group of businessmen and local residents. On the one hand, many companies in India and China consider CSR as the unnecessary western concept, on the other hand – as a trading barrier.

CSR is not only the tool of the social problems management in the region. The companies in the BRIC countries consider CSR as a businesses' dealing's part, the tool to increase of competitiveness of the company, possibility to enter new markets, and also to strengthen mutual relations with suppliers, investors, and buyers. The pragmatism and economic benefit expectation force the companies to put huge investments into social and ecological spheres.

To study the CSR profile we choose a list of basic descriptors. The method allows making a list of criteria of the research object (or polygon comparative characteristics) - Selected characteristics (lines) are represented graphically in the form of vectors of the polygon. Typically, this method is used in strategic management to determine the profile of employees, company, or industry. Profile is the sum of characteristics, in our case - the sum of the characteristics of corporate social responsibility models. Imposing polygons on each other, we can see similarities. Given the results of comparative analysis 17 major characteristics reflecting some specific lines of CSR were chosen. Further, the models of CSR in the BRIC countries were compared based on these characteristics by using the list of criteria in order to identify similarities and differences between these models. Parameter estimation was based on the preceding analysis. The greatest number of matches found in the features of models between Brazil and India, and the lowest - between India and Russia.

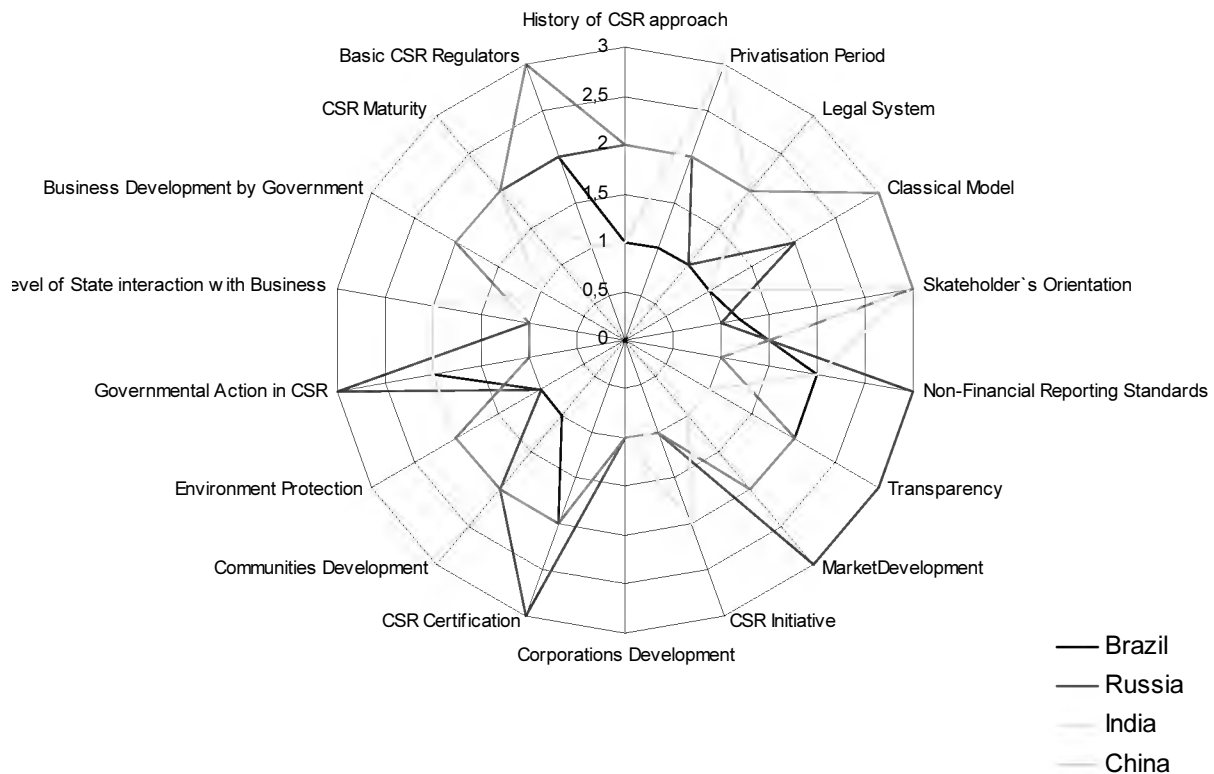


Figure 1 CSR Models Match in BRIC countries

### Conclusions

Latest publications suggest Russia to follow the world trend of "socialization" of business [Blagov, 2008-2011]. One can also find methods of struggle against those businessmen refuse to follow the given trend. Unfortunately the majority of the Russian companies is quite far from the universal trends and is forced to struggle daily to survive here and now.

Observance of the certain specification in the field of CSR can be a necessary condition for corporate membership in any branch association. The specifics of the Russian CSR include its basic initiator– the State (instead of a society or business acts). The concept of social and economic development of Russia declares an intention to build the mechanisms promoting strengthening of social responsibility of business and distribution of the corporate social reporting. Corporate social activity in Russian business is still often associated with PR and remains isolated in the relevant departments. Consequently, the public at large is only fed limited, and favourable, information rather than the true picture of corporate social activity with all its natural perplexities and problems. In general this situation unfortunately reduces the CSR role in Russia to a 'cosmetic' rather than a strategic one.

The dynamics of the current stage of corporate development in a context of increasing corporate social responsibility gives a good possibility to the Russian business community to raise the level of economic culture and to integrate national corporations into the world map of social responsibility. It will allow for generating a positive investment and corporate climate in the Russian business environment in frames of the world-wide corporate development model that is more and more dependant on the balance between Eastern and Western understanding of current trends.



## References

**Baffet W.**

2009

The Essays of Warren Buffett: Lessons for Corporate America M.: Alpina Business Books, Alpina Publishers, 2009. 272 p.

**Banerjee S.**

2008

Corporate social responsibility: The good, the bad and the ugly. *Critical Sociology* 34(1) 51–79.

**Belyaeva Zh.S:**

2010

Models of socially responsible business in world economy. – Yekaterinburg: Institut Ekonomiki uro HAN, – 173p.

**Belyaeva Zh.S., Canen. A.G.**

2011

Socially responsible business in the BRICS economies: current problems and possible development. Conference Proceedings of the 3rd International Conference on Management of Technology - Step to Sustainable Production (MOTSP), Publisher: Faculty of Mechanical Engineering and Naval Architecture, Zagreb, Croatia, 8-10 June, Bol, Island of Brach, Croatia, pp: 566-572

**Canen, N, Canen, AG , Canen, A & Canen, D,**

2009

The BRIC's Multicultural, Economic and Legal Aspects: a first insight, in: Integration of Russia Into the Fusion of the World Economic Culture in the Postcrisis Period, International Conference Proceedings, Eds: Strovsky, L. E.; Belyaeva, Zh. S.; USTU-UPI, (2009) Vol. 2, pp. 175-180.

**Carroll A.B.**

1991

The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*. 1991. 34 (4): 39–48

**Davis, K.**

1973

The case for and against business assumption of social responsibilities. *Academy of Management Journal*, 16, 312-322.

**Blagov Yu.**

2008

Doklad o social'nyh investicijah v Rossii 2008: Integracija KSO v korporativnuju strategiju. Pod obw. red. Ju.E.Blagova, S.E.Litovchenko, E.A.Ivanovoj. 2008. M.: Asociacija Menedzherov;

**Blagov Yu**

2011

Leaders of corporate charity, M: Asociaciya menegerov

**Freeman, R.E.**

1984

Strategic management: A stakeholder approach. B.: Pitman Publishers, 1984. 276 p

**Granovetter, M..**

1985

Economic action and social structure: A theory of embeddedness. *American Journal of Sociology*, 1985. № 91. P. 481-510.

**Halme M., Laurila J.**

2009

Philanthropy, Integration, or Innovation? Exploring the Financial and Social Outcomes of Different Types of Corporate Responsibility // *Journal of Business Ethics*. No. 84. p. 334.

**Kostin A.E.**

2007

Social Responsibility in corporate Governance: effective capitalisation: // *Korporativnoe upravlenie*.2007. №3.C.44

**Matten, Dirk and Moon, Jeremy,**

2008

'Implicit' and 'Explicit' CSR: A Conceptual Framework for a Comparative Understanding of Corporate Social Responsibility Academy of Management Review Vol. 33, No. 2.

**McGuire, J., S. Dow, K. Argheyd.**

2003

CEO incentives and corporate social performance. Journal of Business Ethics 45 (4): 341-359.

**Mulej M, Žižek S, Hrast A, Ženko Z, Potočan V.**

2011

ISO 26000 on social responsibility against neoliberal economics/Russia`s integration into the world economy: the new paradigms of the economic culture: Proceedings of the V International Scientific Conference. Yekaterinburg: UrFU,. P. 146-175

**Pfeffer J.**

1997

New Directions for Organizational Theory. N. Y.: Oxford University Press, 264 p

Porter M., Kramer M. Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility//Harvard Business Review, December, 2006, p. 89

**Scott, W. R.**

2000

Institutions and organizations: Foundations for organizational science. Sage Publications, Inc, 2nd ed., 2000. 277p.

**Sethi, S.**

1975

Dimensions of corporate social performance: An analytic framework. California Management Review, 17, 58-64.

# Institutional cultural adjustment in a function of economic development

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## ABSTRACT

*Attending from the thesis that dominant virtues of some society can be used to predict its economic success, further that cultural values are important for economic development and that internalisation of specific sets of social values could give a significant support for economic development, this paper has set up two goals: 1) defining the cultural values for economic development; 2) defining the agents for cultural change in a function of economic development. The first goal is reached using the list of attributes and values of an ideal and economically highly developed society versus attributes and values of economically stagnant societies. The second goal is reached by defining the agents for cultural change using these elements: a) socio-economic orientation as a tool for cultural adjustment; b) education as an tool for cultural adjustment; c) cultural adjustment of governing-administrative institutions; d) general cultural adjustment to the culture of work, love and learning.*

**Keywords:** *Economic Development, Values of Economic Prosperity, Values of Economic Stagnation, Key Values for Economic Development, Tools for Cultural Adjustment.*

## Introduction

The functioning of the institutions, which are the basis of socio-economic development, depends on people and their value system (North, 2003). Values are essential for human motivation because they determine the emotional-motivational orientation and mediates ways of living and working (Pastuović, 1999). Developed economies (Germany, Japan) have realized that values such as reliability, punctuality and discipline should be educated, because they are crucial for economic growth (Herzog according Jašić, 2000, 199). Also, according to the dominant values of some society can be well predicted its economic success, wealth or poverty (Landes, 2003). The purpose of this paper is to define the core values and the institutional value framework for economic development. Locating the developmental problems in suboptimal culture (values) that are not appropriate to support economic development, it is necessary to implement value transformation in the direction of stronger support of economic growth and development. This paper deals with two basic problems:

1. defining cultural values to economic development
2. determination means for cultural change with purpose of economic development

Starting from the premise that development of a respected economics emerges from indispensable conditions in the form of intangible value of social objectives, culture and institutions (whose functionality depends on social goals and internalized culture), definition of needed conditions and by determining the means for cultural change (primarily by raising the social motivation of human resources to a higher level of functionality), this work represents fundamental support to economic development through management of human resources.

## Socio-economic orientation as a tool for cultural adjustment

When economic development is considered, production and creative concept is preferable with an emphasis on large and powerful industries and internalization of competitiveness as internationally approved value, while respecting individual national economic identity.

Intangible value of social objectives, culture and institutions are very important for each economic development, thus when they are formed and effective as required parameters, the economy in fact creates itself (the principle of "l'aissez faire"). Constructed social institutions, as well as durable goods, need to be maintained functionally and to adapt them to development objectives if necessary. Although even the most successful societies suffer from deficits in their functioning nowadays (e.g., all sorts of corruption, failed governance etc.), the ideal society of growth and development should be able to generate (produce) goods and services and have following characteristics (Landes, 2003, 278-281):

- to know how to create, handle and manage the means to produce, plus to adapt and thoroughly learn the new techniques that are part of the latest technology
- to be able to provide the specified knowledge and skills to young people, either through formal education or by training (apprenticeship)
- to select people according to their ability (promotion / degradation based on the results)
- to provide an opportunity to individual or collective entrepreneurship, encourage initiative, competition and striving to reach or surpass the others
- to allow people to enjoy the outcome of their labor and entrepreneurship
- to ensure the private property rights (to encourage savings and investments)
- to protect personal freedom (protected from the tyranny and private means of illegal and crime activities and corruption)
- to ensure the realization of contractual rights
- to stabilize the government by rule of law (principle) and not by the rule of people
- to form government that reacts (listen to complaints and removes injustices)
- to form an honest government
- to have a stable and moderate government that is efficient and is not greedy
- specify gender equality
- to suppress any kind of discrimination on irrelevant criteria (race, gender, religion etc.)
- preference to scientific rationality over irrationality (superstition and magic)
- principles of fairness should be incorporated into the laws and internalized as behavior that pays off
- to encourage following rationalization: the geographic and social mobility, prefer the "new" versus "old", vitality versus experience, change and risk versus security, equality in distribution of income, a large middle class, equality, homogeneity in everyday dealings and behavior, regardless of class division.

To get closer to the above ideal and to provide a rational, ordered and creative society, education that will internalize the core values of good society is crucial. Globalized markets are increasingly seeking the authentic (original) offer as the one of the key values. Economical, political and social world recognized the production and competitiveness as a key virtue and as a source of "power". Beside competitiveness there are more issues that form "good society": fight against poverty, social security, health care, care for personal reproduction (demographics), quality public administration, quality education, healthy ambient and environment and international position with image (Pupavac, 2006). The values of a good society form foundation for good company and organization, good management and good staff, good household (family) and a good person finally and "vice versa". The quality of socio-economic system is formed through the values and their realization at different aggregation levels (macro, mezzo, micro). For more specific definition of cultural values that are incentive for economic development, it is important to differentiate the values that are associated to economic prosperity and ones associated to economic stagnation.

Table 1. represents cultural values that characterize societies of economic prosperity and societies with economic stagnation.

Table 1. Cultural values of economic prosperity and stagnation

<b>CULTURE OF ECONOMIC PROSPERITY</b>	<b>CULTURE OF ECONOMIC STAGNATION</b>
High level education forms capable and informed workforce, preference for learning and improvement	Does not create an informed and capable workforce. Rejecting new ideas and technologies. Society avoids to learn and improve and doesn't respect knowledge of their members
Devotion to work, diligence, thrift, unpretentiousness, honesty, regularity	Devotion to wealth, laziness, extravagance, pretension, dishonesty, untidiness
Very busy society, in constant motion and changes	Static, rigid, underemployed society, a society in "intellectual cage", rare changes
Effective government (recognizes the strengths of other nations and adjusts itself)	Inefficient and incompetent government (with corruption, bribery and robbing as "normal" social phenomena), the presence of freeloading kleptocracies
It emphasizes equality and has larger middle class	Stresses hierarchy (meager wealthy layer with mass in lower layer)
Developed representative institutions	Despotic institutions
Productivity and efficiency is the most important. "It doesn't matter if a cat is black or white, as long as it catches mice?"	Discrimination on irrelevant criteria (sex, religion, race, etc. ). Intolerance, superstition, ignorance
Encouraging initiative, urgency and competition; thrill and excitement for something new	Suffocation of initiatives , nurturing of false
Suppression of pride for the greater cause, the fear of dependence to foreign manufacturers	Pride, self-satisfaction, superiority complex paradox, not learning from others
Optimistic and open culture	Pesimistic and closed culture
Live to work	Work to live
Rationality (the essential facts and truths)	Irrationality (e ssential motive and ideology)
Thrift (rational use of resources)	Profligacy (irrational use of resources)
Positive attitude towards modernization and industry	Anti-industrial and anti -modernistic attitude
Evaluation of work and the sense of achieving	Contempt for the common good , good management and human
Entrepreneurship is relevant and respected socially factor	Uncertainty of entrepreneurship
A sense of obligation and duty	Feelings of obedience, compliance with vanity, spiritual homogeneity, machinations, wickedness, Helplessness, despair
Ingenuity, imagination	Lack of imagination and ideas
Without prejudice	A lot of prejudice
Flexible, skilled	Rigid, "clumsy"
Propensity to acquire and savings	Aspiration to hedonism and to spend
Curiosity, imagination, entrepreneurial spirit, energy, activity	Passivity, inactivity

Productivity	Unproductiveness
Social, cultural and technological readiness to effectively multiply the money	Lack of ability to efficiently use the money
Focus specifically on the detail and precision, clarity is emphasized	Focusing on general, abstract, imprecision, vagueness / manipulation
Good relations between workers and management in the enterprise	Poor relations between workers and management in the enterprise
Institutions tend to help entrepreneurs	Institutions do not tend to help entrepreneurs
Financial support to entrepreneurs	Weak financial support to entrepreneurs
Business and profit as values	Contempt for the business and economics
Entrepreneurship as a global trend is part of the culture	Entrepreneurship is based on the distinctive individuals
A society with program and vision to economic growth	A society without program and vision to economic growth
Creative-productive orientation	Trade orientation

Source: adaptation and supplementation Landes (2003).

The essence of all these systems is in human resources and their culture, and in social institutions that are based on it. All listed in the left column of Table 1. is crucial for economic growth and the question is how to implement all mentioned via education and upbringing. Solution should be found in: a) education, b) governing-administrative institution support, c) culture of work, love and knowledge at all levels.

### **Education as a tool for cultural adjustment**

The quality of the workforce depends on the quality of education and its relevance in training for specific economic role. Education is always in service of achieving certain objective and in service of encouraging certain values, with purpose to affect new generations. In theory of humanistic curriculum school should teach how to think and how to release (raise to love, happiness and free spirit), and should also train people for solving problems in human way. Although the importance of moral and ethical is increasingly recognized for economic development (Lauc, 2000, Landes, 2003, Pupavac, 2006), there are still relatively small number of examples for practical guidance in service of learning and development of such moral and ethical skills. The internalization of cultural values that contribute economic growth must start at primary school because it is a period of accepting core values that have true motivation power of directing future behavior. The values that are internalized in primary school should definitely have humanistic and developmental-economic dimension, which mainly move in the same direction (that are not in contradiction). In humanistic terms these are the values that internalize economically important honesty, fairness, authenticity, trust, community (social cohesion), relaxation, kindness, altruism, imagination, social responsibility, finally reduced to five basic human values: rightly operate, truth, love, calmness, nonviolence (Žanko, 2005, 34). In terms of economic development crucial values are discipline, responsibility, diligence, persistence, and efficiency (Landes, 2003).

1) *Correctly handling*– honesty and fairness while achieving goals (not to work at the expense of another). Properly and rightly operation is "deep morality in human thoughts, feelings and behavior". This value can be achieved by group activities while treating participants humanly (regardless of their material, social, educational or other status), and by having the job done correctly and according to the rules of the profession (without delay and complications). In school system it can be internalized through group activities ("You are valuable for taking part in this work").

- 2) *Truth* - it is crucial to separate what is true and what is not. If people don't know the truth, or do not want to know it, either they are willing to leave it to others ("they know better") they become victims of manipulation. Lies are used as a means to achieve some benefit, so it is necessary to internalize the truth. This value can be practically implemented by using wise quotes out of the rich human history ("In lie are short legs").
- 3) *Love* - as it is one of the basic human needs, that includes tenderness, generosity, support, sharing, joy, sympathy, attachment, and helping others, it should be part of the school system. This value can be implemented by group singing, playing and working with purpose to connect people closer to each other.
- 4) *Peace* - in modern civilizations where people prefer busyness, diversity and intensity of informations, people often do not arrive to process many duties in everyday life (our capabilities are limited). Basic human activities such as play, socialization and leisure time are increasingly reduced. It is not possible to respect yourself or others if one cannot recognize the value of peace, calmness and relaxation as core strength for better use and reallocation of psychophysical resources. If there is no calmness and order in individuals, both values will also lack in ambient and society.
- 5) *Nonviolence* - a behavior that does not harm others, neither physically nor to someone's reputation. Self-control, kindness, compassion and care for others are important moral standards in the 21st century. Hate, punishment and vengeance shouldn't exist in such a society. Instructive stories can show us some true values and right direction.

Values mentioned above represent base for internalization of the fundamental economic values of honesty, fairness, authenticity, trust, unity (social cohesion), relaxation, kindness, altruism, creativity and social responsibility. Values of discipline, responsibility, hard work, persistence and efficiency are also crucial for the development of the economic system. This can be achieved by disciplined, responsible and punctual problem solving at school. It is fatal for economic development to make a stand that something can be done without true effort, or to depower the teacher with his educational authority. Teachers are losing an important function as role models, their impact on upbringing is minimized and they are starting to be recognized as less successful (marginal) social individuals. Harmful habits emerge as outcome: irresponsibility, laziness, indiscipline, dishonesty, disrespect and general value vacuum (ethical relativism). Honest, moral and hardworking workforce is fundamental for economic growth - people who live below their social status (not above) with a commitment to truth, responsibility, promptness and unity. It is important to have workforce that is informed and capable; people who accept new techniques, ideas and knowledge with tendency for entrepreneurship and mass of individuals who feel the urge for better life with strong sense on social responsibility. Inevitable component of innovation which is also essential ingredient of economic development will emerge out of people with stimulated imagination and initiative. In the end, awareness on the social level that people are more important than money is a must, because good, very disciplined working power is deficient, more deficient then equity.

### **Cultural adjustment of governing-administrative institutions**

Institutional behaviour should support economic efficiency by regulating essential transactional relationships. If the bureaucracy acts like "master" of its clients, and expects to be bribed financially or by other material or nonmaterial things to execute its regular activities, economic development is not stimulated (Radošević, 2003; Horvat, 2002). Economic development is also slowed down if existence of individuals and business entities depends on decisions from the "top" or "horizontal" level, because it will produce the culture where political power becomes the most important activity in the society. Therefore, it's not a problem for economic development if wealth and power emerge out of the hard work and out of results of the hard work, but the problems exists if they emerge out of fraud, theft and corruption. Suboptimal efficiency of governing-administrative institutions should be regulated according to the knowledge of learning psychology by means of rewarding and punishment (Čudina-Obradović, 1991; Pastuović, 1999). In the case of Croatian transition economy case this cultural sub-optimality means: assuring the rent and making revenue greater then own contribution (Radošević, 2003), suboptimal criterion of rewarding and promotions (Čengić, Dragojević i Vidačak, 2004), haughtiness, insensibility,

slackness, and non responsibility (Horvat, 2002, 126), biro-pathology with jealousy, rigidity, shared responsibility, redundant paperwork and bifurcation of loyalty (Županov, 2002). The justice is the main value of social institutions and regardless the fact how well organized and effective institutions are, they should be reformed or abrogated if they are unfair in practice (Matulović, 1996, 113-145). Today is evident that long-term economic efficiency depends on justice. (Landes, 2003). Delay in development will emerge as a result of culture with mental homogeneity, obedience, aptitude and fulfilling the vanities versus valuation the initiative, professionalism and diligence.

Consequently in the context of economic development it is very important that governing-administrative institutions do their job according the criterion of efficiency, helpfulness, preciseness and diligence. Such a culture should be educated and cultivated by means of rewarding and promotion on the one side but also by means of punishment on the other side, because the whole socio-economic efficiency and development depends on institutional efficiency.

### **General cultural adjustment to the culture of work, love and learning**

The most important specific values that are essential for the economic development of every society are that diligence has to win against laziness, honesty against exploitation, love against hate and rational against irrational. In terms of inappropriate values social relations become more and more complicated so laziness, selfishness, dishonesty, ignorance, vanity, envy and hate towards people emerge as fatal characteristics. These values affect human emotions in negative way and create source for business and economic problems further. Love, work and knowledge represent quality resources for human and economic life. Culture for the 21st century should certainly make adjustments to the values of culture, love and knowledge/learning such as:

- building prosperity on the hard work
- to internalize the value of: "Anyone can buy, it is difficult to produce and sell!"
- work and it's results (accomplishments) are the reason of human existence
- to internalize the values of productivity, thrift, persistence, patience
- to support entrepreneurship, initiative, pro-activity, enthusiasm, intrinsic motivation
- to nurture practicality and cost-effective problem solving
- to internalize the values of honesty, trust, ethics (the values of truth, rightly operate, love, calmness and nonviolence)
- to internalize love/attachment to colleagues, company and nation
- to nurture informal communication and minimize the impact of status and hierarchy on problem solving issues
- to internalize the rational/scientific way of problem solving
- to nurture and strengthen the culture of learning (knowledge and skills, expertise, capability, performance)
- to support curiosity (desire for new knowledge), independence of thought and intellectual activity
- to embrace change easily and quickly (new knowledge and ideas)

Should the Croatian cultural climate dominantly be guided by these values that promote a culture of work, love and learning, it could have extremely beneficial effect on the motivation of human resources at all levels of aggregation and thus significantly improve the entire Croatian economy.

### **Conclusion**

Economic systems of emerging (transitional) economies could strenghten themselves by means of adjusting their cultural and institutional climate with purpose of strenghtening the motivational component of their human capital. Namely the wealth of all nations is the product of motivated human resources, whose source lays in the culture of certain area.



The paper presents four fundamental cultural adjustments: socio-economic orientation as cultural adjustment; education as a mean of cultural adjustment; cultural adjustment of governing-administrative institutions and general adjustment to the culture of hard work, love and learning.

## References

**Čengić, D., Dragojević, S., Vidačak, I.**

2004

"Hrvatska administrativna elita i problemi upravljanja", *Društvena istraživanja*, (13), 1-2: 3-25.

**Čudina-Obradović, M.**

1991

"Motivativno djelovanje nagrade i kazne", U: Kolesarić, V., Krizmanić, M., Petz, B. (ur.), *Uvod u psihologiju-Suvremena znanstvena i primijenjena psihologija*, Bjelovar: Grafički zavod Hrvatske, p. 137-174.

**Horvat, B.**

2002

*Kakvu državu imamo, a kakvu državu trebamo*. Zagreb: Prometej.

**Jašić, Z.**

2000

"Obrazovanje u Hrvatskoj na pragu 21. stoljeća", U: Zbornik radova "*Hrvatsko gospodarstvo za 21. stoljeće*", Zagreb: Nakladni zavod Matice hrvatske, p. 195-203.

**Landes, D. S.**

2003

*Bogatstvo i siromaštvo naroda: Zašto su neki tako bogati, a neki tako siromašni*. Zagreb: Masmedia.

**Lauc, A.**

2000

*Metodologija društvenih znanosti*. Osijek: Pravni fakultet Osijek.

**Matulović, M.**

1996

*Ljudska prava: Uvod u teoriju ljudskih prava*. Zagreb: Hrvatsko filozofsko društvo.

**North., D. C.**

2003

*Institucije, institucionalna promjena i ekonomska uspješnost*, Zagreb: Masmedia.

**Pastuović, N.**

1999

*Edukologija: integrativna znanost o sustavu cjeloživotnog obrazovanja i odgoja*. Zagreb: Znamen. Pupavac, D. (2006). *Etika za menadžere*. Rijeka, Veleučilište u Rijeci.

**Radošević, D.**

2003

„Nova razvojna paradigma-stvara li se novi model gospodarskog i socijalnog razvitka: "Post-Washingtonski konsenzus?"", *Ekonomski pregled*, (54), 11-12 p. 882-903.

**Žanko, N.**

2005

„Odgoj vrijednosti u školskim i predškolskom uzrastu”, U: Kolesarić, V. (ur.) *Knjiga sažetaka 13.-te godišnje konferencije hrvatskih psihologa: Vrijednosti, odgovornosti i tolerancija u društvu koje se mijenja*, Osijek, 12.-15. 10. 2005.

Županov, J.

2002

*Od komunističkog pakla do divljeg kapitalizma: Odabrane rasprave i eseji (1995.-2001.)*. Zagreb: Hrvatska Sveučilišna naklada.

# Research on the influence factors for the environmental management performance of textile Romanian firms

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## Abstract:

**Purpose** - The research objectives are to analyze the main factors that influence textile firms in their engagement in environmental management initiatives and the development of an index that evaluates environmental management corporate performance in the textile Romanian industry.

**Methodology/approach**- The data used to develop the index were collected by using the survey method. Statistical methods were then used in order to identify the main factors that model the environmental management performance.

**Findings**- The findings are that the pressures of the clients, suppliers and financiers play significantly positive roles in the initiatives to increase the environmental performance of textile firms.

**Research limitations/implications** – This study has examined only the limited factors which will influence firms' environmental management performance. Our indicators of environmental management performance also need more discussion.

**Practical implications** – Those who establish environmental policies should be more careful with the market and information instruments in order to stimulate firms to adopt improvements of their environmental performance.

**Originality/value** – 1. Identifying some possibilities to quantify the environmental management performance. 2. The econometric modeling of environmental performance in the Romanian textile industry and the making of suggestions for key actors in environmental policy in order to increase firms' performance.

**Key words:** Textile industry, environmental performance, econometric modeling

## Introduction

There is an increasing pressure on the companies, from different sources, as the legislation and governmental regulation, the members of the community, non profit organizations or the market demand, to engage in environmental protection initiatives. The legislation and governmental regulation represented the major pressure factor, in a primary stage. Nowadays, the market demand and the implication of community became more important in developed countries [Chen, Soye, 2003]. A better understanding of the influential factors that play a key role in the commitment of organizations to the environmental management initiatives can help increasing the efficiency of those who formulate environmental politics.

Certain strategic choices can be imposed coercively through sanction or threat, as in the case of a government legally mandating environmental standards [Meegeren, 2001, Delmas, 2002]. Government regulation, including inspections and enforcement actions, is one of the most important factors affecting a firm's decision making process [Henriques, Sadorsky, 1996].]. Some economic studies examined the effects of nonregulatory factors on corporate environmental performance and/or behavior. In particular, these studies explored the reasons for over-compliance<sup>1</sup>, which cannot be explained by regulatory pressure. Arora and Cason (1996)

explored firms' desire to present a "green" image to consumers. Vachon and Klassen (2006) pointed out that, by interacting with their suppliers and their customers, manufacturing organizations could potentially develop and implement more effective solutions to environmental challenges they are facing.

Many other studies have shown that most consumers would more likely choose environment-friendly products. Wen and Chang(1998) considered the driver of market demand to be a great power that shaped better corporate environmental performance in Taiwan. Others reported that capital markets may react negatively to the announcement of adverse environmental incidents, such as violation of permits, spills, court actions, complaints or react positively to the announcement of superior environmental performance [Dasgupta et al, 2000]. As can be seen from this short review of literature, we assume that firms' engagement in environmental management can be influenced by their own characteristics (capacity aspects), market opportunities (incentive aspects), regulatory procedures (sanction aspects) and community pressure (informal aspects). Community pressure may also explain over-compliance. A few economic studies explicitly explored the effect of community pressure on environmental performance and/or behavior. However, most of the recent research focused on single factor's influence on corporate environmental performance, for example regulation and compliance. But firms usually make decisions with a full consideration of all factors.

### **The econometric model**

In developing the model, we assume that a firm conducts its environmental initiatives accordingly to cost – benefit analysis. In this case the costs are those of environmental management activity. Their value is affected by the firm's characteristics (size, sector, origin of capital) that we included in the C vector (capacity).

The benefits of the compliance include avoiding several cost types: pollution costs, costs of fines, taxes and inefficiency, and the benefits of market stimulation. The costs of in-compliance (sanctions from the authorities, compensations from litigations) are rendered by the R vector (regulation vector). The pressures from the community members, employees and NGOs are reproduced by S vector (social pressures). The stimulants from the market are part of the M vector (market pressures).

Taking into consideration these aspects, the environmental management performance (EMP) of a company could be presented in a concise form, expressed as:

$$EMP = f (C, R, S, M) \quad (1)$$

### **The dependant variable**

As we mentioned before, our purpose was to analyze the main factors that influence firms in their engagement in environmental management initiatives. To do this, we must select an indicator that measures the corporative environmental management performance.

The most appropriate indicator should express the environmental impact of firms' activities. The quantification of such an indicator is far from being facile. The assimilative capacity is difficult to measure as it varies from one location to another and is specific to every pollutant; emissions, as well, are not always taken into account or reported and can appear under the form of several pollutants. Prior studies addressing this issue of environmental control determinants have proxy indicators utilized instead. These proxies could be broadly classified into four categories, namely: (a) total emissions [Konar, Cohen, 1997]; (b) environmental investments [Panayotou et al, 1997]; (c) self-assessed compliance performance and (d) environmental management system [Dasgupta et al, 2000].

In our analysis, we examine the global performance of environmental management. We have chosen twelve indicators in order to asses the level of performance in environmental management, according to suggestions of some experts or results of previous studies mentioned

above. To each indicator was attached a score in our survey. The sum of scores represents the global level of environmental management performance (EMP).

Table 1. The system of environmental performance index

Indicators	Definition
$I_{EMS}$	The existence of a certified environmental management system
$I_{EC}$	The existence of a specialized environmental compartment
$I_{EMS}$	The planning of the implementation of an environmental management system
$I_{PES}$	The priority of environmental issues in the formulation of firm's strategy
$I_{IE}$	The importance of training new employees in environmental issues
$I_{IEP}$	The degree of interest for the level of environmental performance
$I_{CP}$	The degree of acknowledgment of the correlation between environmental performance and economic performance of the business
$I_{CP}$	The existence of exceeding concentrations of pollutants in air/water for the company activity
$I_{EI}$	Environmental incidents in the last five years
$I_{EI}$	Understanding the environmental impact of the firm's activity
$I_{EF}$	The impact of environmental issues for the firm's activity in the next years

### The independent variables

Coming back to equation (1), the independent variables C, S, R, M represent the factors capacity, legal regulations, social pressures and market pressure that affect the performance. In our econometric exercise, we can determine how much these factors can explain the level of index of environmental performance.

We defined two characteristics of firms (C): 1) financial status, expressed as the proportion of net income in the total assets, and 2) the firm's size, expressed as value of turnover. Our analysis used delayed financial data, considered predetermined, avoiding any endogeneity problem, since contemporaneous financial status and environmental performance are probably jointly determined [Lizal, 2002].

Regarding the incompliance sanctions ( R), as bigger the quantities of emissions and waste of a firm's activity are, as often the authorities will inspect it. On the other side, if a bigger company exceeds the allowed concentrations of pollutants, will be more penalized, according its productive flow. That is why the firms that are big pollutants support stronger incompliance sanctions and regulation pressures. In this paper we used the effluent taxes established by the environmental authorities as variable to measure legal pressures. The taxes were calculated taking into account the atmospheric emissions of nitrogen oxide, and the effluents in the used water, with the example of CBO (oxygen consumed).

To estimate the social pressures, both from employees and from local community, we used the density of population in the towns where the factories are placed. The density was classified in five categories, from low (300 individuals on square kilometer or less) to high (over 3000 individuals on square kilometer). Also, we took into consideration the answers of the firm's representatives on the degree of interest of local community and employees regarding their environmental performance.

To estimate the stimulants of the market (M), we examined two types of pressure: pressures from the clients and from the financiers. The information were selected from the questionnaire answers.

**The econometric model**

According to those previously discussed, the next regression equation renders the functional relationship between the global environmental management performance and the explanatory variables that we have described.

$$EMP = c + \beta_1 R + \beta_2 S + \beta_3 M_c + \beta_4 M_F + \beta_5 C_F + \beta_6 C_S + \varepsilon$$

Where :  $\varepsilon$  – the error

C – the constant

$\beta_{1-6}$  - the regression coefficients

We performed the linear regression analysis in order to identify the determinant factors in engaging the firms in environmental management activities. The computing was done using the software SPSS. In order to find the best combination of independent variables that explain the variation of the dependent variable, in a regression model, we used the *backward* method (step by step elimination). This procedure implies including all the considered variables in the model and the elimination at every step of the weakest predictor (independent variable). The weakest predictor is represented by that variable that is less important, because it determines the smallest reduction of the Fisher statistic, F. The variables are eliminated until a significance threshold established for F is no longer reached.

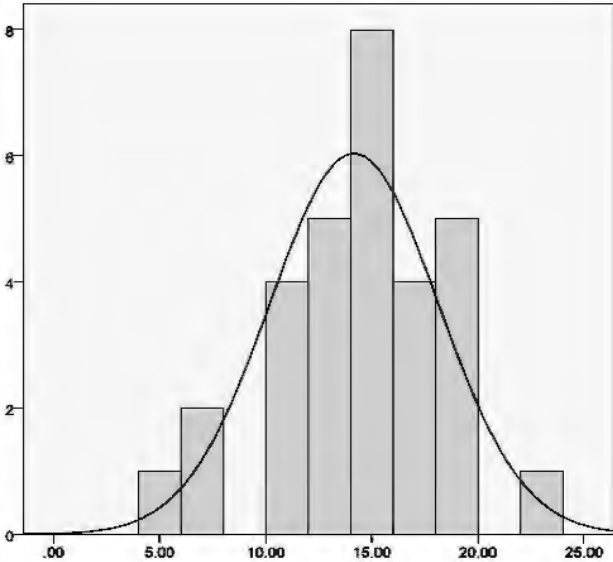


Fig.1. The index of environmental performance – distribution of frequencies

The distribution of frequencies for the values of the index of environmental performance passed the normality test, necessary for the operation of the regression model.

Table 2. The synthesis of the independent variables

Variable	Number of observation	Average	Standard deviation	Minimum	Maximum
R	30	0,6666	0,9222	0	3
S	30	3,33	1,34	1	5
$C_F$	30	0,0607	0,0750	0	0,2801
$C_M$	30	23962699	30938151	242859	124470667
$P_F$	30	0,9	1,1249	0	3
$P_C$	30	0,6	0,49	0	1

We have carried out the regression analysis in two steps. Firstly we have considered all the regression factors, including firms' characteristics, in order to analyze their and external pressures integrated effects. Then we have eliminated these characteristics (C), with the aim of examining only the external pressures on the environmental performance of textile Romanian firms.

The results of the model that excludes the internal predictors of the firm show that the pressures from the community are almost insignificant for the modification of firm's attitude of engagement in environmental protection initiatives.

As regards the regulation pressures, these have a slightly positive effect on environmental management performance. The correlation is not though very high (the Pearson coefficient has a value of 0.350). The results are different from those of other studies, which show the legal pressures as the key factor for the compliance with the environmental standards and policies. However, the stimulation from the regulations could be reduced as long as the firms have accomplished the basic requirements of national environmental standards. On one side, the environmental legislation evolved accordingly to the Community aquis. On the other side, firms must have a positive image in point of environmental protection in order to gain competitive advantages on market because their majority upstream and downstream business partners run activities on an international scale. Therefore, the legislative compliance for a basic level, as it is used in this analysis, has not imposed significant effects on the level of global environmental performance as it is defined in this paper – including not only the basic requirements, but also voluntary actions as ISO 14000 certification.

The effects of the market pressure, from the clients as well as from the financiers, are significant. The firms are enhancing their environmental performance if there are requirements of the clients. They are firms that have already implemented formal systems of environmental management and/or social responsibility, imposing their suppliers to also prove that they as well are upgrading the environmental/social performance. On the other hand, the possibility to obtain European free funds or other types of financing if they present a good environmental management performance has a substantial positive effect on the firms' attitude and actions towards this performance.

### **The effects of the internal characteristics of the firms**

In the second regression, we have included the effects of firms' characteristics on their environmental performance. The results are included in the table.

The first model corresponds better to the introduced data, wit an adjusted  $R^2$  of 0,331, compared to the same  $R^2$  of the second model, which has the value of 0,318. As the firm's size expressed by its average turnover on the last three years and by their financial status are continuous variables, their coefficients represent their direct elasticity.

Table 3. The estimation of the environmental performance regression, to the determinant factors

Variable	The omission of the firms' characteristics	The including of the firms' characteristics
	$I_{PMM1}$	$I_{PMM2}$
R	0,685	0,682
S	-0,328	-0,314
Pf	1,555	1,489
Pc	2,341	2,472
Cm	$-2,861 \cdot 10^{-9}$	-
Cf	-2,031	-
c – constant	12,52	12,26
Adjusted R <sup>2</sup>	0,331	0,318

The results show that neither the dimension of a firm's activity nor the financial status does not influence sufficiently enough the environmental performance of the Romanian textile firms. Thus the initial hypothesis, that bigger organizations, whether they had to bear sanctions or wanted to avoid them for the future, tend to adopt a larger number of pollution control procedures. As we see in the table, the dimension of the firms had a low elasticity in the model, with a coefficient of  $-2.861 \cdot 10^{-9}$ . In other words, a raise in the turnover by 1% would determine a decrease by  $-2.861 \cdot 10^{-9}$ % of the environmental performance index.

### Discussion and conclusions

This paper work has as a goal to identify the determinant factors for the involvement of Romanian textile firms in environmental management initiatives. We have integrated the environmental performance in an index. A higher value of the index shows a higher environmental performance. We have carried out two regression models in order to explain the impact of formal and informal instruments on the adoption of environmental initiatives. The work also analyses the impact of the firms' characteristics on their environmental performance. The data were gathered by means of a questionnaire to which responded the representatives of 31 textile firms from all over the country.

The results show that the pressure of the clients, suppliers and financiers, and as well the pressure of legal regulation, plays significant positive roles in the attitude of organizations to increase their environmental performance. The creation of mechanisms that facilitate the access of local communities to more information on the environmental performance of companies could be an achievable objective, for example by the creation of an inventory list of pollutant emissions and a list of firms accordingly some parameters and their level of compliance. The companies could be liable to publish annual reports on their performance.

A later research will include more factors and examine dynamic changes of environmental performance in order to find out the exact factors that engage firms in environmental management. We also hope this research will encourage other researchers to conduct similar studies, for other industrial sectors, in developing countries, to determine whether the obtained results are similar.

### References

**Arora S, Cason TN.**

1996

"Why do firms volunteer to exceed environmental regulations? Understanding participation in EPA's". *Land Economics*;72(4):413e32.

**Chen W, Soyez D.**

2003

"The greening of industry: a research approach of industrial environmental geography. *Geographical Research*;22(5): 601e8.

**Dasgupta S, Laplante B, Nlandu M, Wang H.**

2000

"Industrial environmental performance in China: the impact of inspections", p. 113e28.

**Delmas M.**

2002

"The diffusion of environmental management standards in Europe and in the United States: an institutional perspective", Policy Sciences;35:91e119.

**Konar S, Cohen M.**

1997

"Information as regulation: the effect of community right to know laws on toxic emissions". Journal of Environmental Economics and Management;32(1):109e24.

**Henriques I, Sadorsky P.**

1996

"The determinants of an environmentally responsive firm: an empirical approach". Journal of Environmental Economics and Management;30:381e95

**Lizal L, Svejnar J.**

2002

"Investment, credit rating, and the soft budget constraint: evidence from Czech panel data". Review of Economics and Statistics;84(2):353e70.

**Meegeren P.**

2001

"Blue bags or refuse tourism: social acceptance of closed policymaking", Society and Natural Resources;14:77e86.

**Panayotou T, Schatzki T, Limvorapitak Q.**

1997

"Differential industry response to formal and informal environmental regulations in newly industrializing economies: the case of Thailand", Harvard Institute for International Development.

**Wen ZD, Chang TM.**

1998

"The exploration of green innovation organization in Taiwan", Management Forum of Taiwan University;8(2):

**Vachon S, Klassen DR.**

2006

"Green project partnership in the supply chain: the case of the package printing industry", Journal of Cleaner Production;14:661e71.

**Zhang B, Jun B., Yuan Z., Junjie G., Beibei L.,**

2008

"Why do firms engage in environmental management? An empirical study in China", Journal of Cleaner Production 16, 1036e1045



# Ethics as an important element of entrepreneurship in the context of globalization

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## Abstract

**Purpose** – The purpose of the paper is to present the perspective of the European entrepreneurs with respect to the ethical behavior within their organizations, in the context of globalization.

**Methodology/approach** - A quantitative research using boring and the questionnaire as the research's instrument.

**Findings** – The majority of the investigated subjects believe that ethics is very important in their organization as well as in the business environment within their country. The most needed change with respect to ethics is for it to be put into practice, and the most frequent reaction of the employees would be a positive one.

**Research limitations/implications** – The number of entrepreneurs that have been investigated is 74, which does not allow an extrapolation of the results with a certain probability and a limited error.

**Practical implications** – As an organizational priority, ethics will not only influence the decision making process, but also the organizational culture. In order to achieve this goal, there has to be a process of alignment that will integrate business ethics in the mission, vision, strategy and objectives of the organization.

**Originality/value** – Most of the studies in the field of ethics are being done from its philosophical perspective, thus studying the business aspects of ethics is really important, considering that a great opportunity of today's organizations is represented by the potential of ethical values in defining their future.

**Key words:** business ethics, entrepreneurship, globalization.

## Introduction

Ethics has become one of the priorities of an organization. In the 21st century, ethics is not a luxury, nor an option. Within the society there can be noticed selfish and irresponsible actions that make some poor and other rich [Brimmer, 2007].

Until now, the business ethics specialist had to deal with the statement that business ethics represents the perfect oxymoron. Still there are companies that have an ethical, profitable program. These companies, as many others, have showed an entire history in the field of an exemplary ethical climate, as well as profitable operations.

The empirical studies regarding the relationship between profitability and ethics at the organization's level have showed mixed results. There is nowhere to be found a negative correlation between the ethical behavior of a company and profit, on the contrary, the companies that have an ethical behavior act better on the market.

As an organizational priority, ethics will not only influence the decision making process, but also the organizational culture [Kidder, 2001]. In order to achieve this goal, there has to be a process of alignment that will integrate business ethics in the mission, vision, strategy and objectives of the organization. The purpose of an organizational ethical culture is the best thing of all possible.

### **The hypothesis of the research**

Starting from the issue that has to be studied, a series of hypothesis can be elaborated [Bacali et al., 2010, p. 279-280].

H01: The majority of the investigated subjects believe that ethics plays an important role in the business environment within their countries.

H02: The majority of the investigated persons believe that ethics is important within their organization.

H03: Most of the investigated persons believe that ethics is important within the organization due to the fact that thus, business becomes more profitable.

H04: The main tendency that will influence the organizations' performances, in the following five years, will be the creation of an ethical organizational culture.

H05: The main change needed within the organizations is the elaboration of a code of ethics.

H06: The main reaction of the employees to the changes regarding ethics within the organizations would be reticence.

### **The instrument of the research**

The method that has been used within this research was the boring, and the instrument was the questionnaire.

For the questionnaire there were used different types of questions [Bacali et al., 2002, p. 31-32]: open questions (addressed to the active process of the subject's memory, verifying and testing what is stable, consolidated in the behavior and knowledge of the subject) and closed questions (dichotomic, multidichotomic and scale responses).

For the elaboration of the questionnaire, the following basic principles have been respected:

- The question should be as short as possible, meanwhile clear and concise;
- The question should be elaborated in such a way that it is avoided a predisposition of the subjects to offer a certain answer;
- The ability of the subjects to answer certain questions has to be taken into account;
- The question should not be threatening or unpleasant.

### **The sampling**

Due to the statistical, organizational, financial and informational restrictions the dimension of the sample was 74 organizational subjects from 12 different European countries. A non-aleatory sampling has been used, based on accessibility, which means that there were investigated those members of the community that were able to be approached in a more facile way, thus we cannot talk about a representative sample, the conclusions referring only to the investigated sample, without extrapolating them.

### **The results of the research**

The questionnaire opens with a general question which requires the subject's opinion with respect to the role of business ethics. The hypothesis is H01: The majority of the investigated subjects believe that ethics plays an important role in the business environment within their countries."

It can be noticed from figure 1 that 73% of the respondents, meaning 54 of them consider that ethics plays an important role in the businesses within their countries, 16 respondents, representing 22% state that ethics is not important, while 5% do not know.

The hypothesis is thus confirmed.

### Does ethics play an important role in the businesses within your country?

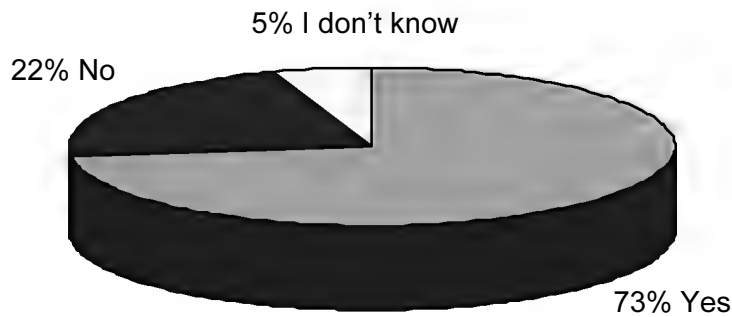


Figure 1. The role of business ethics in European countries

The following question investigates the measure in which ethics is important within the organizations represented by the respondents. 54% of the investigated subjects consider it very important, 27% important, 16% of an average importance and only 3% not so important.

“The majority of the investigated persons believe that ethics is important within their organization” was the starting hypothesis. This hypothesis is not confirmed by the given answers, because the majority (54%) considers that ethics is very important within their organization.

### How important is ethics in your organization?

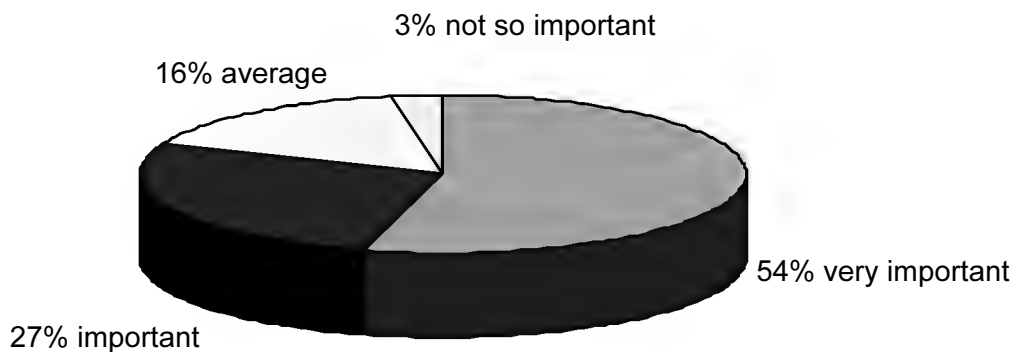


Figure 2. The importance of ethics in the investigated European organizations

“Most of the investigated persons believe that ethics is important within the organization due to the fact that thus, business becomes more profitable” was the starting hypothesis in investigating the motivation of the ethics’ importance in the investigated European organizations. The given answers show that profit is not even mentioned once:

- for the sustainability of the organization (10);
- in order to have a good relationship with all the interested partners (8);
- ethical values are more important than profit (4);
- ethics influences the organization’s performances (2);
- it is something imposed by the regulations (1);
- due to the need to have a pleasant working environment (1).

The hypothesis is not confirmed by the obtained results.

There are also respondents who do not believe that ethics is important in their organization, who argue their answer as follows, in the decreasing order of the frequency of the answers’ appearance:

- the moral crises of the society (2);
- overturning the values, money being considered to be more important than ethics (1);
- there is no training from this point of view (1).

With respect to the importance and the impact of a possible tendency on the organization’s performances, during the following 5 years, it can be found the use of personnel with part time and temporary contracts, with a score of 5.5 (on a scale from 1 to 7), while on the other extreme there is globalization with a score of 2.0. The hypothesis (The main tendency that will influence the organizations’ performances, in the following five years, will be the creation of an ethical organizational culture) is not confirmed.

Further on the investigated subjects were asked to propose, in necessary, changes with respect to ethics within their organizations. Here are the answers, in the decreasing order of the frequency of their appearance:

- applying ethics (8);
- improving honest communication within the organization (7);
- respecting the ethical values within the organization (4);
- organizing trainings on business ethics (3);
- respecting the working schedule (2);
- involving the employees in the process of decision making (2);
- cooperation with other countries, other values, not just the ones in Western Europe (2)
- internal evaluations of the personnel (1).

The answers don’t confirm the hypothesis according to which „The main change needed within the organizations is the elaboration of a code of ethics”, because we can identify on the first place the need to apply ethics. In many organizations, even if there is a code of ethics, it seems that the values and principles included are not put into practice.

“The main reaction of the employees to the changes regarding ethics within the organizations would be reticence” represents another hypothesis that has not been confirmed by the answers of the investigated subjects. The most probable reactions of the employees to these changes are being presented as follows, in the decreasing order of the frequency of their appearance:

- positive reactions such as involvement, collaboration (10);
- interest (6);
- equality of chances at international level (5);
- not interested (3);
- a more pleasant environment within the organization (2);
- better professional results (2);

- increase of creativity (2);
- the increase of responsibility of everyone involved in the organization (2).

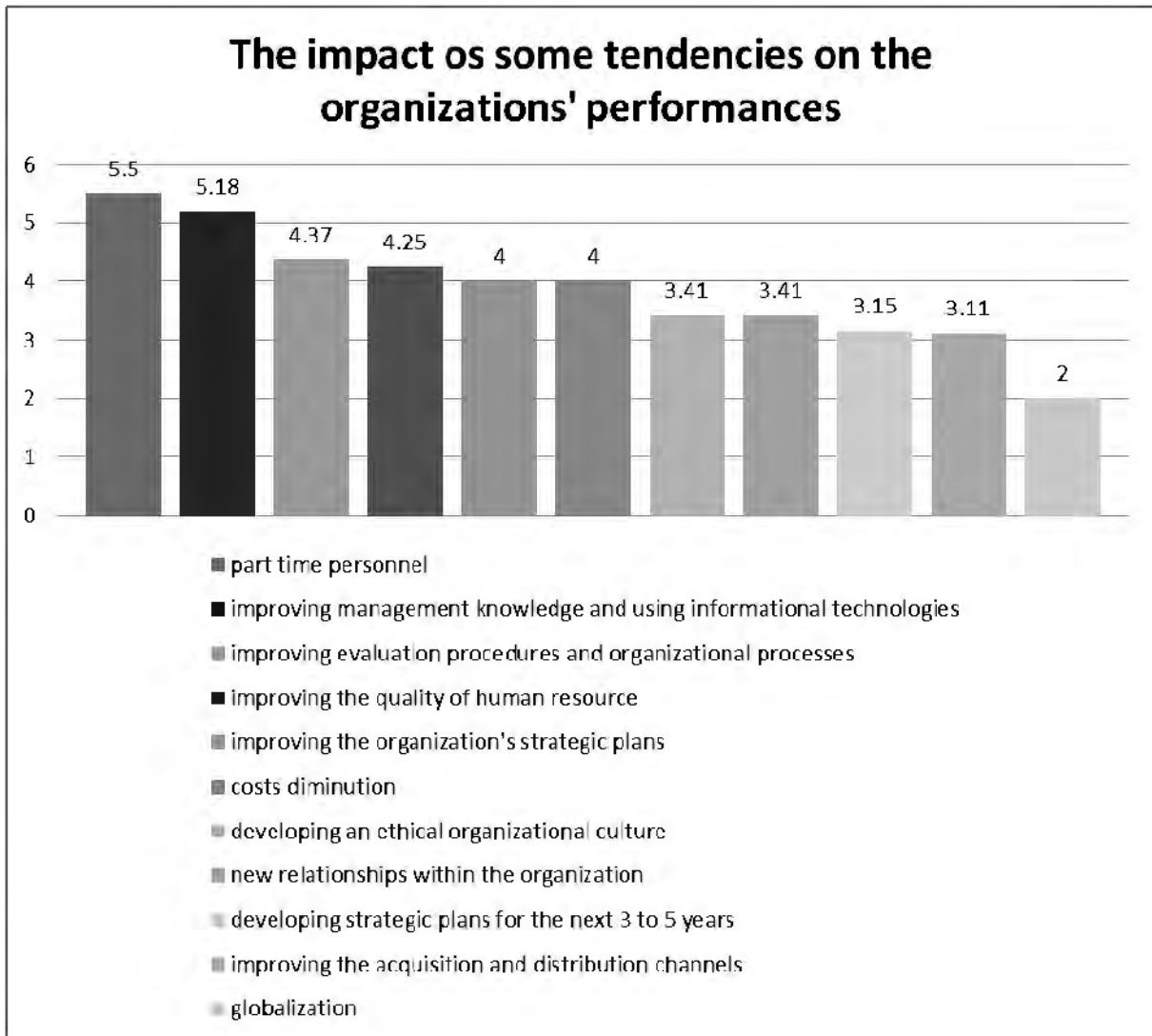


Figure 3. The impact of some tendencies on the performances of the investigated European organizations

### Discussion and conclusions

The paper has identified the entrepreneurs' perspective with respect to business ethics in their own country, the ethical behavior within their organizations as well as main changes and the employees' reaction to these changes in the field of ethics within their organization. It also underlines the importance and the impact of some possible tendencies on the organization's performances.

## References

**Bacali, L. et al.**

2010

Antreprenoriat - Manualul calificării, Cluj-Napoca, UT Press.

**Bacali, L. et al.**

2002

Marketing. Manual de inginerie economică, Cluj-Napoca, Ed. Dacia.

**Brimmer, S.**

2007

„The Role of Ethics in the XXIst Century Organizations.”, Leadership Advance Online, Issue XI, [http://www.regent.edu/acad/global/publications/lao/issue\\_11/pdf/brimmer.pdf](http://www.regent.edu/acad/global/publications/lao/issue_11/pdf/brimmer.pdf)

**Cordoș, R.C., Blaga, B.L.,**

2009

„The sustainable company – a company for the future.”, KSI Transactions on Knowledge Society, II/4: 37-39.

**Kidder, R.M.**

2001

„Ethics is not optional.”, Association Management, 53(13): 30-32.

**Zikmund, G.W.**

2002

Essentials of Marketing Research, The Dryden Press

# Chance Equality as Approached in the East and in the West

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## Abstract

*While in the Old Testament times woman's position appeared to be definitely subordinate to that of man, in Christianity it equalized, but, in practice, the old prejudices continued. The equality between men and women is a fundamental principle of the European Union, both Articles 21 and 23 from the Charter of the Fundamental Rights of the European Union and Law no. 202/2002 from Romania bearing testimony to it in this sense. As Romania, by its culture and geographic position, has strong ties to both the Eastern and the Western part of the continent and even beyond it, it can be a good starting point in analyzing our topic – the equality of women and men. Actually, the above mentioned feature has already been tested when we refer to the wage difference between women and men, where Romania's figures, of 16percent, are close to the European average. Obviously, referring to other parametres, Romania can rank lower, or, occasionally, even slightly higher than the EU average. The right to equal treatment of women from Europe continues to be limited. Although the majority of newly created work places in the EU are held by women, they still face discrimination, especially regarding the employment rate and wage difference.*

**Key words:** equality, opportunities, women, men, east, west.

## Introduction

Ever since biblical times woman was definitele subordonate to Man, probably because Eve basically caused the ultimate sin. In modern Christianity, at least theoretically, the position of women was equalized to that of men "there is no man nor woman, neither free man nor slave, neither Jew nor Greek in Christ" said St. Paul, Letter to Galatians 3:28, Holy Bible, but, unfortunately, in practice, the old prejudices were not fully abandoned. We have a long history of fight to regain the equal treatment of women in everyday life, a process called emancipation of women, feminism or women's movement which have connotations in the French Revolution and in the industrial revolution in England and also in the ample protest movements in the U.S. at the end of the XIX<sup>th</sup> and beginning XX<sup>th</sup> century, <http://www.history-timelines.org.uk/index.htm>. And yet things are not placed on a normal path. Gender equality is a political, social and moral objective of the EU, the cornerstone of non-discriminatory strategy. But the goal is also important in achieving the economic goals of the EU as part of the Lisbon European Strategy to promote economic growth and competitiveness. In Romania we have adopted Law no. 202/2002 on equal opportunities between women and men and Order no. 285 of March 4, 2004 on the application of the National Action Plan to ensure chance equality between women and men. How well these are known and observed it's worth our time to analyze. The objective of this paper is to make a comparison of different approaches on the problematic of achieving the principles of equal opportunities between women and men between East and West that is, more precisely, between Romania and EU countries. As has been the preferred method of detailed analysis of available statistical data at European level in the specialty literature, data was evaluated in an overwhelmingly quantitative manner. The reports of the EU Commission and Member States, Eurobarometer, Eurostat were analyzed, articles and studies for various national and international

programs were conducted. As priority two specific indicators were followed within the Global Human Development Report (RGDU) in 2004: the index of gender disparity in human development (IDS) and the index of women's social and political participation (IPF), taking into account: women's participation on the work market, wage, share of people with higher studies and the index of leadership positions held.

### Indices specific to Chance Equality

#### Human Development Index

The Human Development Report from 2006 shows that Romania ranked 60 out of 177 countries considered by the values of human development index (HDI). For Romania this value is of 0,786, PNUD report, www.undp.ro. For the problematics of chance equality between females and males two specific indicators were created: the Index of gender disparity in human development (IDS). In 2004, Romania ranked 56 of 144 countries with a gender disparity index of 0,784. Among the 23 countries in Central and Eastern Europe and CIS for which the index of gender disparity was calculated, Romania ranks 15. The Index of women's participation to social life (IPF) that determine which is women's share that recieved effective rights to participate in different fields of public life as compared to men (we follow 4 indicators: share of the average wage earning of women as compared tot hat of men, share of women in leadership pozitions in the public sector, share of seats in the Parliament held by women and share of women in scientific and intellectual professions). The data emphasize that IPF for Romania (0,465) is comparable with the average in the region (Report of Human Development in Romania, 2004). In the Global Report of Human Development from 2009, the IDU value for Romania was of 0,837, what places our country in position 63 in the world. The 182 countries for which the HDI is calculated are grouped on four categories, as follows:

- the first category is represented by the countries that have HDI over 0,900, comprising 38 countries with a very high level of human development;
- the second category includes countries in which the HDI value is between 0,800 and 0,899, comprises 45 countries of which Romania is a part and are countries with a high human development;
- the third category comprises countries that have the HDI value between 0,799 and 0,500, related to 75 countries with an average human development index;
- the fourth category countries with a decreased human development that have the HDI between 0,499 and 0,340, comprising 24 countries.

Countries such as Norway, the Netherlands, Switzerland have traditionally had the highest HDI value. In 2009, as well as in several previous years, Norway ranked in the top with a HDI = 0,971. In 2010 on a worldwide scale on the first 10 places regarding HDI the following states are ranked: Norway, Australia, New Zealand, the United States, Ireland, Lichtenstein, the Netherlands, Canada, Sweden and Germany. Closer to Romania, of the countries that entered the category of top human development or in "very high degree of development" is Hungary which ranks 36 and Poland ranking 41. Romania ranks 50 and Bulgaria that ranks 58 lies in the second quarter of the HDI "human development degree", together with Serbia (60) and the Ukraine (69). In the Global Report of Human Development from 2011 the HDI value for Romania was of 0,841, what places our country in position 50 in the world.

Table 1 Human Development indicators in Romania

Human development index	Rank 50
Education	Education index 0,831
Inequqlity	Inequility adjusted HDI 0,683
Gender	Gender inequility index 0,333

Source:Data processed by information obtained from Eurostat



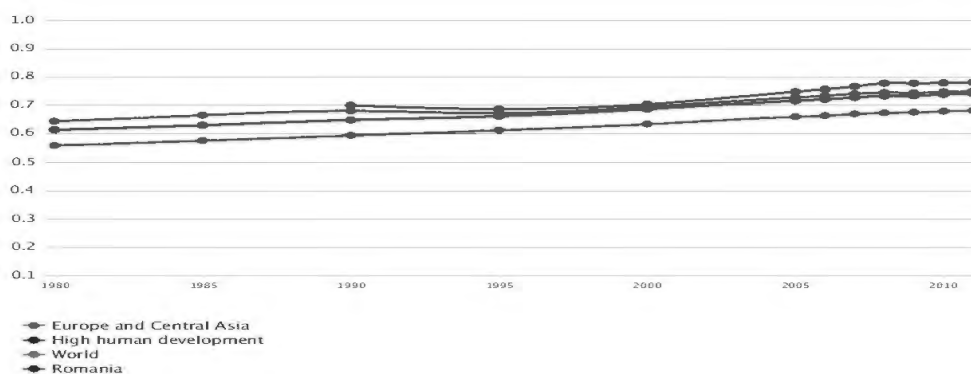


Figure 1 Human development index. Trends 1990- present  
Source: Data processed by information obtained from Eurostat

### The Index of women's participation in the social life

The Index of women's participation in social life in Romania has a value of 0.465 and is comparable to the average in the region, <http://epp.eurostat.ec.europa.eu>. In Romania, Latvia and Slovenia there are more women on corporate boards than in any other European country, except for Norway, Global Human Development Report 2004. Regarding the inequality between men and women in the managerial positions in the four EU countries in southeastern Europe, the lowest percentage was recorded in Bulgaria, where men have occupied about two thirds of the top manager offices. In Romania, 69 percent of managers are men and 31 percent are women. In Greece, the percentage of women managers is equal to that of men. Inequalities are greatest in Cyprus where almost 73 percent of managers are men. According to statistics and regardless of the numerous actions undertaken, women's representation in the political decisional process in the last years stagnated instead of manifesting an increase, the gender balance at the level of national Parliaments from the EU staying unchanged, namely 24 percent women and 74 percent men. In the 27 Member States, women hold, on average, 23.81 percent of ministerial portfolios. Extremes are Finland, 60 percent and, opposite, Cyprus, with 0 percent. At the level of European national parliaments, about 23.69 percent of representatives are women. The highest percentage of holding ministerial portfolios is held by Sweden, 52.15 percent, and are the lowest in Malta, 9.23 percent, Global Report on Human Development, 2009. In comparison to the average of EU Parliaments' (24 percent) and with the share of the European Parliament in the 2004-2009 legislature, 31 percent, Romania has a representation of parliamentary women of just 9,76 percent, according to the results of the 2008 parliamentary elections. In the European Parliament women's representativity significantly increased, from 31 percent in the previous mandate to 35 percent in the 2009-2014 mandate. Romania has in the present European Parliament 36 percent women: 12 women out of 33 MEPs. European statistics emphasize that women from the European Union earn, on the average, 25 percent less than men, in spite of the increase in the participation in the work market and of the improvement of the degree of women's professional qualification. At a national level the difference between the wages of male employees as compared to those of female employees is in 2004 of 14 percent, as compared to 21 percent in 1994. In the EU-27 in 2006, 17 percent of full-time employees were low-wage earners. This category included 23.1 percent of all female full-time workers, 20.1 percent in the euro area, whereas only 13.5 percent of all male full-time employees were low-wage earners. The proportion of female low-wage earners was higher than the proportion of male low-wage earners in all Member States except Hungary. The countries with the highest proportion of female low-wage earners were Cyprus, Latvia, the United Kingdom and Lithuania. Their proportion was the lowest in Finland, France, Denmark, Belgium, Malta and Sweden. In Italy the highest GPG is found in trade, transport, communication, business activities and financial services (19.4 percent) – the same applies in average for the EU-27 (21.7 percent) and EA-16 (22.6 percent) -, in Estonia and Romania it is found in industry, energy and construction. For Finland the highest GPG is reported in education, health and social work and other community, social and personal service activities. Looking at detailed individual

branches of economic activity, the lowest GPG sizes are recorded in construction, 5.9 percent in average in the EU-27 and 6.2 percent in the EA-16 in 2006. The GPG in construction is even negative in eight Member States: Bulgaria, Italy, Luxembourg, Hungary, Poland, Portugal, Romania and Slovenia In Germany and the United Kingdom, the wage difference between females and males is of 25-30 percent, in favour of the males, in Hungary, the difference is just of 15 percent. Difference in wage between women and men in the four Southeastern European (SEE) states of the EU, stand at the lowest level in Greece, where it is of 9 percent, and the highest level in Cyprus, where it is of 25 percent. These values in Bulgaria and Romania, are close to the EU average of 16percent respectively 13 percent for Bulgaria and for Romania. Absolute inequality between genders regarding the share of EU level employment is of 15 percent. This amounted to just over 8 percent in Bulgaria and about 12 percent in Romania. Women earn, on the average, 17.4percent less than men for each hour of work, <http://epp.eurostat.ec.europa.eu>.

## Women's distribution on the work-force market and professional development

### Women's participation on the work market

In the EU 27 this is on average 57 percent from the total of active women's participation against 71.5percent, as is the average participation for men. In 2010 in Romania the rate of employment among the population able to work had higher values for men ,65.7 percent, than for women 52 percent. The share of occupation of women aged 15-64 years was in 2004 of 52.1 percent, value inferior to the target of 60 percent set by the Lisbon Strategy as a European objective for 2010. The Number of women in the work field is increasing, but inferior to the one of men. The share of women that work part-time was of 31,2 percent in 2007, four times higher than that of men. A key indicator related to the complex underlying factors affecting the situation of women in the labour market is indeed their participation. At least for some countries female participation in the labour market seems to be related with the GPG for the whole economy. In the Member States with the lowest GPG in 2009, the employment rate of women of 15-64 years old is low in comparison to the EU-27 average of 58.6 percent, e.g., 46.4 percent in Italy, 37.5 percent in Malta or 52.8 percent in Poland. This reflects mainly the particularly low share of low- or unskilled women in the workforce: the employment rate of women 15-64 with lower education is between 19percent and 29 percent in Poland, Bulgaria, Italy, Latvia against 37.7 percent on average in the EU-27 in 2009. On the other side, the situation of those EU-15 countries (EU before 2004) that have a relatively high GPG, as observed for Germany, the Netherlands, Austria and the United Kingdom, may also be explained to some extent by their high female employment rate, between 40 percent and 53 percent for womwn with lower education, <http://epp.eurostat.ec.europa.eu>.

Table 2. Distribution and proportion of low wage earners by sex, percent, 2006

	EU-27	EA-16	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV
Men	13.5	11.7	4.8	26.5	9.5	4.7	15.9	11.7	15.6	12.4	11.2	7.7	11.5	11.0	29.2
Women	23.1	20.1	12.8	27.7	26.1	11.6	28.0	28.7	28.7	23.2	22.6	10.6	16.2	33.4	32.3
	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK	NO
Men	25.0	11.9	24.5	10.1	10.5	9.2	18.3	14.5	25.7	12.1	10.8	3.3	7.6	15.6	4.9
Women	30.1	24.6	22.3	13.3	25.0	28.7	26.3	26.6	27.8	21.3	25.0	8.8	14.9	30.6	8.8

Notes: Low-wage earners among full-time employees: those earnings less than two-thirds of the national median wage per year.

Data refer to enterprises with 10 employees or more and to NACE Rev. 1.1 sections C to O not L.

Source: Eurostat, SES 2006 (earn\_ses\_adecl)

Source: Data processed by information obtained from Eurostat

**The Rate of higher qualification** is approximately equal for women and men, having close values. Women with a high qualification represent 23.8 percent, and men – 23.1 percent. Eurostat data shows that, in the case of persons with higher studies, 84.5percent of women and 86 percent of men succeed to get employed. Educational attainment is another key element affecting both female participation in the labour market and their level of earnings. On average, in the EU-

27 and EA-16 the GPG is much higher for people with higher educational level (tertiary education) than with lower education level (up to lower secondary education): it is respectively 26.1 percent and 13.9 percent in the EU-27 in 2006 (23.6 percent and 15.0 percent in the EA-16). Consequently, underlying factors of the GPG seem, on average, to slow down the career development of women particularly in high-human-capital jobs. Possible explanations could be seen in gender segregation for, manager jobs and in the fact that decisions of women in favour of family life hamper them more in professional and managerial activities where there is a high dispersion of wages. Nevertheless, again, the situation varies among Member States. While, e.g., the GPG in the Czech Republic, Greece and France has a similar pattern by educational attainment as for EU-27 and EA-16, Belgium and Lithuania have a reverse pattern (lower GPG for those with tertiary education: 14.8 percent and 21.8 percent respectively) and the GPG is less dependent on the educational attainment in Bulgaria and Romania or the United Kingdom, between 20 percent and 24 percent for both lower and higher education, <http://epp.eurostat.ec.europa.eu>.

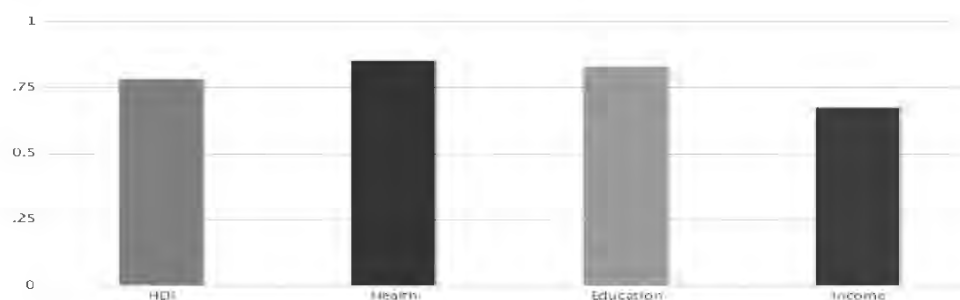


Figure 2 Human Development Index, Education and Income for Romania  
Source: Data processed by information obtained from Eurostat

**The management, namely, leadership positions:** 30 percent of the higher companies' managers from Europe are women. At the highest level, however, things did not change very much, only 2 percent of the directors and presidents of the higher companies are women. Regarding inequality between women and men in managerial positions from the four EU member states in South-Eastern Europe, the smallest percentage was spot in Bulgaria, where men held two thirds of the managerial offices. In Romania, 69 percent of the managers are men and 31 percent are women. In Romania, Latvia and Slovenia there are more women on corporate boards than in any other European country, except for Norway. Few of the women that got to important leadership positions in companies from Poland, as well as from Western Europe, are well-known names to the public. However, some, such as Sari Baldauf, director of Nokia, and Valentina Gooding, president of Bupa, private group that acts in the field of health, lead important businesses with thousands of employees and turnovers of several billion US dollars. Some of them succeeded in fields that have traditionally been male-dominated, such as Françoise Griat, from IBM France and Barbara Kux, who left Ford for Philips. Others prospered in businesses where women always got along fine, such as the media and the retail. In the United States, approximately half of the American private companies are held by women. The feminine companies constantly work opportunities and hire more employees than the first 500 top companies together. In the United Kingdom, over 600.000 women are active in entrepreneurship, bringing the British state approximately 130 billion pounds. Analyzing manager women's distribution on age groups, we can notice an important change in mentality of the Romanian society in the sense of facilitating the acces to leadership functions of women. The age group 36-45 years has the most important share within enterprise-leading women, respectively 34 percent. Regarding the activity fields where women proved to be the best, statistics emphasize that politics, the private sector and volunteering would be the most suitable for women. Most women promoted on leadership roles are in the USA, which greatly surpassed Europe from this point of view. We

hereby present a few examples of famous women: Former British Prime Minister Margaret Thatcher, also called „The Iron Lady“, another „iron lady“, this time from Israel is Ms Golda Meir, American state secretary Madeleine Albright (1997-2001), Ms Hillary Clinton, New York senator, Cristina Fernandez de Kirchner, president of Argentina, Pratibha Patil, first woman president from the history of India (2007) and at present Europe is Represented by Angela Merkel chancellor of Federal Germany, <http://epp.eurostat.ec.europa.eu>.

### **Emotional Intelligence and chance equality**

In 2007, a study was conducted regarding emotional intelligence in the work place by on-line surveying of 1.963 persons from all development regions of Romania, aged between 18 and 68. This is the first report regarding the impact of emotional intelligence on Romanian companies. Research emphasized that Romania ranks among the countries with a high degree of emotional intelligence, with an average EQ of 104, above the American reference – of 100. The highest EQ in the world belongs to Israel, with an average of 112, and the smallest is registered in Canada - 95. Specialty studies revealed that women surpass men with three up to nine points at EQ. Both in men, and women, EQ increases with the increase in hierarchy, from the executive level to the one of top management. The unemployed and the retired have a lower EQ degree than the average. The study emphasized, paradoxically, that Romanian PhDs have a lower EQ degree than the ones who graduated the Master's Degree. We can see the same tendency in the case of Romanian women, a reduction of EQ, hand in hand with the increase in the level of education. From the answers to the survey questions we could emphasize that women with a high level of education have a lower EQ level than the average, but can radically change their organization, <http://epp.eurostat.ec.europa.eu>.

### **Conclusion**

The right to equal treatment of women from Europe continues to be limited. Although the majority of newly created work places in the EU are held by women, they still face discrimination, especially regarding the employment rate and wage difference. In European institutions there have been some progresses but women are still insufficiently represented at a higher level.

### **References**

#### **Holy Bible, King James Version**

Letter to Galathians, Chapter 3

#### **Law no. 202/2002**

regarding chance equality between men and women, in Romanian

#### **Government Decision no. 285 from March 4, 2004**

regarding the application of the National Action Plan for Chance Equality between Women and Men, in Romanian);

#### **PNUD**

2004

Chance equality between women and men in the implementation of public policies in Romania, Practical Guide, PNUD, 2004, in Romanian

#### **The Global Report of Human Development**

2004, 2006, 2009, 2010, 2011

in Romanian

#### **Eurostat**

The Statistical Agency of European Union, <http://epp.eurostat.ec.europa.eu>;

#### **United Nations Development Project**

[www.undp.org](http://www.undp.org);

<http://www.history-timelines.org.uk/index.htm>;

# Workplace Spirituality in a Christian Orthodox Country. Differences between East and West

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## Abstract

**Purpose** – To present and discuss the subject matter of workplace spirituality in Western and Eastern tradition countries.

**Methodology/approach** - This paper makes a bibliographical study on workplace spirituality. It can be a starting point in others future studies. It was not the intent of this paper to measure the spirituality at work.

**Findings** – This paper shows a similarities and differences in understanding spirituality and religion between western and orthodox countries related to most important issues in practicing it at the workplace. It is also proposed a general model of construct.

**Research limitations/implications** – The research was limited by the available literature on practicing spirituality in the workplace in orthodox countries. The paper can be extended as other theoretical or empirical studies are made available.

**Practical implications** – We may consider it as a good premise for founding further empirical research.

**Originality/value** – As there are no other papers or studies found, regarding workplace spirituality in eastern culture countries, the paper shed a first light on the subject.

**Key words:** workplace spirituality, religion, spirituality

## Introduction

In the last decades some new management approaches introduced in the literature the specific issue of integrating spirituality in several sections of management realms like organizational life, leadership, decision-making, business ethics, to mention just a few of them. It has emerged thus a huge number of articles, dissertations, books, etc., covering both conceptual and empirical studies. One of the most productive subject matters in this respect draws on integrating spirituality in the workplace. What has gained our attention was the fact that almost all of this literature refers to US business environment, and even studies from Western and Eastern Europe countries take into discussion the same area, the researcher being in the position to hardly find a few studies coming from a different organizational culture marked by an orthodox religious tradition, like the case of some Eastern European countries. That's why we have found of much interest to see and discuss this subject matter through another specific cultural and tradition lens, hoping that our approach could bring a new and fresh light on it. We mention also that it was not the intent of this paper to measure the spirituality at work, such an approach being subject for a further study, based upon empirical data collected from Romanian companies and public administration organization as well.

## **The subject matter of integrating spirituality in the workplace in the business environment of Western countries**

### **The causes for the emerging literature on workplace spirituality**

In an attempt to group the causes due to the issue of workplace spirituality has grown so tremendous in the last decades, we found, not exclusively, some common roots that are mentioned more often in the literature. So, our findings are especially related to the necessary support employees are looking for to overcoming the changes both in the corporate environment by downsizing, layoffs and reengineering as an effect of global competition [Imel, 1998; Burack, 1999; Ashmos & Duchon, 2000; Gotsis & Kortezi, 2007], and also by the gradual vanishing of the traditional support given by the extended family, neighbours, church community and civic groups [Ashmos & Duchon, 2000], or due to the aging population that becomes more sensitive for life-death questions. Then, as many employees are spending more time at work than before and are thus feeling more connected with their coworkers, there is an increased desire of individuals to experience spirituality „not only in their personal lives, but also in their work” [Krishnakumar & Neck, 2002], and for work-life balance [Kinjerski & Skrypnek, 2004]. Other mentioned cause could be the curiosity for Pacific Rim cultures and Eastern philosophies [Ashmos & Duchon, 2000]. Last but not the least, the great attention gained by integrating spirituality in the organizational and business environment lays on the expected benefits such an organization practicing workplace spirituality could attain (s. below).

### **Legal aspects and legitimacy of workplace spirituality**

Some of the first questions on the subject matter in discussion are related to the legal aspects and the legitimacy for practicing spirituality in the workplace. In analysing the legal aspects of accommodating religion and spirituality in the workplace, Cash & Grey states, based on 1<sup>st</sup> Amendment of the US Constitution and several court decisions, that such approaches should take at least following requirements into account. Firstly, as business is fundamentally oriented towards product quality, productivity, profitability, and work safety, in terms of efficiency and effectiveness, the below mentioned accommodation forms should not affect these general goals of the business organizations. Secondly, practicing workplace spirituality by exercising worker's rights to religion and spirituality freedom should not conduct to „obvious harassment and aggressive intrusion into the workplace and general environment” of their coworkers [Cash & Grey, 2000]. Thirdly, the allowance framework should not affect the customer relations, and we may extend this requirement to other stakeholders like suppliers and community. The general goal related to the subject matter is obviously to find a good balance between integrating spirituality in the workplace and the above mentioned requirements, by involving both management, employees and where applicable, union officials [idem].

When speaking now about legitimacy, some may argue that notions like power and profit, common for the business mentality have nothing to deal with religious observance or spiritual practices. Therefore, „consultants and managers will be won for workplace spirituality only if the added value can be demonstrated” [De Jongh, 2011]. On our opinion, it has to be taken into account also the opposite viewpoint, according to the fact that in the rush for profit and efficiency, as the maximum limit conventional methods could offer have been attained, the approach to explore the spiritual and religious intimate field of individuals for work motivation goals rises the risk for neglecting or omitting the unethical aspect of intrusion in the most deep and intimate side of individuals just for reaching higher business achievements.

### **Definitions and terms for workplace spirituality**

Before defining the workplace spirituality, we have to clarify firstly the term of spirituality. Studies, mostly based on empirical findings, make use of either unit descriptions like „spirituality is a basic belief that there is a supreme power, a being, a force, whatever you call it, that governs the entire univers” [Mitroff & Denton, 1999], or several definitions of spirituality by dividing the subject depending on the underlying viewpoint, e.g. from an intrinsic origin, religious, and existentialist one [Neck, 2002].

What is but obviously is the generally rejection of the term „religion” in favour of „spirituality”. The table below shows in brief such differences of the accepted meanings.

Table 1 - Religion vs. Spirituality

Religion	Spirituality
<ul style="list-style-type: none"> <li>- religion is organized and communal [Mitroff &amp; Denton, 2000];</li> <li>- formal religion uses rites and scriptures [Cash &amp; Grey, 2000];</li> <li>- institutionalized system of attitudes, beliefs and practices related to the service and worship of God or the supernatural [idem];</li> </ul>	<ul style="list-style-type: none"> <li>- spirituality is not formal, structured or organized, is not denominational, is broadly inclusive, is universal and timeless [Mitroff &amp; Denton, 2000a];</li> <li>- spirituality is highly individual and intensely personal [Mitroff &amp; Denton, 2000b];</li> <li>- spirituality is looking inward to an awareness of universal values [Cash &amp; Grey, 2000];</li> <li>- spirituality is concerning with deeper, more mysterious part of our being [idem];</li> </ul>

With respect to the purpose of our paper, there are several terms used in the literature as *spirituality in the workplace* [Freshman, 1999; Mitroff & Denton, 1999; Krishnakumar & Neck, 2002], *spirit at work* [Butts, 1999; Ashmos & Duchon, 2000; Kinjerski & Skrypnek, 2004], or *workplace spirituality* (with its extended derivatives of *organizational spirituality* or *spirituality in business*) [Gotsi & Kortezi, 2007].

Considering now the definitions of workplace spirituality, we found two of them more cited. So, one of the is „workplace spirituality is a framework of organisational values evidenced in the culture that promotes employees, experience of transcendence through the work process, facilitating their sense of being connected to others in a way that provided feelings of completeness and joy” [Giacalone and Jurkiewicz, cit. in Gotsi & Kortezi, 2007]. The other one is more comprehensive: „Spirit at work is a distinct state that is characterized by physical, affective, cognitive, interpersonal, spiritual, and mystical dimensions. Most individuals describe the experience as including: a physical sensation characterized by a positive state of arousal or energy; positive affect characterized by a profound feeling of well-being and joy; cognitive features involving a sense of being authentic, an awareness of alignment between one’s values and beliefs and one’s work, and a belief that one is engaged in meaningful work that has a higher purpose; an interpersonal dimension characterized by a sense of connection to others and common purpose; a spiritual presence characterized by a sense of connection to something larger than self, such as a higher power, the Universe, nature or humanity; and a mystical dimension characterized by a sense of perfection, transcendence, living in the moment, and experiences that were awe-inspiring, mysterious, or sacred” [Kinjerski & Skrypnek, 2004].

As an intermediate conclusion, based on the different viewpoints on religion and spirituality, some authors like Hicks, see no matter in accommodating religion in the workplace [Gotsi & Kortezi, 2007], while other view religion as „a highly inappropriate topic and form of expression in the workplace” [Mitroff & Denton, 1999a].

### **Expected benefits by practicing workplace spirituality**

The expected benefits for practicing spirituality in the workplace rely on individual, group, leadership and organizational levels [Pawar, 2009a; Nicou, 2002] (s. table below).

Table 1 - Expected benefits from Workplace spirituality

Individual level	Group level	Leadership level	Organizational level
<ul style="list-style-type: none"> <li>- personal well-being, creativity [Butts, 1999];</li> <li>- development of spiritual identity, finding more meaning and purpose in work [Ashmos &amp; Duchon, 2000];</li> <li>- intuition and creativity, honesty and trust, personal fulfilment, commitment [Neck, 2002];</li> <li>- individual creativity, personal fulfilment, greater individual work success, experience of authentic self, increased joy, peace, serenity and job satisfaction, experiencing feelings of connectedness with colleagues, (enhanced mutuality and reciprocity), elevated trust and enhanced understanding [Gotsi &amp; Kortezi, 2007]</li> </ul>	<ul style="list-style-type: none"> <li>- getting a sense of connection and community [Ashmos &amp; Duchon, 2000];</li> <li>- improving collective working, enhancing teamwork [Nicou,2009];</li> <li>- community building, facilitating individuals' transcendence and access to spiritual knowledge for becoming their better selves [Pawar, 2009a];</li> </ul>	<ul style="list-style-type: none"> <li>- facilitating inner reflection and self-awareness of leaders, promoting the Servant Leadership model – providing the synergy of physical, social, mental and spiritual needs, and organizational stability [Nicou,2009];</li> <li>- facilitating a sense of calling and membership, base on values, attitudes and behaviours [Pawar, 2009a];</li> </ul>	<ul style="list-style-type: none"> <li>- organizational harmony, long-term business success [Butts, 1999];</li> <li>- honesty and trust to customers and suppliers, organizational commitment and organizational performance [Krishnakumar &amp; Neck, 2002];</li> <li>- organizational performance [Neck, 2002];</li> <li>- increased honesty and trust within organization, greater kindness and fairness, increased profits an increased morale, higher levels of organizational productivity, enhanced organizational performance, organizational development, reduced absenteeism and increased turnover [Gotsi &amp; Kortezi, 2007]</li> </ul>



## **Ways for accomodating religion and spirituality in the workplace**

It remains now to see at one hand what are the specific ways in integrating spirituality at work, and at the other hand to review some models proposed to be used for facilitating the spirituality at work. So, firstly it is not exclusively about praying, meditation, devotion. Secondly, the facilities companies offer to their employees consists of holydays to allow them to observe religious requirements, or leave of absence for mission or other relious work, wearing religious symbols or dress, participating at religious studies in restaurants, conference rooms, or living rooms, prayer lbreakfast or gathering in coonference rooms for praying at lunch time [Cash & Grey, 2000]. Then, more conceptualized, according to Mitroff and Denton there are five possible models for spiritual development in the workplace: religion-based organizations, evolutionary organizations, recovering organizations, social responsible organization and value-based organizations [Mitroff & Denton, 1999]. Other authors favorize four categories, namely individual focused, group-level-focused, organization-focused, and leadership-focused [Pawar, 2009].

## **The issue of integrating spirituality and religion in the workplace (SRW) in the organizational environment of a Christian Orthodox country**

### **General issues**

In the study of the differences and similarities between Western and Eastern approaches to spirituality at work we had following possibilities. Whether we relate to Eastern countries taken together, or a group of countries that exhibit common features, or finally, to a country where such differences and similarities are relevant. Looking at things from this last perspective, we have chosen Romania not only for the facilities of data acquisition or of the deeper perception of the spirit of the people among whom we were born and live, but especially for the fact that Romania is a first class example in an attempt to explain these differences. Thus, the term spirituality increasingly agreed in the West, has a different meaning from religiosity in Romania, being seen more a thesaurus of ideas and feelings specific to a community, nation or people in terms of its spiritual (i.e. intangible) and cultural life [DEX 98, DN 1986, MDN 2000, etc. ]. On the other hand, Romania is a good example regarding religious affiliation whereas "Romania has one of the lowest levels of non-religious affiliation in Europe, with a 2%" and regarding religious practice, "Romania is however an Orthodox country with the most intense practice, so that in year 2000 we exceeded the level of Greek public practice, country unaffected by the communist practice", and "Romanian cultural model puts more emphasis on religion." [Manole, 2007].

Last but not least, it is important that the Romanians have declared at the last census at an overwhelming proportion Orthodox (90%), which creates a good premise for framing the study in a very homogeneous cultural-religious environment.

### **Scarcity of the SRW studies of the Romanian organizational environment**

He who tries to find in scientific journals, in academic books or articles randomly published in the press studies on SRW in an Orthodox country like Romania will remain disconcerted on the one hand due to the scarcity of studies on the subject, and on the other hand due to the fact that even these few studies are relating to other cultural areas [Vasileanu, 2008]. Then, even extending under these circumstances the search to scientific articles written by authors from other Orthodox countries, references are made throughout the Western society and especially the U.S. [Gotsis, G., Kortezi Z., 2008].

### **The legal frame**

One of the basic aspects of the problem of integrating spirituality in the workplace is the legal framework that can enroll possible manifestations of SRW. From this perspective, there are two ways in which the problem can be seen. The first refers to the general legal framework of freedom of faith and its public manifestation, primarily regulated by the Romanian Constitution, then by the Religious Cults Act, the statutes of various confessions, the Labor Code, etc. The second must take into account the internal regulations of the respective organizations (internal regulations, collective agreements, etc.), taken in their most general form: business, local or govern-

ment administration, schools, universities, NGOs, etc. We will briefly review only the first category of regulating documents on public display of religiosity, the second being customized to every organization, and a more detailed and also empirical research is not subject to this article. Thus, in the first place, Article 29 of the Romanian Constitution guarantees freedom of thought, opinion, religious beliefs, they have to be displayed in a spirit of tolerance and mutual respect, and through free organizing of adherents, and by prohibiting any "enmity forms, means or actions", and in terms of autonomy from the state" [Știrbu & al., 2008]. In the next article, it talks about the inviolability of "freedom of expression of thoughts, opinions, or beliefs, ..., orally, in writing, images, sounds or other means of public communication" [idem]. Moreover, the state provides religious support "by enabling religious assistance in the army, in hospitals, prisons, asylum and orphanages" [ibidem]. Second, the Religious Cults Act reproduces the text of the Constitution on guaranteeing "fundamental right to freedom of thought, conscience and religion of every person in Romania", lack of "constraint to adopt an opinion or adherence to a religion" contrary their own beliefs, "discrimination, prosecution or putting in a state of inferiority because of faith or the belonging to a religious group" [Știrbu & al., 2008]. Important for our topic are the limitations of public display of faith. At this point, the Religious Cults Act specifies violation of "public security, public order, health or morals, ... , and the protection of human rights and fundamental freedoms" [idem]. As the quoted texts do not specify the relationship between religiosity and the place where the work is carried out (work is guaranteed by Art. 41 of the Romanian Constitution), we sought additions to the Law no. 53 (Labor Code).

This law prohibits discrimination (Article 5), dismissal (art. 59), wages (art. 154) based on the criteria of religion [Labor Code 2011], but does not specify anything about the displaying religiosity at work.

### **Definitions of spirituality**

Definitions found for the content of the term spirituality (outside the meaning of the attribute of being spiritual) envisages the thesaurus of ideas and feelings of a particular community, nation or people, in terms of his spiritual (i.e. intangible) and cultural life [DEX 98, DN 1986, MDN 2000, etc.]. A more comprehensive definition is linked to the "conception of the world and life, sensitivity to spiritual and moral, to cultural and religious values and also their relationship with the Divine" [Stoian, 1994]. Definitions of spirituality at work in the few references in Romanian bibliography were not found.

Much more specific to the Romanian cultural environment is the term of religiosity.

### **Cultural specificity**

According to some authors, to the crystallization of the spirituality of a people contribute three factors: the hereditary biological background, the geographical environment (geography, terrain, climate, nature of soil, production capability, and so on) and "institutional characteristics acquired by the population during its historical evolution" [Rădulescu-Motru, 1995]. There is a view shared by many authors that the Romanians have combined characteristics from both East and West. If oriental people are more collectivist, the Romanian, on the contrary, is more individualistic, specificity belonging more to Westerners. Instead, contrary to the latter, Romania is traditionalist and conservative [idem]. Equally true is that Romanians are the only people of Latin descent, but practicing Oriental Christian tradition (Orthodox), which is a good basis for the use of Romania case as a model of transition from the western to the eastern example. Some assertions on lower intensity of the phenomenon of secularization in Romania we believe that would be contributing to a better understanding of the subject. Unlike other national Churches, the Romanian Orthodox Church managed to find a way to ensure its survival under the communist regime, in which context, with some compromises made by some of its leaders, there were also cases of dissidence. Perhaps along with the economic factors (less intense industrialization and urbanization like in other countries of the former communist bloc), that there was a "close relationship between the Orthodox religion and the national identity" has led to the braking the phenomenon of secularization in the Romanian society. Thus, even if taken away from the public space, the church resisted especially in the private space of the believers' homes and in conclusion, "atheism has not enjoyed much success in Romania and people did not give up religious faith" [Manole, 2007].

## **Specific ways for displaying religiosity by Romanians in the workplace**

In the Orthodox spirituality, which as seen above is widely shared by Romanians, not just humans need support and protection from God, but the whole environment where the humans live and work: home, workplace, household animals, the entire natural environment. Relevant to our topic are canonical prayers for the moment of the foundation of a house, the blessing of a new home, at the beginning and ending the digging of a fountain, at work in the fields, when planting and harvesting the vineyard, the consecration of water, etc. Benefits sought are "casting out the evil spirits, ..., evil thoughts, mind cleaning, ..., bodily and spiritual health" [Moliftelnic, 2002]. It is a common practice in this regard calling the priest and officiating of a small water sanctification ceremony not only in homes of the believers but also in the office. Likewise, is widespread placing an icon on your desktop, for executive workers as well as the management field. Placing a crucifix at work is quite rare. Also is practiced the silent approval for devout believers to go for a short time at church during working hours on holidays. Other manifestations of religiosity at work are related to major religious holidays (Christmas, Easter, etc.), when employees, regardless of rank, come to work dressed more elegantly. In fact, it is known that Romanians put money on clothes, according to the saying "coat made the man". During the same major Christian holidays, bringing holiday specific food and more frequently cakes, to be enjoyed along with co-workers as a sign of their communion in faith and of honoring a specific holiday is naturalized habit. There is also the habit of going singing Christmas carols with colleagues during Christmas Eve and Christmas, or to receive Christmas carols by the public institutions. Finally, as the major Christian holidays are preceded by longer or shorter fasting periods, a common practice for employees is to bring their prayer books to work and to pray in solitude at lunch break. These modes of expression are viewed positively by the public. As a conclusion, in the business environment or public administration organizations of orthodox Romania it is unusual to manifest religiosity at work at group or organizational level, this kind of behavior being more an individual based approach, that embraces a more unobtrusive form.

## **Discussion and conclusions**

### **Differences and similarities**

Irrespective of what causes have conducted to the new management stream of accommodating religion and spirituality in the workplace, the first notice is that, even under different forms of manifestation, the practice is present both in western and eastern business environments. Then, it is not of less importance the fact that especially these accommodation needs are most obvious in the US and in Romania, where, as shown above, the rate of religious affiliation or acknowledgment lays very high (over 90 %) [Zimmerman, 2004; Manole, 2007]. Now, if in the western countries we noticed an obvious distancing from the notion of religion in favor of spirituality, on the contrary, in an Orthodox country like Romania, terms like religion or religiosity are broadly accepted, while spirituality has another meaning and perception. We may also notice that based on the above mentioned difference, if the workplace spirituality is practiced in the western countries for more meaning and purpose at work and for personal development in the work environment, in an Orthodox country like Romania, the main goal is related to receive more help for God, to dispel the evil or the lack of luck in achieving the proposed individual targets.

### **A possible model of construct**

Based upon our above description on the proposed subject matter both in western and eastern (christian orthodox) business environments we suggest a general layout for integrating religion and spirituality in the workplace, that could well be applied in West and East as well. The foundation of such a construct draws fundamentally on the ontological foundation of humans, consisting of material body and spirit [Acatrinei, 2009]. Without the spiritual part, humans could not manifest themselves like an spiritual entity and also could not sense certain needs of spiritual fulfillment. The second foundation relies firstly on the filosofical vision on humans related to work<sup>1</sup>, and secondly on the knowledge body of management theory and practice accumulated by the universal culture, science and civilization. Obviously, this filosofical and conceptual foundation has been assimilated differently by each people or particular human community, according to

their specific hereditary, environmental and institutional factors under they were formed and developed. We believe, therefore, that the different cultural specificity of a certain population or ethnic group distills and filters the managerial, philosophical and theoretical concepts in the crucible of a specific spirituality, resulting different ways of relating towards management action and towards labor in particular. Undoubtedly, the possible and specific ways of expression are restricted by a national general legal framework and also by the specific enterprise related one, in terms of acceptable and respectively rejected forms. So, the cultural specificity of a people or ethnic group will influence the formulation of objectives for which it is desired and practiced spirituality in the workplace. Undoubtedly, the construct is at this level subject to dynamics changes on long periods of time. We believe that the proposed construct for integrating religion and / or spirituality in the work environment (SRW) is consistent with the logical model of the relationships between values, attitudes and behaviors found in the bibliography [Manole, 2007].

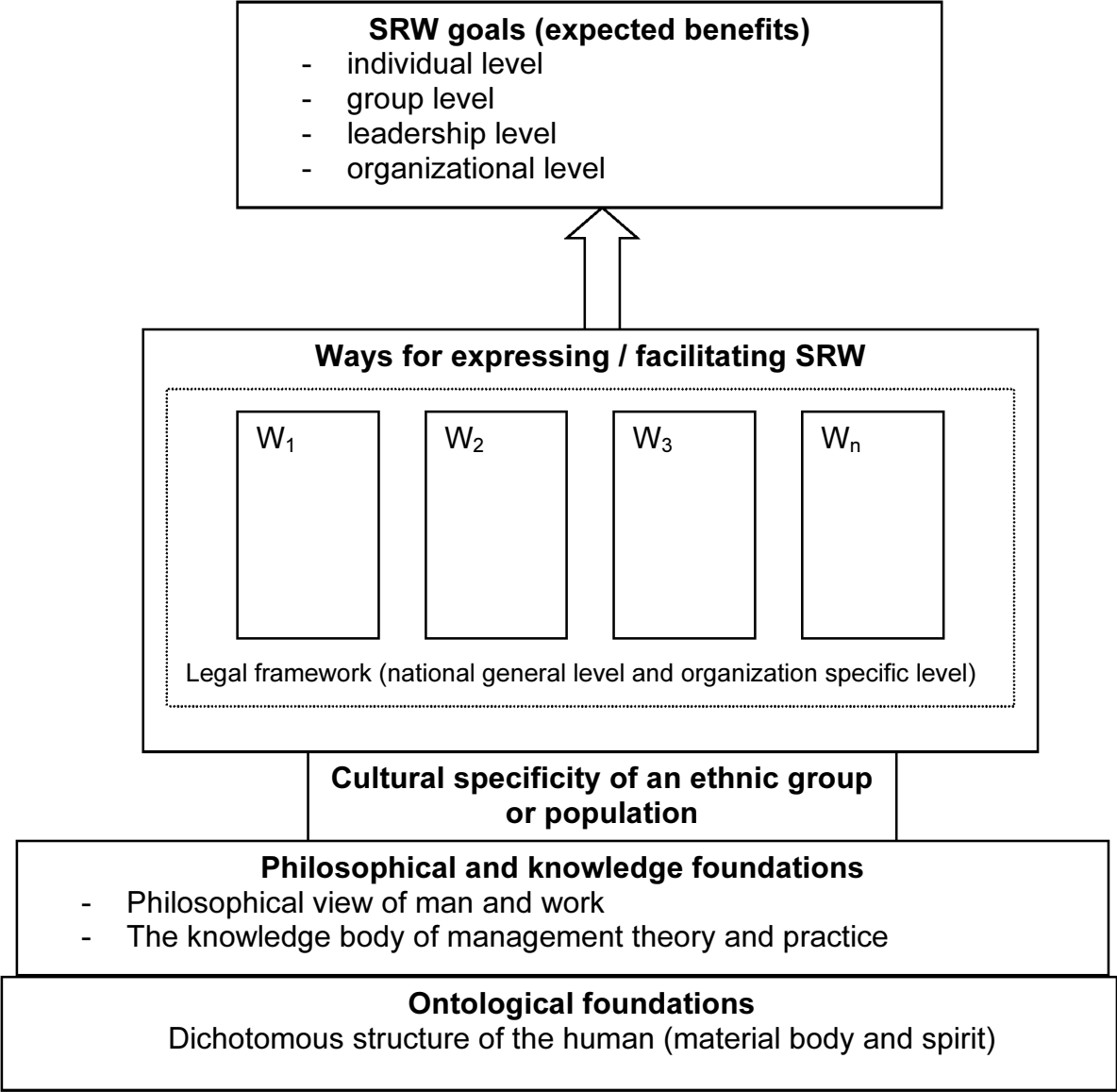


Figure 1 – A model of construct for integrating religion and spirituality in the workplace

## Conclusions

The present paper is, on our opinion, a first attempt to bring in the Romanian debate space the issue of spirituality at work. It represents a theoretical study and therefore our assertions have to be deepened in the future as more laborious studies than the limited space for publication in a magazine allows, will be published. It is also necessary to validate these assertions by studies based on empirical data, gathered from Romanian companies and public administration organization as well.

## Notes

1. For instance, Gotsis and Kortezi propose four philosophical frameworks of workplace spirituality: Kantian deontology, utilitarianism, theory of justice, and virtue ethics. [Gotsis & Kortezi, 2007]
- 2.

## References

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1998

DEX 98 - Dicționarul explicativ al limbii române, Academia Română, Institutul de Lingvistică „Iorgu Iordan”, Editura Univers Enciclopedic

\*\*\*

2002

Moliftelnic, Editura Institutului Biblic și de Misiune al B.O.R., București

\*\*\*

2011

Legea nr. 53 din 24 ianuarie 2003 republicată-Codul Muncii, Parlamentul României, MO nr.345 din 18 mai 2011

**Abrudan, I.**

1999

Premise și repere ale culturii manageriale românești, Editura Dacia

**Acatrinei, N.**

2009

Antropologie economică, Tipart Group, București

**Ashmos, D. P., Duchon, D.**

2000

Spirituality at Work: A Conceptualization and Measure, Journal of Management Inquiry 9(2), 134–145

**Bandsuch, M.R., Cavanagh, G.F.**

2005

Integrating Spirituality into the Workplace: Theory and Practice, Journal of Management, Spirituality and Religion, 2(2), 221-254

**Burack, E.**

1999

Spirituality in the workplace, Journal of Organizational Change Management, 12 (4), 280-291

**Butts, D.**

1999

Spirituality at work: an overview, Journal of Organizational Change, 12(4), 328-331

**Cash, K.C., Gray, G.R., Rood, S.A.**

2000

A framework for accommodating religion and spirituality in the workplace, The Academy of Management Executive, 14 (3), 124-134

**Daniel, C.**

2009

Teologie și spiritualitate, Editura Basilica a Patriarhiei Române, București

**Dean, K.L.**

2003

Research in spirituality, religion and work – Walking the line between relevance and legitimacy, Journal of Organizational Change Management, 16(4), 378-395

**De Jongh, E.**

2011

Responding to the situation / A study of spirituality in organizations, Quist Publishing, Leidschendam, The Netherlands

**Drăghicescu, D.**

1995

Din psihologia poporului român – Introducere, Editura Albastros, București

**Freshman, B.**

1999

An exploratory analysis of definitions and applications of spirituality in the workplace, Journal of Organizational Change Management, 12 (4), 318-327

**Gotsis, G., Kortezi Z.**

2008

Philosophical Foundations of Workplace Spirituality: A Critical Approach, Journal of Business Ethics, 78, 575-600

**Imel, S.**

1998

Spirituality in the Workplace, Trends and Issues, Center of Education and Training for Employment, College of Education, Ohio State University

**Kinjerski, V.M., Skrypnek, B.J.**

2004

Defining spirit at work: finding common ground, Journal of Organizational Change Management, 17 (1), 26-41

**Krishnakumar, S., Neck C.P.**

2002

The “what”, “why”, and “how” of spirituality in the workplace, Journal of Managerial Psychology, 17(3), 153-164

**Marcu F., Maneca, , C.**

1986

DN 1986 - Dicționar de neologisme, Florin Marcu și Constant Editura Academiei, București

**Marcu, F.**

2000

MDN 2000 - Marele dicționar de neologisme, Florin Editura Saeculum

**Mehedinți, S.**

2009

Altă creștere - Școala muncii, Editura Rotonda, Pitești

**Mitroff, I. I. , Denton, E. A**

1999a

A Spiritual Audit of Corporate America, Jossey-Bass, San Francisco, CA

**Mitroff, I. I. , Denton, E. A**

1999b

A Study of Spirituality in the Workplace, Sloan Management Review 40(4), 83–92

**Pawar, B.S.**

2009a

Workplace Spirituality Facilitation: A Comprehensive Model, Journal of Business Ethics, 90, 375-386

**Pawar, B.S.**

2009b

Individual spirituality, workplace spirituality and work attitudes – An empirical test of direct and interaction effects, Leadership and Organization Development Journal 30 (8), 759-777

**Rădulescu-Motru, C.**

1999

Psihologia poporului român, Editura Paideia, București

**Špídlík, T.**

2005

Spiritualitatea Răsăritului creștin, I: Manual sistematic, ediția a II-a, Editura Deisis, Sibiu

**Stăniloae, D.**

2004

Reflecții despre spiritualitatea poporului român, Editura Elion, București

**Stoian, I.**

1994

Dicționar religios, Editura Garamond

**Știrbu, G.S., Frunză, F., Ioniță, Ș.**

2008

Viața religioasă din România, ediția a III-a, Tipogrup Buzău Press, Buzău

**Vasileanu, M.**

2008

Spiritualitatea la locul de muncă, <http://www.romanalibera.ro/cultura/aldine/spiritualitatea-la-locul-de-munca-117404.html>

**Voicu, M.**

2007

România religioasă: pe valul european sau în urma lui ?, Institutul European, Iași

**Zimmerman, E.**

2004

The Many Delicate Issues of Spirituality in the Office, New York Times, August 15<sup>th</sup>

# Challenges and tendencies in the East West economical relationship

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## Abstract

**Purpose** – The purpose of this paper is to X-ray the economical relations between the East and the West in the current economical context and to identify the tendencies regarding the strategic management that is used within the firms that are involve in this economical relationship.

**Methodology/approach** - Businesses will be split into categories and activity sectors. Types of management will be analyzed in direct relation with the types of firms and their size. A management-business analysis model will be developed.

**Findings** – Based on the research, the following have been identified:

- Reduction of time horizon for previsions of business plans from 3-5 years to 1-3 years because of the lack of predictability in the environment
- Directing firm development from an extensive to an intensive system for the increase of the firm's competitiveness through the identification of new methods to reduce costs taking account of the reality on the field
- Applying a new periodical evaluation method for the efficiency of resource utilization

**Research limitations/implications** – The paper analyzes the types of competitors and the way in which these manage their businesses starting from the base characteristics of the two populations. A management analysis will be made, starting from a number of reference industries and a quantitative estimation on the probability to grow or decrease the investments from one part to the other.

**Practical implications** – Through the analysis that is made within the firm it is easier to identify strong and weak points in the case of an economical relationship between the two entities taken into consideration.

**Originality/value** – Specific contributions are:

- Table for investment regarding the most important 20 industrial sectors
- Creating an model for investment decision for a company
- Solution for a few specific problems

**Key words:** Economy, competition, culture

## Introduction

The competition between East and West is more accentuated each and every day. The period in which western firms would go to produce things in Asian countries just for the mere fact that they had a cheap and easy to work with labor force, and that some of the markets (especially the Chinese one) was profitable in the long run, has passed. The fact that the products being made in China was copied instantly by local producers, that the firms that activated in China had to have at least a 51% local share holder and especially the lack of professionalism that local business people seemed to have led to a rethinking of the way in which western firms do business. Also, the salaries for people in the Chinese market have grown increasingly, this market being replaced by the investors who look for cheap labor elsewhere in the area – India, Vietnam, Thailand, etc.



It is important to mention that Japan and South Korea are not taken into consideration for this paper, the two countries having particular attributes that distinguishes them from other Asian countries.

### **Analysis of the major industrial sectors**

The first industries to leave towards Asia for production needs were the light industries (textile, manufacturing, shoe wear). These had a specific of a big production created by fast workers that accepted low salaries. If these conditions weren't met, the price of the final products would have been too high and therefore uncompetitive on a globalized market. The electronic, computer and telecommunication industries followed. The third wave that followed was the auto industry, with the idea of creating cars for the local market.

And the last industries to move to Asia were the chemical, welding and machine construction.

Presently a new tendency has surfaced, namely the opposite move: strong Asian firms, especially from China and India have started to buy western firms that had problems at one time or another. Thus, the Chinese firm Zhejiang Geely Holding Group bought the Swedish firm Volvo from Ford Motor for \$1.5 billion [Nicholson C, 2010]. Also, the Indian firm Tata Motors has bought the British firm Rover and the Indian Mittal Steel firm from Indi bought more welding firms from France, Romania, Macedonia, Ukraine, Trinidad Tobago, etc getting to own 10% of the world production of steel [Kanter J, 2006, Wikipedia].

Another Chinese enterprise started to produce its cars in Bulgaria, knowing the fact that Chinese cars haven't managed to get on the western market due to bad image issues regarding quality.

Thusly as can be observed from the previous examples the investment tendency from West to East is being completed in the other way as well – Eastern firms invest in the West.

The industrial sectors that will be analyzed will be grouped into 20 categories in alphabetical order, and will be graded depending on their probability of growing as investments in the two analyzed areas (East and West) with own or attracted investments (see table 1).

From Table 1 we can conclude the following:

- The energy production, health and food industry are the only industrial sectors that will grow both in the East and in the West and the investments will come from all possible sources. These are the economical sectors in which the great "battles" for supremacy will be held in the next 20 years.
- The aeronautic and biotechnology industries will grow both in East and in West, but with own investments on both sides. The West is not willing to invest in the east in the high technology end for fear that they might get copied. A well known tactic for elements of high technology is building them in self destructing capsules, so that when they are forcibly opened in hopes of copying they destruct.
- The defense industry is specific to each area, making it difficult to legally introduce new technologies in the domain (from the exterior)
- The automotive industry is growing in the East, from own investments as well as foreign ones and decreasing in the West from own sources. It is believed that at the moment there is an overproduction crisis in the West on a market where a demand growth is very difficult.
- The naval construction industry will grow in the East and will decrease in the West (especially through own investments). This fact is directly related to the need of commercial ships to export goods in the context of world economy globalization.
- Mechanical equipments have a tendency of growing both in the West and in the East, with the difference that in the West, no particular foreign investments are foreseen. Although, from an innovation and fiability point of view the West still is better off than the East.

Table 1. Estimation of development in the main industrial sectors

Nr.crt.	Main industrial sectors	Development tendencies			
		East		West	
		Own investments	Foreign investments	Own investments	Foreign investments
1	Aeronautics	↑	↔	↑	↔
2	Food	↑	↑	↑	↑
3	Defense	↑	n.a	↑	n.a
4	Automotive	↑	↑	↓	↑
5	Biotechnology	↑	↔	↑	↔
6	Naval construction	↑	↑	↓	↔
7	Mechanical equipment	↑	↑	↑	↔
8	Electronics and telecommunication	↑	↑	↔	↓
9	Energy	↑	↑	↑	↑
10	Toys	↑	↑	↓	↔
11	Wood, paper and printing	↑	↑	↔	↔
12	Construction material	↑	↑	↔	↔
13	Metalwork	↑	↑	↓	↑
14	Measuring devices	↑	↑	↔	↔
15	Mining	↑	↑	↔	↑
16	Furniture	↑	↑	↓	↔
17	Petro-chemistry	↑	↑	↔	↔
18	Health (medication and medical equipment)	↑	↑	↑	↑
19	Communication and information technology	↑	↑	↔	↔
20	Light industry (textile, manufacturing and shoes)	↑	↓	↑*	↔

The symbols used in Table 1 are the following:

↑ - growth

↓ - decline

↔ - no major transformations

↑\* - growth but in the domain typical for luxury brands

n.a – non applicable

- Electronics and telecommunications have a growing tendency in the East and a decrease or at the most a maintaining trend at some exclusive areas in the West.
- Toys are made almost exclusively in the East that afterwards exports them to the whole world.
- The wood, paper and print industry is growing in the East but stagnating in the West
- The construction material industry is growing in the east and stagnating in the west, a normal evolution, taking into account the growth patterns in the two areas
- Metalwork is growing in the East and in the West, but through foreign investments (the buying of local firms by eastern ones)
- Measuring devices are growing in the East and stagnating in the West
- Mining is growing in the East and the West through foreign investments especially due to the increase of stock market price for raw materials and of the hunger for resources that appears all too often in economies with high growth paces
- Furniture is growing in the East and decreasing in the West
- Petrochemistry is having a strong growth in the east and is stagnating in the West (especially because of environment conditions which are expensive and restrictive)
- Information technology and communication is strongly growing in the East and stagnating in the West, especially due to the fact that products that belong to the domain are produced in high quantities and are more cost efficient to be produced in the East
- Light industry is growing in the East through own investment and decreasing through foreign investments. The discussion mainly refers to luxury products that are not produced in the East since Asians, (especially Chinese people) really appreciate European quality and pay a large sum of money for them as opposed to their own products which are cheap and of poor quality. Thusly in the 2008-2011 periods, the demand for luxury products has decreased in the European and American market, but has increased in the Asian one, thus balancing things out. In 2010 European consumers of luxury products represented 21% of the global market and Chinese ones represented 25%. Another problem is related to the copying of foreign brands. The total value of copying famous clothes and shoe brands, in 2010, was at a value of \$600 billion, according to ICEA (Immigration and Customs Enforcement Agency) from the US.

### **Analysis of management systems used in the studied sectors**

According to the size of the firms that activate in the industrial sectors from Table 1, 3 groups have been formed:

- a) Sectors specific to big firms and corporations-aeronautics, auto, naval construction, energy, metalwork and mining
- b) Sectors specific to SMEs – toys, wood-paper-printing, furniture
- c) Mixt sectors in which all types of firms activate - food, biotechnology, mechanical equipment, electronics, telecommunication, construction materials, measuring devices, petrochemistry, health, information and communication technology, light industry

As can be observed, being part of one category or another from the final two is very relative, taking into account the subjective nature of a person. We considered that grouping them by size was a good way of indicating the type of management and especially the type of strategic management used in the firms, and therefore their way of actions.

In table 2 the type of strategic management used is presented in the 3 classification categories, taking into account the observations and studies done over time by the authors.

Table 2. Type of management used in the analyzed firms

	<b>Strategic management utilized</b>	<b>Reaction speed</b>	<b>Forecasting period used</b>	<b>Types of strategy</b>	<b>Followed purpose</b>	<b>Type of development used</b>
<b>A Category</b>	Correct and well defined	Reduced	≥ 5 years	Diversified	Value of company's shares	Extensive
<b>B Category</b>	Opportunist	Slow	1 – 3 years	Focalized	Profit	Intensive
<b>C Category</b>	Combined	Medium	3 – 5 years	Mixt	Profit + firm's value	Mixt(extensive and intensive)

From the two tables the following can be observed:

The management used differs depending on the size of the firms taken into consideration. If at the level of big firms and corporations management strategies are done by the book, transformations taking a long time to happen, and having a slow speed, for the firms in the other categories the characteristics taken into consideration are different. The main difference is reaction speed, the opportunity and small time period being taken into consideration for an

The main differences observed between the East and West that directly influence economical activity is the following:

- Business culture in the East is much inferior to the one in the West (punctuality, seriousness, speed of reaction, trust)
- Business languages in the East are spoken at a lower level, relative to the West
- The religious differences between the two areas are very big which leads to the respect of different values
- Cultural differences regarding the individual and the essence of life are very different
- The lever of professional training is much more reduced in the East than in the West
- Environment legislation is much more permissive in the East
- Legislation in the East is much more convoluted and therefore leaves room for local and even central corruption
- Business infrastructure in the East is in the course of being built as opposed to the West where it is almost finalized

### **Process management model used for investments**

To manage an investment in the Eastern or Western market this paper proposes a model that keeps into account the arguments discussed in the paper (see fig.1).

We start from identifying the problem and then with the analysis of the information after gathering it. The third step is related to the investment decision that can be done through own money or foreign investments. In this second case we have a branch that proposes the strategy that may or may not be agreed upon by the entities that want to participate to the investment. The following steps are identical. The final step is that of feedback and correction.

The model can be applied by firms from the east and the west and can be improved by adding other situations that need decision-making (area, location, sum, conditions, etc)

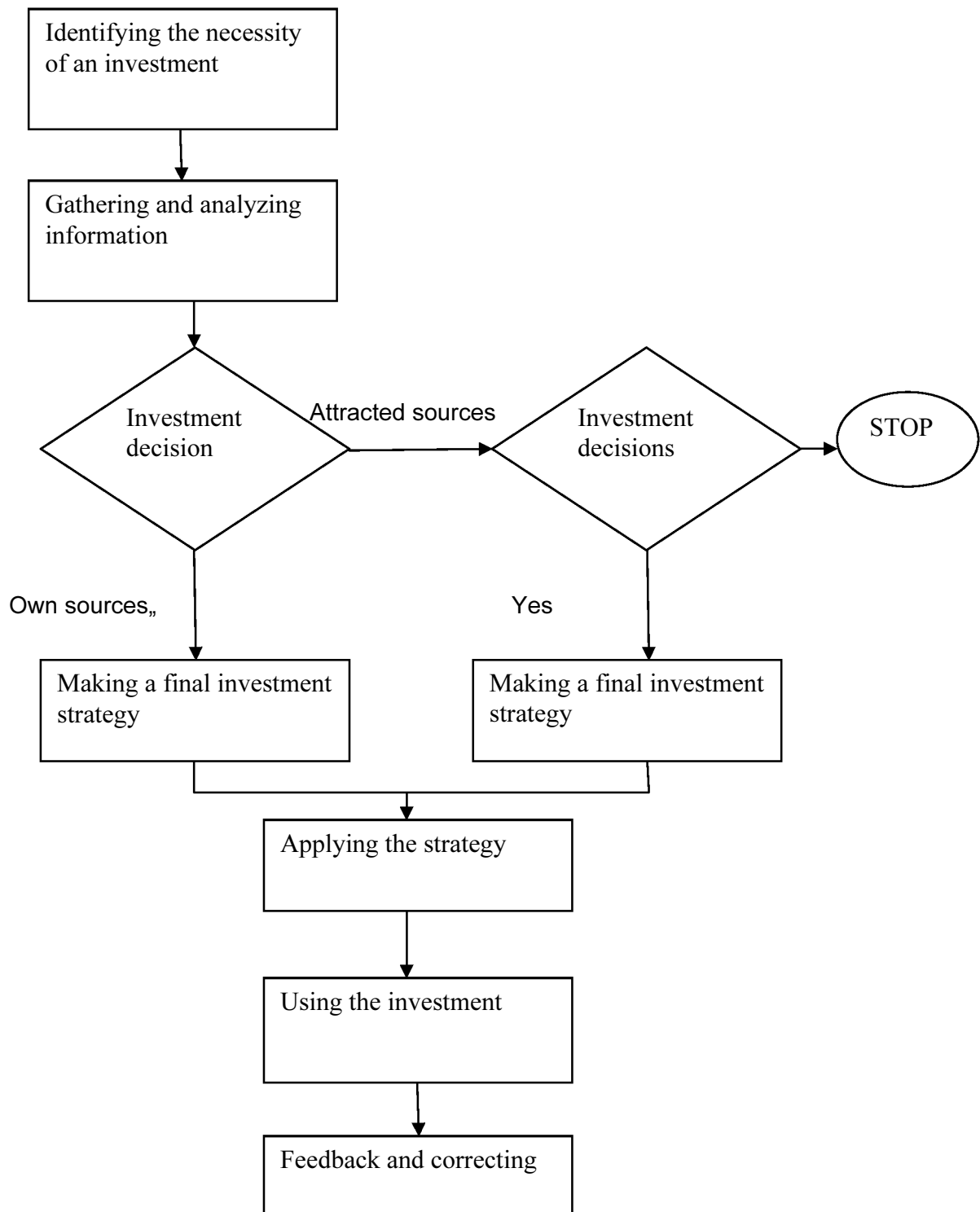


Figure 1. Management process model for making an investment

## References

**Kanter James, s.a**

2006

Arcelor agrees to Mittal takeover, The New York Times, June 25

**Chris V. Nicholson**

2010

Chinese Carmaker Geely Completes Acquisition of Volvo from Ford, the New York Times, August 2

# Organizational Culture and Entrepreneurial Spirit: Romania vs Germany

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## Abstract

**Purpose** – The present paper deals with certain aspects related to the entrepreneurial spirit and the connection thereof with the cultural element, particularly the organizational culture. There is also made a comparison between two different cultures: Romania and Germany.

**Methodology/approach** – The paper develops three aspects related to the proposed theme: determination of the entrepreneurial spirit having in view particularly the cultural element, the identification and presentation of the cultural components (the national and organizational culture) of Romania and Germany with greater impact on the entrepreneurial spirit and the characterization of the entrepreneurial spirit in Romania and Germany, as well as considerations relating to the Romanian-German experiences.

**Findings** – Romania manifests a low entrepreneurial spirit in comparison with other European countries. This is due to the tens of years of communist history, which did not allow the formation and development of an organizational culture to favour the entrepreneurial spirit, and to the lack of the necessary entrepreneurial environment after 1990. The lack of entrepreneurial education, which in countries such as Germany was achieved even from the school years, represents an important reason of the lack of initiative.

**Research limitations/implications** – The analysis of the aspects connected to the organizational culture and entrepreneurial spirit, in the present conditions of economical-financial crisis allowed the identification of some novel aspects with regard to the entrepreneurial spirit, at least in Romania.

**Practical implications** – By the comparison made between Germany – a model of success and Romania, that is at the beginning, there can be explained the so different results, particularly from the viewpoint of the economical and living standard increase. Knowing the determining social-cultural factors allows to act more consciously for the development of the abilities required for a new generation of entrepreneurs.

**Originality/value** – In the paper there are identified those success key factors which can contribute to the formation and development of a powerful entrepreneurial spirit and there are presented the common points as well as the differences between the two different cultures. The conclusions of the paper also emphasize the new aspects of the entrepreneurship in Romania, powerfully marked by the economical-financial and political crisis as well.

**Key words:** Organizational culture, entrepreneurial spirit, entrepreneurship.

## Introduction

The entrepreneurial spirit represents a basis for the development of any society. As a key element in ensuring competitiveness of the developed countries, the entrepreneurial spirit is even more important for the countries in course of development, which try to reach competitiveness on the international markets. Development implies a change. Therefore, the approach of the entrepreneurship is sometimes made in connection with Leadership considered to be the main component of the change, ensuring the vision, but also the necessary devotion to materialize the

change. Though the impressive results of the leaders leave the impression that they can only be reached by an innate ability, the entrepreneurial spirit and leadership are, in fact, abilities and competences that are acquired by education, new experiences, interaction with creative people and, certainly, by practice. There exists a close relationship between the demographic, social-cultural element and the entrepreneurial spirit. For all these reasons there is very important the step of identification of the economical and social-cultural factors stimulating the individuals to become entrepreneurs. Under the conditions of the economical-financial crisis it has been ascertained that the entrepreneur's profile is changing, at least in Romania. These things shall be studied because, besides the negative aspects of the crisis, new opportunities may occur.

### **Influence of the cultural features upon the entrepreneurial spirit**

There exists a great variety of factors that can influence the entrepreneurial spirit: social, economical, political, technological, legislative, financial, cultural, demographic factors etc. The present paper intends to analyze with priority the influence of the cultural factors upon the entrepreneurial spirit. The question is whether the entrepreneurial spirit represents an innate ability or it is something to be formed by education and practice. Some entrepreneurs are really born with certain native intelligence, flair, energy directed to creation, propensity for risk. In order to train an entrepreneur, these abilities shall be cultivated, developed, focused. In the specialized literature there exist numerous attempts to achieve the profile of a successful entrepreneur. The most often mentioned features are: ambition to be at the highest standard level, the flair, power of anticipation, flexibility, capacity of learning from previous experiences, spirit of initiative and responsibility, imagination, creativity and passion in identifying opportunities, motivation and perseverance, orientation towards results, natural propensity for assuming risks etc. With regard to the influence of the cultural factors upon the entrepreneurial spirit, having in view that these cultural values were formed and crystallized during a long time, it can be asserted that they can influence mostly the entrepreneurial initiative. The cultural dimensions may explain the tendency that the members of a society may have concerning the initiation and leading of a business, assuming responsibilities, the leadership. In Table 1 there are presented those cultural dimensions (according to Geert Hofstede model) with greater impact upon the entrepreneurial spirit.

Table 1 - Entrepreneur's profile in relation with the cultural features

<b>Cultural dimensions according to Geert Hofstede</b>	<b>Mentality, attitudes and possible behaviours</b>
Power distance	<i>Power distance expresses the extent to which the members of a society, with the lowest power, accept the unequal power distribution, the power difference between people. High power distance may mean loyalty versus protection: the subordinates make attempts to get into favour with their chiefs; the subordinates „undermine” one another, may also express the fear of having responsibilities (may generate negative aspects for entrepreneurship). The low power distance may be a stimulating factor for training the entrepreneurs.</i>
Masculinity/Femininity	<i>Femininity: the members of the feminine societies seek for collaboration and support from all; they may be less competitive and do not mainly aim at obtaining the profit; the roles of the two sexes may be equal; high femininity levels may indicate a lower competitiveness level; the feminine values may appreciate the personal spare time and the cooperation to the detriment of the performance indicators (positive and negative aspects for the entrepreneurship). Masculinity means inequality between sexes, domination, ambition, accumulation of success, money and other material</i>



	<p><i>goods, the attempt to excel, involves bitter competition (if these features are not led to the farthest point, they may be qualities for an entrepreneur).</i></p>
Individualism/Collectivism	<p><i>Individualism indicates the need for self-affirmation and financial independence of the society members (consequently indicated for entrepreneurship);</i></p> <p><i>High collectivism assumes respect of the rules of the reference group, the existence of mutual interests of the group to the detriment of the other groups. The collectivist mentality considers that the resources are limited, inherited and excludes the possibility of multiplying the resources by each individual (constitutes an impediment for the entrepreneurial spirit).</i></p>
Degree of uncertainty avoidance	<p><i>The degree of uncertainty avoidance expresses the extent to which people are afraid of ambiguous situations, of uncertainty.</i></p> <p>A high degree of uncertainty avoidance may express conservatism, fear of something new, lack of ambition (negative aspects for entrepreneurship).</p>
Long-term versus short-term orientation	<p><i>Short-term orientation indicates propensity to the present and past to the detriment of the investment in an uncertain future. The societies with short-term propensity mainly live by the credit instruments. The societies with short-term propensity will find it difficult to long-term plan and will try to solve the new problems that occur, having in view the past experiences (negative aspect for entrepreneurship). It may also express the low level of the re-invested capital and the desire for rapid enrichment.</i></p> <p><i>Long-term propensity implies having a strategic vision, making attempts today in order to have good results tomorrow (indicated for entrepreneurship).</i></p>
Religion	<p><i>Christianism and Ortodoxy generally assume a short-term propensity, since, the absolute truth is to be found in the past and present; the future is destined for the life to come and has no connection to the life on earth.</i></p> <p><i>Confucianism promotes values that assume long-term propensity (specific to China); it assumes making efforts today for results to be obtained tomorrow.</i></p> <p><i>Religion of a country may be a source of the feminine or masculine values, depending on the manner of projecting the differences between the sexes. The orthodox religion predominant in Romania is more prone to the complementarity of the sexes than to subordinating the woman to the man. The specialists estimate that the values of the whole world will become more feminine in the period to come, as the human factor and cooperation become more important (important for leadership).</i></p>

## Characterization of the entrepreneurial spirit in Romania and Germany

### *Cultural dimensions and the entrepreneurial spirit in Romania; actual tendencies*

Analyzing the above-presented cultural dimensions according to the Geert Hofstede's methodology, carried out by the "Training Interact" Company of Bucharest together with the "The Gallup Organization România" (Interact, 2005), in the year 2005, demonstrated that in *Romania the cultural problems have to be dealt with in a different manner*. Romania has similar values with other balkanian countries, namely high authority/power distance, collectivism (degree of low individualism), femininity, high degree of uncertainty avoidance, and short-term propensity and is at the pole opposite to the anglo-saxon countries. On this occasion a characteristic specific to Romania was discovered, namely - the Power Complex, which means that the Romanians have the tendency to place the Ego above any other influences, no matter whether they come from the outside or from the inside. Consequently, the Romanians signal out a need to have authoritative leaders, centralization in decisions, many employees prefer to have a close relationship with a single chief in order to obtain the protection thereof and in order to avoid assuming the responsibilities; the high degree of uncertainty avoidance demonstrate that the population has a high degree of anxiety regarding the future and prefer the certainty of today; such a society has no difficulties in long-term strategical planning. Some Romanians have difficulties in facing ambiguous situations and contrary opinions of other people. If the low degree of individualism is taken into consideration, it results that the society members cannot tolerate minority opinions, according to the principle that the "minority submits to the majority". This aspect may also mean an increased resistance towards accepting something new. To these observations there may be added the *universalism and provincialism which find a new expression in Romania* – namely the rules and laws are applied "according to the case", or the rules are not for everybody; the employees use to discuss any managerial decision to exasperation; there may be added the problems the Romanians have with the time management.

Referring to the Romanian entrepreneur's profile and the motivations thereof for the involvement in the entrepreneurial activities, at the level of year 2007 (considered the best year for the economy of Romania), a study elaborated by CEBR - Centre for Entrepreneurship & Business Research (CEBR, 2007) mentions that the average age of those involved in entrepreneurial activities ranges from 33 to 35 years, the entrepreneur is generally a man with academic education; women are powerfully involved in the activities previous to starting the business, while the men have a better share in the period of business creation. The persons with ages between 36 and 50 years are involved to a higher extent in the entrepreneurial activities previous to starting the business. With regard to the motivations for involving in entrepreneurial activities, the obtained results indicate the fact that the persons are motivated by the most diverse aspects of life in order to become entrepreneurs: occasion to take advantage of a business opportunity for the improvement of the quality of life, the social aspects are perceived as important factors in their motivation. In the conditions of the economical-financial crisis the Romanian entrepreneur profile is changing, but not radically. Generally, the Romanian entrepreneur is a man, the average age goes down to about 30 years- between 25 and 34 years- (Global Entrepreneurship Monitor, 2010) in the period 2007-2010; the number of entrepreneurs between 18 and 24 years of age increased, and the number of entrepreneurs between 25 and 44 years of age decreased, having in view the same reference year 2007( Global Entrepreneurship Monitor, 2007). The Eastern Europe is the zone with the highest percentage of young entrepreneurs and the lowest percentage of entrepreneurs of over 54 years of age. Another significant change is that regarding the entrepreneurs' studies. If in 2007 over 90% of the ones who started a business were graduates of a faculty, in 2010 the most entrepreneurs were high school graduates. Referring to the motivation, it remains the same as in the year 2007, namely the exploitation of an opportunity. On the other hand, there is noticed a very high increase of the number of those who set up a business from necessity (from 13% to 31%), most of those who become entrepreneurs desiring to increase their incomes.

### *Organizational culture and entrepreneurial spirit in Germany*

From the viewpoint of the cultural dimensions identified by the Dutch professor Gerth Hofstede, Germany is characterized as follows: individualism, low power distance, masculinity, high index of uncertainty avoidance, short-term propensity.

The German spirit may shortly be characterized as follows: industrious, persevering, fashionable, efficient, determined. They like insisting on details, do not bear being urged, being known for their proverbial prudence. They seldom become irritated, are good listeners, and seldom interrupt the speaker, but are eager to ask questions subsequently, these questions being useful and pertinent. They have a dialogue full of logics, because they are rational and logical. They always seem reasonable, imperturbable and in balance. When they become confident in the partner, they may have a big heart, which they sometimes hide with ability. The German managerial behaviour and manner of thinking are strongly influenced by the principles of the Protestant religion and by the theories concerning the social efficiency of the organizational structures. The enterprise strategy is correlated with the organizational structure and culture. Due to the high degree of uncertainty avoidance which characterizes the German society and the companies in Germany, the uncertainty, ambiguity and risk are hard to tolerate. In the decision making process there matters the intuition and the practical sense and they are taken by consensus. As a cultural value there is identified the respect to the authority. These decisions having been made are rapidly implemented, these being observed by the employees, without being commented. The German managers in their whole activity lay the stress on quality, on efficient technological processes and on lowering costs.

### **Romanian-German experiences**

As it could be seen in those mentioned above, there exist many cultural differences between Romania and Germany, as the economical realities are diametrically opposed. There exist high differences of mentality and life style. Even from the viewpoint of the economical-financial crisis that the European countries are confronted with, Germany has the best situation. There is important the measure of comparative analysis of the cultural differences of the entrepreneurship and of the entrepreneurial culture, since Germany is Romania's biggest commercial partner, and the German investments in Romania represent over 12% of the total foreign investments.

According to a study elaborated by the Chamber of Commerce and Industry of Germany, at the beginning of the year 2012, Romania is considered more attractive to the German investors than Hungary, Bulgaria or Ukraine, but it is deemed to be less attractive to them as against Czech Republic, Poland, Slovakia, Croatia, Lithuania or Letonia. Unfortunately, the Romanian-German entrepreneurial relationships will be powerfully affected by the political crisis in the immediately following period. An important aspect in the comparative approach of the entrepreneurship is constituted by knowing the manner how the Romanian entrepreneurs are perceived by the German entrepreneurs. The German investors see more business opportunities in Romania and even businesses for which there do not exist important competitors as in Germany. They consider that the Germans are more focused on what they do, while the Romanians are less focused and can easily pass from a field of interest to another. They also noticed in Romania a preference for the German business model, which succeeds to satisfy the need for order, observed rules and structure. The Romanians are appreciated for their good academic education in various fields, because they are open to the new business ideas, invest much confidence, but also have high expectations. They also consider that it is not easy to find people with initiative. The communication is easy because many Romanians speak English or even German, and they do not consider the cultural differences, which they do not perceive as being so high, as a barrier. The Germans also consider that those who come in Romania should be very flexible, because a business idea that proved successful somewhere else, will not necessarily have success in România, too.

## Discussion and conclusions

In the conditions in which the economical-financial crisis continues, the approach of the entrepreneurial spirit and of the entrepreneurship in general has an even greater importance because new innovative solutions must be found.

Some conclusions relating to Romania with regard to the entrepreneurship:

a) Low rate registered by Romania referring to the entrepreneurial activity is due to many causes, more important being: the lack of entrepreneurial education in the Romanian society before 1990 and even after 1990, the unfavourable business environment during the transition period, orientation of the population towards stable work places, in larger companies considered to be more solid;

b) In the situation of economical-financial crisis the Romanians' interest for entrepreneurship increased; there was also changed the Romanians perception relating to the existence of the necessary qualities in order to become an entrepreneur;

c) Migration and lack of the specialised labour force, increase of the corruption and the political class crisis, lack of financing and of the development perspectives are the most important tendencies that will be visible in the Romanian economy in the following period and which will influence to a greater extent the entrepreneurship;

d) While at the European Union level there are set up institutions, there are elaborated strategies and there are developed programs and large amounts are invested for supporting entrepreneurship, in Romania the social and economical role played by the entrepreneurs remains too little understood, almost not at all understood publicly and almost not at all taken into consideration in the public policies;

e) A viable long-term solution for solving the problems caused by the global economical crisis is constituted by the entrepreneurial projects capable to comply with the needs of the small communities; considerable social benefits may be brought by SMEs for a sustainable development;

f) *There results the necessity for Romania to develop a new generation of entrepreneurs with characteristic abilities such as responsibility, spontaneousness, adaptability, clear-sightedness, initiative and managerial spirit, to allow them to identify and implement adequate strategies for penetrating and maintaining on the market.*

## References

**Autio, E., Bosma, N., Jones, K., Levie, J.**

2007

"Executiv Report" - Global Entrepreneurship Monitor (GEM).

**Bosma, N., Ernesto, J., Kelley, D.**

2010

"Global Report" -Global Entrepreneurship Monitor (GEM).

**Driga, E., Lafuente, E.**

2007

"Report on Entrepreneurial Activities in Romania", CEBR Working Paper Series, 01-2007, ISSN 1847-4428.

**Hofstede, G.**

2001

"Cultures Consequences: Comparing, Values, Behaviors, Institution and Organizations Across Nations", Second Edition, Sage Publications, USA.

**Luca, A.**

2005

"Where do we stand? A Study on the Position of Romania on Hofstede's Cultural Dimension", 2nd Edition, Interact.

**Niță, M.**

2011

"Management influence over organizational culture and organizational climate in current crisis conditions", Proceeding of the 2nd Review of Management and Economic Engineering Management Conference, Todesco Publishing House, ISSN 2247-8639.

# How Romanian managers use and value design

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## Abstract

**Objective:** *This article aims to obtain the impression the present design made among Romanian production companies by investigating the Romanian managers' attitude concerning the adaptation and development of design in order to increase the company's competitiveness, profitability under real market conditions.*

**Context:** *In the present, under the conditions of a globalized competitive environment, the challenge for top management is that of creating and maintaining its capacity to set its products and services on the market by catering the needs of customers, stimulating the development of the business and at the same time bringing profit to the company. In this equation design is a force in obtaining the advantage of differentiation. From this perspective must be strengthened the collaboration between management with design to create the ability to compete in great pressure to change.*

**The method:** *The study is based on a survey conducted among the managers of Romanian production companies, of a restricted area.*

**Result:** *An initial frame is created of estimating the managers' interest and awareness level in their concern of using design in companies.*

**Conclusion:** *A barometrical level is reached about the manager's actual interest on the one hand and creating a reference for further study. At the same time, the results can become the support of an incipient interpretation in the field.*

**Applications:** *Research can bring and stimulate a new focus of concern in terms of reasearch in the field of creating new beliefs that come in support of managers, designers and companies, concerning their role in creating the differentiation value on the market.*

**Key words:** *management, competitive advantage, design,*

## Introduction

In the present economic context companies are forced to adapt to the globalization phenomenon of the market, to the amplitude of the request for and the increase of competitiveness. This concern for „adaptation” has become an issue for both practitioners and reasearchers.

Due to the growing interest of societies from the mature economic environment for this subject, based on practical observations, specialized literature of the last decade, has concluded that: innovation is a key factor responsible for competitiveness and economic growth. Moreover, this plays an important role in solving social and environmental challenges in the current world.

The decisive factors of world politics, the economic and social environment are more and more involved in sustaining the growth and diversity of the forms of innovation, aware of repercussions in the first place, of the lack of involvement of innovation in the logic of current complex problem solving. The competitive economic environment is the first that attracts and diversifies innovation due to challenges given by the difficult capital of resources, environmental, demographic and social issues.

In terms of these concerns, the document launched on the occasion of „The European Year of creativity and innovation-2009”,(Creativity and Innovation,2009) featured as one of the main issues the analysis of the importance and potential of design as a drive for innovation, and on this occasion the stress was upon the direction to perceive „design as an activity of innovation”and which had the clarification of the connection between design and innovation so that in the end an outline of the operational definition of design was rendered possible, that can be in line with and built in a context of European Innovation politics.

After this action, as an initiative of the Europe Strategy 2020 the Union of Innovation” was inaugurated 2010 as an integrated strategy in the innovation field and that is based on a large concept of innovation that includes the private, public and third parties which follows to guarantee that innovative ideas are converted into new products and services that generate economic growth and workplaces.(State of the Innovation Union, 2011)

Through a recent study in the 2011 Survey of the (Committee for European Research Area) (CERA), regarding public research and development expenses policy indicates that ambitious political engagements in terms of research and development expenses are undertaken by countries with a modest degree for innovation, such as Romania, Bulgaria and Latvia.

This requires a sense of duty to create a united vision of sustaining innovation based on specific data research and launching strategies of their own,, by each country politically engaged, with reference to Romania in this case.

Seen from another perspective, it talks about the recent financial crisis which together with the economic recession highlights even more the importance and role of innovation in the equation of management success within companies. This article aims to open up research in the spirit of this concern of assuming the sustainability of innovation through design in the Romanian economic environment.

In this context, in order to increase competitiveness in the Romanian economic environment it becomes necessary to facilitate perception among managers, regarding the beliefs about design being integrated in the company’s structure as a strategic instrument to obtain competitive advantage.

### **On management**

In „Competitive strategy” (2003), Porter concludes that “the only sustainable competitive factor is innovation, which in turn depends on the quality of human resources and management”. For this, the managers need to understand the design, they must to know when and how to use the specialist and how to manage innovation.

Therefore managers need to define the way to approach design through strategies. In this case, Porter sees the strategy as “the art of building competitive advantages that can be defended in a long time ”.( Porter,2003)

From the perspective of approach to design, studies show that in practice the manager’s strategies can be influenced by the size of the company, the type of activity and its orientation.

The strategic vision is essential in the work arsenal of managers, and closely tied to it are the company’s integration in the competitive environment, affecting competitiveness, image and also the attractiveness on the market, during a period of time.

From the perspective of design approaches, studies show that in practice, the managers’ strategies may be influenced by company size, type of activity and its orientation.

“In the Design Council Report (2007) to recognize that the contribution of design grows with the size of a business. 44% of small businesses, 56% of medium-sized ones and 77% of large businesses feel design has continued to contribute more to their competitiveness over the past ten years.

Following the type of activity, the companies' producers from the manufacture industry are the ones who significantly cover all the other areas, in terms of using product design and its development services. The companies that are oriented towards export are more inclined to use design than the ones serving an internal market. (Design and Innovation for Growth,2011)

"The attention of managers must grow in terms of understanding the market and their customers to ensure companies' ability to produce and deliver superior products and how they can be encouraged by the quality of design performance.

It is understood as a way to obtain and provide innovative products and services that will meet the needs of users and therefore are more competitive."(Design in Britain,2004)

In the context of real economy,in order to develop new products and services, a large amount of effort is dedicated to identifying the determining factors of success or failure on the market.

In the specialized literature it has been reported that an absence of creativity is an underlying reason for new product failure.(Sethi et al,2001)

"In case we are dealing with a gain of new product creativity enhances business success in terms of relative market share, sales, return on investment, profitability, and achievement of business objectives".(Im, et al.,2004)

### **Defining the role of design**

What does design do, how is design defined, and how it can be used as a strategic instrument are aspects whose knowledge is required from top managers in order to help them understand the concept of integrated design as a vital component in the structure of competitive companies.

„The contribution of design to innovation has been widely recognised."(The Value of Design Raport,2007)The design contains ingredients to make the connection between creativity and innovation.

In fact the design is also considered as an important incentive for innovation and acting as a bridge between technical features and functions aimed at customer. More broadly, the design has been described as linking creativity innovation process"(Cox,2005-a)

This interdependency is why design is now increasingly seen as a vital part of innovation along with business and technological expertise.(Cox,2005-b)

"It should be noted as in the case of design practices this must be a fully adaptive and highly innovative to satisfy the needs of a constantly moving environment".(Design for innovation, 2011)

Considering the recognized fact that design represents an important source of competitive advantage, the managers' confidence to invest in design, for the benefit of companies, can be encouraged in various ways:

- Creating new competitive products
- Adding value through innovation to products and services
- Stimulating exports through a high level of competitiveness
- Increasing the attractiveness of the company through its profitability in front of investors
- Identifying new markets through the diversity of products and services.

This theoretical approach is supported by case studies which state that „research shows that design-driven companies are more innovative than others."(EU Report, 2009).



## Statistics

In „Design for Innovation” (2011) study it was identified through research that design can have a positive effect on the performance indicators of the business from the turnover to profit, stocks and competitiveness.

According to the survey conducted by the Design Council on 1500 production companies from the UK, it resulted that the companies that considered design as an integrated part of their operations, 3/4 of them think that their competitiveness has improved due to implementation of design. On the other hand, 2/3 of British companies think that design is a key factor for future economic performances nearly half of the British companies think that the importance of design has significantly grown in the last decade which brought an increase in terms of the competitiveness of companies.

## Methods and approach

It is considered an objective that in order to penetrate this universe it is beneficial to get to know the opinions and beliefs about action of leaders that are responsible for the visions and strategies that orient the success or non-success of companies. This fact makes the obtaining of the perception of managers in their area of action.

Regarding the selection of representative activities in order to conduct a survey, I used the orientation given by specialized literature, which suggests that „The business in production industries are the most positive (56%) in using design as competitive tool in relation to any of the other industries” a fact noted in the paper „The Value Of Design Factfinder”(2007). Through this study a survey was conducted among managers on the subject of perceiving design as a decisive factor of Romanian production companies.

For choosing the application domain we picked the producers’ field, in this case the ones from furniture manufacture field based on the reason that this industry, where the need to use products and design services are found to be properly represented, starting with the conception of the products to the services provided to customers. In this phase we determined the application domain of this survey that was limited only to furniture manufacturers with over 10 employees, limited to the area of Cluj county.

## Results

As a result a first frame was elaborated in the direction of materializing the level of awareness and interest in terms of the advantages offered by products and services of design of the managers from Romanian production companies in creating and applying strategies to obtain competitive advantage on a globalized market being in crisis.

### Question 1: **Do you use design in your business?** (Fig.1)

With the survey based on the managers’ answers the following aspects were reached regarding the role of design in the company’s success, 39% answered in favor, while 61% answered that the role of design is very important.

Due to the fact that respondents have massively and collectively occupied the superior part of their choices, denotes a high level of awareness regarding the importance and effect of the connection between design and the company’s performances.

This state can lead to the question whether those companies use integrated design or they use it just as an adjusting service at the end of the design process.

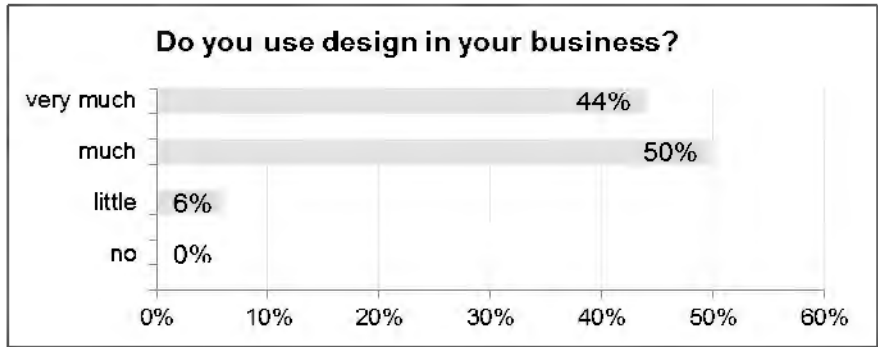


Figure 1

**Question 2: How do you use design in your company? (Fig.2)**

In the incipient phase we can conclude that design is used both as design service in collaboration and engaging design. Having discussed the issue with managers some of them admitted that in their companies the designer position is taken by other professions, like engineers. In the “other category” section are those initiated through professionally inconclusive courses, students and self-taught people. It is notable that when this study was conducted through questionnaires 3 years have passed from the start of the recession, which resulted in perceiving the importance and role of design differently than the pre-crisis period, increasing the managers’ confidence and options to use design more throughout the crisis. This aspect was noticed following the discussions from the questioning phase preliminary to the actual survey, which was conducted with each of the respondent members.

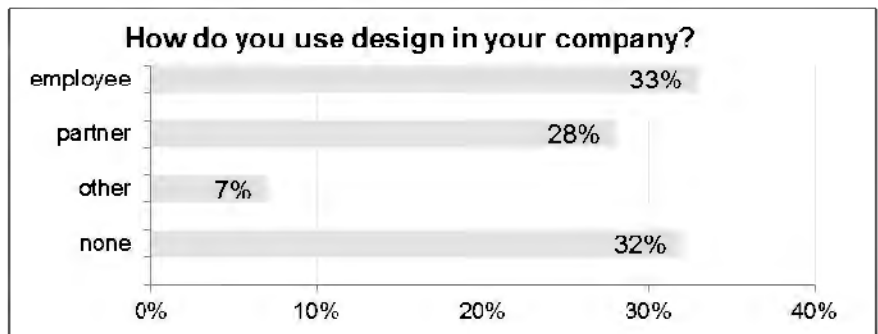


Figure 2

**Question 3: How important is design for your business success ? (Fig.3)**

The way in which the role of design is perceived in the success of the business represents a perception at the personal level of the problem that is based on the culture and managerial training of the subject, his experience and not often by presenting a view, arising from their working and informing environment.

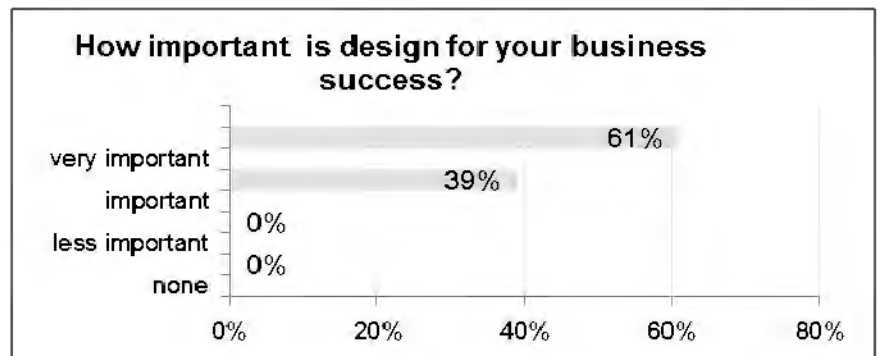


Figure 3

**Question 4: How much do you invest in design? (Fig.4)**

By answering the question "...do you invest in design?" we can observe how the confidence design can inspire to respondents is in rate of 72% favorable and only 28% in decline. We are not sure to what extent these dimensions are shaped by the competition provided by the crisis of the market or by the level of pressure from the competitive environment of the market.

Furthermore, through the discussions performed during the survey I had the opportunity to notice that the manager's expectations were directed towards those offers that concerned graphic design and publicity in general, and not so much the product development and design services, and in those cases in which they are present, they are poorly linked with the engineer design and as such hard to integrate in the production.

Next, it can be seen that the managers' attitude towards the survey is proactive rather than reactive. We draw that their opinion is one based on education and information rather than one based on practice as this will be subject to further research.

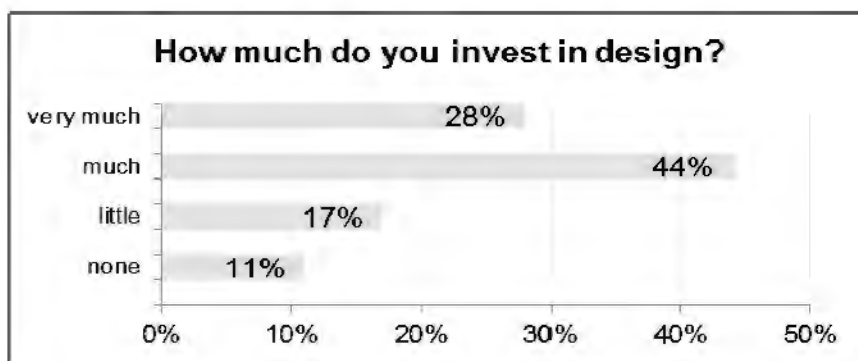


Figure 4

**Discussion**

Design was facing the insufficiency of policies capable of sustaining design practice in the Romanian economy. This was due to the fact that design was ignored as a field for a very long time, by academic researchers, and managers.

Also, it is known that design has different meanings to different business entities and therefore we must work in order to raise the level of understanding of design and its importance as a competitive tool.

This paper aims to provide a justification to grant attention to studying, with the results of which, professional organizations and the interested parties can have the ability to create contextual support for policy and strategic propositions in order to integrate design in the Romanian economic structure. This fact is consonant and sustains the effort to which Romania has subscribed in order to support research and development, registered as an ambitious commitment in CERA (2011).

Also, in the first phase, it will be necessary to analyze the barriers which stand in the way of considering design as an integrated part in the functional structure of Romanian companies. Moreover, specialized literature and practice acknowledge that in highly competitive economies there are generally three directions in which barriers can be found.

These barriers can be deficiencies of knowledge and understanding of the potential offered by design in relation to the decisive factors, the potential design customers, namely for companies. Another deficiency that can stand in the way of using design is the lack of awareness of the end user, in terms of what design can offer through the characteristics of creative products. And as a third important aspect that could negatively influence the appearance of innovating products and services is probably the lack of offer in terms of the product and services market of designers or

of design companies with the proper abilities and capacity to respond to the requests for product and services design addressed to companies.

## Conclusions

The primary results and ideas proposed in this paper will be included in future research needed in order to create a framework for effective implementation of design in the Romanian economic landscape. This topic will become a key concern for top management as part of their strategic approach, a priority for the academic education, a vital and responsible care for the designers and, last but not least, a priority of political people for creating visionary and appropriate policies. This support and policies are needed for establishing a conducive work environment for design, having as a reference the model generated by the highly competitive Western economy, where design is the central factor of innovation and one of the most important engines of development to society.

## References

**Cox, G.**

2005-a

"The Cox Review of Creativity in Business", HM Treasury available online at [http://www.hm-treasury.gov.uk/coxreview\\_index.htm](http://www.hm-treasury.gov.uk/coxreview_index.htm).

**Cox, G.**

2005-b

"Cox Review of Creativity in Business: building on the UK's strengths." London: HM Treasury, [http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/coxreview\\_index.htm](http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/coxreview_index.htm)

**Creativity and Innovation**

2009

"External evaluation of the European Year of Creativity and Innovation"

Available online:

[http://ec.europa.eu/dgs/education\\_culture/evalreports/education/2010/eycannexesf](http://ec.europa.eu/dgs/education_culture/evalreports/education/2010/eycannexesf)

**"Design for innovation "**

2011

,Design Council paper published to coincide with the Government's Innovation and Research Strategy for Growth December 2011, Available on:

[http://www.designcouncil.org.uk/DesignForInnovation\\_Dec2011.pdf](http://www.designcouncil.org.uk/DesignForInnovation_Dec2011.pdf)

**EU report** (European Commission).

2009.

"Design as a driver of use-centered innovation". Retrieved September 30, 2010, from [http://ec.europa.eu/enterprise/policies/innovation/files/design\\_swd\\_sec501\\_en.pdf](http://ec.europa.eu/enterprise/policies/innovation/files/design_swd_sec501_en.pdf),

**Im, S., & Workman, J. P.**

2004

"Market orientation, creativity, and new product performance in high-technology firms". *Journal of Marketing*, 68, 114–132.

**Porter, M.**

2003

„Strategia concurențială”. Available online: <http://www.scribd.com/doc/56715928/69/Porter-Michael-Strategia-concurentiala>.

**Report Design Council Annual**

2007

Available online: <http://www.designfactfinder.co.uk:8080/designcouncil/pdf/TheValueOfDesignFactfinder>

**Sethi, R., Smith, D. C., and Park, C. W.**

2001

"Cross-functional product development teams, creativity, and the innovativeness of new consumer products". *Journal of Marketing Research*, 38, 73–85

**“State of the Innovation Union”**

2011

from “Report from the Commission to the European parliament, the Council, the European economic and social committee and the committee of the regions” COM/2011/0849 final.

Available online:

<http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011DC0849:RO:NOT>

**“The impact of Design on Business”**

2011

Available online:

[http://www.designcouncil.org.uk/Publications/Research/Briefings/DesignCouncilBriefing01\\_TheImpactOfDesignOnBusiness.pdf](http://www.designcouncil.org.uk/Publications/Research/Briefings/DesignCouncilBriefing01_TheImpactOfDesignOnBusiness.pdf)

**“The Value of Design Factfinder report”**

2007

Available online: <http://www.designfactfinder.co.uk:8080/TheValueOfDesignFactfinder.pdf>

# The role of ethics, morals and morality in employee motivation

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## Abstract

**Purpose** – From our perspective, motivation can be considered an intellectual process with a strong moral significance through which the employee relates to his or hers individual and/or the group's needs. Starting from this particular approach, in this paper we will try to establish the role that the ethics, the principles and the moral norms, along with the morality of the participants involved in the organizational processes have in the struggle of motivation for achieving performance in the workplace.

**Methodology/approach** – In this paper, after we will explain the differences in terminology of the above mentioned concepts, we will focus on analyzing the moral dimension of the process of motivation employees for achieving performance.

**Findings** – In the day to day language of the business world there is often confusion between the concept of motivation, satisfaction, involvement and performance. Other confusions occur in the usage of the terms ethics, morals and morality. Although strongly related, these concepts have different origin and meaning.

**Research limitations/implications** – We believe that when the manager of a company wants to increase motivation he usually has in mind the involvement of the employee for increasing work performance. On the contrary, when the employee talks about motivation, he refers to work satisfaction. In other words, both the organization and the employees refer to motivation in different terms.

**Practical implications** – We consider that although motivation can offer an alternative solution to many problems that the managers encounter in the contemporary business world, it should not be referred to isolated, but integrated in the management processes and also in the moral and social relations.

**Originality/value** – We presented the most relevant components of the motivational system (MS) that influence the process of motivation (PM). Moreover, we underlined the direct relations and the feed-back between ethics, morals and morality on one hand and the motivational system on the other hand.

**Key words:** motivation, employees, ethics.

## Introduction

Man is thought to be a moral being, aware, with special reactions and conduct, which synthetically reunites the somatic, psychic and virtue dimensions (in terms of moral, spiritual and religious aspects). The human being is not only the product of the genetic bio-psychological factors, but he is also the result of the educational factors with reference to the social, cultural, moral, professional values.

Study of employee motivation is a multidisciplinary scientific approach, the most substantial contribution to the development of motivational theories is given by the organizational psychology. In this article we try to highlight the role of ethics, morals and morality in the process.

The idea of writing this paper arose from the opinion expressed by Sikula et al. (2001), establishing that "ethics is more important than profits": (1) rather than moral maximization profit maximization, should prevail in society, (2) profits and ethics is simultaneous and interdependent concepts, (3) it is necessary envision to the theory of "ethical profit maximization" (4) morals should be the terminal and the residual monies. Our first objective in this article is to discuss about strongly related concepts of ethics, morals and morality. This approach is necessary if we consider the fact that Business Ethics is increasingly the attention of both theorists and practitioners.

The ultimate goal of this article is, however, to present a process of reasoning, showing the road from motivation to performance. In addition, we try to show direct relationships and feed-back between ethics, morals and morality, on the one hand, and motivational system, on the other. From our point of view, understanding the complexity of these relationships can boost the successful completion of the process of reasoning. Our focus is less on the employee's content needs and more on the moral dimension of the motivational system.

### **The differences between ethics, morals and morality**

From Philosophical point of view, we can consider ethics as being the science of good/bad (Socrates, Platoon, Cicero), of happiness and virtues (Aristotle), of pleasure (Airstrip), of the social ideal, and of course, the science of ethos (means the science of morality).

Generally speaking, ethics is a scientific discipline, whose object of study is represented by moral and which has strong cognitive and explanatory character. Ethics examines morals, its sources and how the moral ideal can be achieved by an appeal to reason and human conscience. In addition, it develops global theoretical picture of good and evil and makes the transition from real to ideal, from what is to what should be.

Morals (depending on intentions, needs, purposes and motivations) is based on believes, inclinations, habits, interests, concepts, moral values, moral ideals, feelings, impulses, attitudes towards the moral conscience towards the norms, the rules, the moral principles in the moral relations which settle behavior and interaction between individuals and the interaction between individual and society. Morals has a strong projective and programming character.

Moral interactions involve multiple individuals who each make decisions that affect their own and others' outcomes. The moral dimension of the human mind centers around the concepts of right and wrong that varies across time and culture. People constantly negotiate which moral rules to observe, but the meaning of these debates depends on the unique and universal implications of moral judgment (DeScioli and Kurzban, 2009).

From our point of view, morals has a social function, as only through a strong influence on the individual (through education, persuasion, social means, etc.) it will be able to build a strong support for keeping social order.

Some authors do not distinguish between ethics and morals, although some authors envision ethics as having a societal or cultural nature and morals as more personal or individual values. For Sikula (2009) both ethics and morals represent an authoritative and widely accepted code of good, right, and proper conduct and involve pure, righteous, honorable, and virtuous behavior. Nevertheless, Sikula (2009), instead of business ethics, prefers to talk and write about moral management (a state of ethical excellence and the practice and the implementation of the moral maximization principle). We believe that instead of business ethics we can talk about morality in business.

Over the time there were many meanings associated with morality; some of them too vast, including actions outside morality, while others shrink the concept, only mentioning.

The notion of morality was given over the years vitiate meanings; some are too vast, including certain actions outside morality, while others shrink the area by only mentioning what is good and bad. Analyzing the literature we can find out that not everyone has the exact same definition or conception of morality.

In Broom's opinion (2006), morality is not an obscure topic which is difficult to comprehend because every person has ideas about what is right, people take account of morality in their actions and most discuss moral issues with others.

Morality represents the actual manifestation of morals through actions, real facts, attitudes and behavior of the individuals and the general behavior (habits) of great groups, communities and ranks, being sustained by moral principles (without excluding the moral conscience, the qualities and defects, the judges and moral feelings, the motives, human's aspirations, his mental traits, the moral values, etc.). So, morality has a real and also practical character.

DeScioli and Kurzban (2009) examined "morality", meaning phenomena surrounding the concepts "right" and "wrong", focusing on the moral dimension (the capacity to experience the world as morally textured and differentiated) rather than the positions of actions along moral lines.

In a recent study some American teachers emphasized the importance of moral action. Many defined morality not only as knowing right from wrong, but also as making choices based on those beliefs (LePage et al., 2011):

- (1) Morality is knowing right from wrong and making life choices based on these values.
- (2) Using one's set of values to help with personal decision making.

In the same study (LePage et al., 2011) the Turkish teachers (focused on thought) were more global in their orientation toward morality (morality was tied with social, national, and even global values; humanism and global human rights).

Merritt et al.'s research (2012) suggests that people strategically demonstrate their morality when they fear that their future behavior could appear immoral. Other studies has shown that people are more likely to act in morally ambiguous ways when they have previously established their morality (Merritt et al., 2010; Miller and Efron, 2010) (in Merritt et al. 2012: 776).

### **The process of motivation for increasing work performance**

The employees' behavior has a changing, dynamic, sometime spontaneous, subjective nature based on a multitude of variables specific to the human nature such as: personality, temperament, character, identity, moral conscience, social heritage, ideological culture etc., but also an ensemble of elements specific to the motivational systems (as shown below).

According to Sikula et al. (2001), the millennium invites new thinking about old ways of doing business because change is all around us and yet many managers continue to operate utilizing dated personal philosophies and personnel practices. For Sikula et al. (2001), elevated standards consist of five employee relations ethics (ERE) credo components and five ERE assumptions:

1. All work and labor involve and deserve human respect and dignity.
2. Human resources are the most important and most valuable organizational assets.
3. People initiate and control organizations, not vice versa.
4. Employees should be empowered and treated as entrepreneurs, and should not be overly supervised and evaluated.
5. Individual wellness and personal wholeness demand integrating personal or private and professional or public lives.

Starting from these aspects, we present in figure no.1 the most relevant components of the motivational system (MS) that influence the process of motivation, including the relationships between motivation, satisfaction, self motivation, involvement and work performance. Moreover, we underlined the direct relations and the feed-back between ethics, morals and morality on one hand and the motivational system on the other hand.



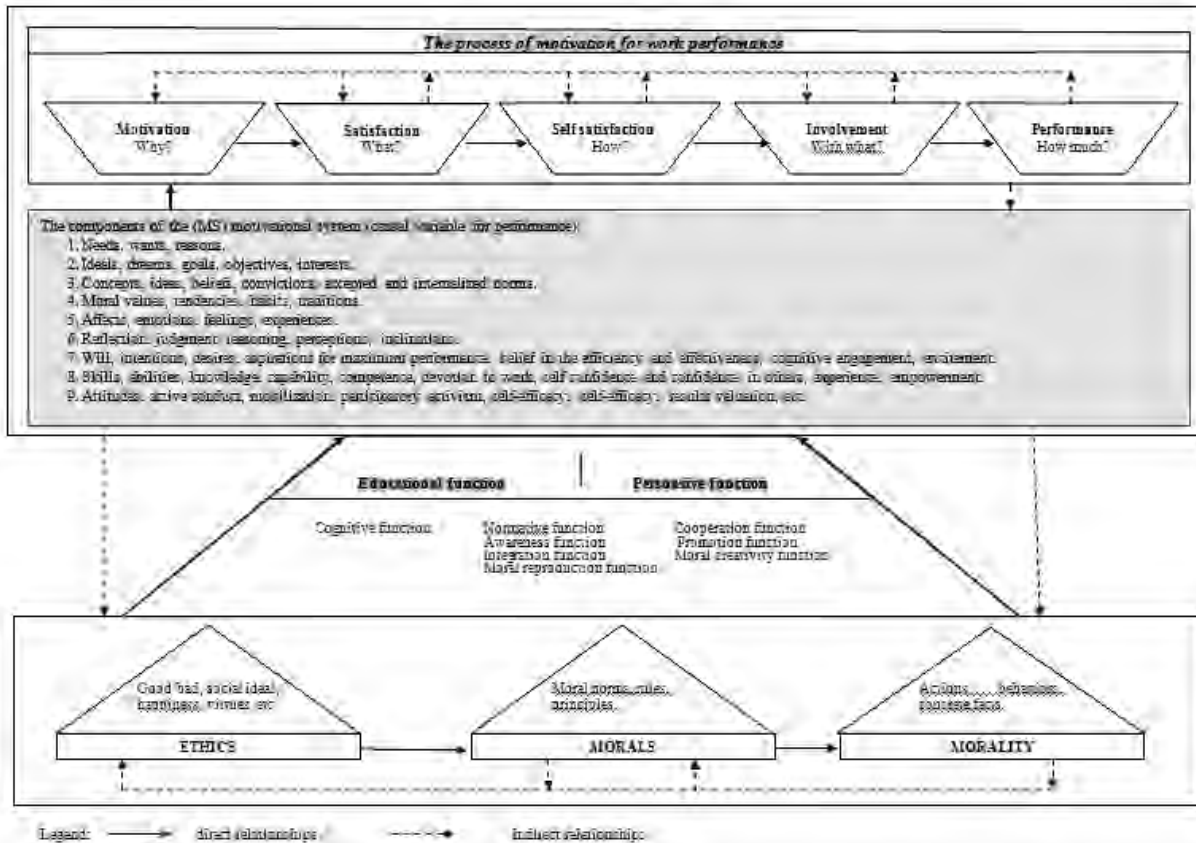


Figure 1: The phases of the motivation process, its components, the functions of ethics, morals and morality

In figure no.1 we can notice the fact that we can make a distinction between the motivational system and the process of motivation starting from the next elements:

- (1) Motivation is considered to be the process through which an employee can gain superior work performance as a consequence of going through the next phases: motivation, satisfaction, self motivation, work involvement.
- (2) The motivational system is an ensemble of very diverse components that include a multitude of physical variables, mental and morale (spiritual), interconnected and which influence the process of motivation.

### **Motivational system (MS)**

Humanity has three critical relevant parameters: physical, mental, and spiritual. Today, many people seem overly focused on health and the physical dimension. In addition, many people have difficulty distinguishing between the mental and the spiritual aspects of humankind (Sikula, 2009): mental refers to one's intellect, and spiritual issues involve values, ethics, and morals that flow from emotional connections.

In order for an individual to behave in a moral way, there must be an appropriate motivational system. The evolution of morality will therefore depend substantially on the evolution of the motivational system (Broom, 2006).

The components of the motivational system (causal variables) are numerous (see Figure 1). This group is not exhaustive and was made only to highlight some features of the motivational system phases (see Figure 1), without claiming a complete and complex approach. Causal models of most variables have been researched over the years by many researchers.

From our perspective between the motivational system (MS) and the process of motivation (PM), although simultaneous and complementary, there is a direct relationship, and also feed-back, in the sense that the components of MS affect the PM, obviously in all phases, as the characteristics and effectiveness of PM, cause changes sometimes substantial to the components of MS. For example, if an employee motivated, satisfied and involved will not obtain the expected performances (because of the lack of skills and knowledge, of resources, of strategies and appropriate tools, of empowerment, or any other reason attributable to him or the organization/manager), there can appear negative effects on self confidence, on satisfaction, etc., leading to reduction work involvement, disrupting many other components of MS.

Due to certain restrictions regarding the limited number of words, we will very briefly address one aspect of MS, which is most relevant for this topic. We refer to moral values which are attributed not only to individuals but also to communities, organizations, groups, etc. In addition, moral values may have a significant impact on any element of motivation. In this context, we consider it very difficult to find a comprehensive and precise definition of the concept of "value" to suit all situations. As far as we are concerned, values are the highest benchmarks of efficiency, effectiveness, welfare, character, virtue, beauty that are appreciated, accepted, wanted and endorsed by people and the community.

The valuation of values (the knowledge and acknowledgment of values) may be considered the highest ideal that may hold the power of attraction required to make human emotional, intellectual and volitional powers converge. As a starting point, the ideal is the main factors that contribute to the improvement of the human personality and condition (Popa and Salanță, 2011).

Sometimes there is a certain hesitation between motivation focused on individual pleasure and motivation focused on values and ideals. Values encompass the entire human existence, being important benchmarks of our soul and spiritual life.

A study developed by Popa and Salanță (2011) shows that values can rank differently for each of us according to the importance of the moment. This means that the hierarchy of values takes place according to the values that serve the most stringent and urgent need. Values manifest themselves when individuals try to cover their needs. Values appear as objective and external to the individual, but become attributes of the latter once appropriated, reshaping the individuals whole psycho-moral life.

Moral beliefs have an action-guiding force that factual beliefs do not. Moral empiricists suggest that we construe our system of moral beliefs as an empirical theory formed on the basis of its coherence with our considered emotional judgments (Kernohan, 2010).

Moreover, we totally agree that it is vital for the future success of a company to be able to attract and retain bright, responsible, creative, independent, motivated, and faithful employees who control the organization, and not the reverse (Sikula et al., 2001).

### ***The particularities of the process of motivation (PM)***

In Figure 1, the PM is expressed as an axis that shows the sequence of some interconnected phases such as: motivation, satisfaction, self motivation, involvement and performance. More precisely, in our vision, the main questions regarding this topic refer to each phase distinctly as follows:

1. Motivation: Why a certain action is taken?
2. Satisfaction: What exactly ensures the perception of satisfaction at work?
3. Self motivation: How can the employee self motivate?
4. Involvement: With what aptitude/capabilities/efforts one can sustain the daily work (physical/intellectual)?
5. Performance: How much effort must there be made and which are the expected/valued (quantitative/qualitative) results?

Further on, we will briefly argue these points of view, referring also to the components of MS. We also would like to underline that even from the beginning that we do not completely support the fact that these phases go on necessary in this order, anytime, anyhow, under any circumstances and for anybody (for instance some can be simultaneous and for example self motivation can happen in any stage).

## **Motivation**

Knowing a person's motivation is equivalent to finding the answer to the question: Why undertake an activity? The answer is difficult and complex as triggering causes are multiple and cannot be reduced to external stimuli. The level of motivation can be either weak or strong, while varying among individuals in a particular time and the same person at different times and according to circumstances (Pinder, 1998).

In general, it is considered obvious that the individual seeks an activity to motivate him in terms of professional fulfillment. In reality, many individuals are motivated by many other activities, but not by the work they perform as employees. Place awarded for work may be secondary in the hierarchy of motivations, even if work is first in the ranking of the material needs.

MS components that are most closely related to the onset of motivation are the positions specified in (1) and (2) in Figure 1, but cannot be excluded nor the other. Analyzing all the needs, necessities and reasons that an employee has, and comparing them with the ideals, dreams, goals and interests it, we can find a first answer to the question: Why employee takes a certain action?

If being motivated means, essentially, to have an ideal (an objective interest), and decide to make an effort to meet the needs/necessities, then primary ethics concern should be directed to the way each employee shall elect dreams, determine their objectives and relate to those around them.

Referring to the performance attributes, Mitchell (1982) believes that the relationship motivation - performance is irrelevant, because some factors such as industrialization and skills of employees have decisive impact on work outcomes. To justify their point of view, the author highlights four major factors: the role expectations (knowing what to do), skills for the task, motivation, environment, allowing implementation of intentions into action, as the actual behavior.

We will go further and we specify that motivation (alone) is not definitely a certain determinant of performance. You must take into account the degree to which an employee perceives satisfaction (or dissatisfaction) with respect to work and daily tasks.

## **Satisfaction**

Satisfaction is the product of experience (affects, emotions, feelings, experience), a set of concepts, ideas, beliefs, convictions, reflection, judgment, reasoning, perception, and preferred moral values, trends, habits, traditions, etc. Obviously, we do not exclude other variables not specified in Figure 1, such as mental health and spiritual and psychological nature of the relationship between the individual and a specific work situation that can cause rejection of certain stimuli of satisfaction and preferences for others.

Analyzing in detail the MS components specified in Figure 1 at positions (3), (4), (5) and (6) we can expect to find some answers to the question: What exactly offers the perception of work satisfaction?

If motivation is a difficult concept to measure, satisfaction is a concept more studied and better approximated. Operationally, job satisfaction consists of several facets, including satisfaction with the supervisor, work, pay, advancement opportunities, co-workers, and customers (Snipes et al., 2005).

An analysis of studies on work psychology concluded that satisfaction is an indicator of motivation, but not its cause. As can be seen in Figure 1, motivation precedes satisfaction. Therefore, motivation can be considered an impulse that directs the individual to a particular action in order

to obtain a final state of satisfaction. In this context we believe that satisfaction include events/processes/phenomena that give rise to a subjective feeling of pleasure, perceived, acknowledged, expressed and described by each employee.

Feed-back relationship between satisfaction and motivation can be explained if we consider that the satisfaction felt (over a long time) across the different needs can cause a sense of normality, as the man is consequently trying to develop new needs.

Most times our perceptions can be influenced by many factors. As shown Sikula (2009), a person filters and interprets stimuli using a learned set of values and assumptions, which may or may not prove objectively true, accurate, and trustworthy. Moral managers must remain responsive to both reality and perceptions of reality.

Studying the relationship between emotions and performance it was concluded that mood facilitates performance prediction. Positive affectivity correlates with performance only when employees are hired on an indefinitely period. Several studies confirm that the positive affects negatively correlate with absenteeism and that there is a correlation between pleasant emotional states and pro-social behavior (helping colleagues maintain good mood, etc.), creativity and innovation (Côte, 1999).

If affects are considered a better predictor of work performance (better than satisfaction), we believe that happy employees are efficient and productive (and vice versa). However, the association between satisfaction and performance, also known as the happy and productive worker hypothesis is a theory of "common sense" widely shared in the organizational environment and even university, but scientifically unproven (Fisher, 2003).

From our point of view, feelings are important parts of the mechanisms which individuals need in order to cope with the various problems of life. On the other hand, moral emotions are those that typically prompt or reflect moral behavior: guilt, anger, and disgust, but also empathy, sympathy, and pride (Goldman, 2010).

To be happy with one's fate and be satisfied at work, is not to be necessarily accompanied by an active behavior, marked by seeking better work efficiency or superior performance. Research carried out for establishing the correlation between satisfaction and performance have produced rather disappointment, which led for the causes of performance to move towards the analysis of certain categories of affects, feelings, emotions (happiness, anger, sadness, etc.). As Staw and Barsade showed (1993), positive affectivity correlates with effective decision making, high performance work, active participation and quality, strong leadership and high managerial potential.

Shamir (1991) suggests the introduction of the social dimension in the motivational theories and refers to concepts of meaning, self and collective motivation. In this way, contrary to classical theories, much of the employees motivation is not under the direct control of managers, because the significance of organizations, jobs, employees behavior reflect judgments and social values, located outside organizations.

Self concept theory comprises additions sociological work and sees behavior as one self-expressive, self-maintained and self-guided. Applicability of this vision is confined, as stated by Shamir (1991), to employees who have high self-esteem. If we see ourselves as successful people, so the reasoning goes, we are more likely to be successful.

### **Self motivation**

From our point of view of the moral dimension of PM forces us to accept this phase of self motivation that emphasizes on the individual freedom to decide on actions that one takes (or, in some cases, PM can be considered a manipulation). Psychological manipulation is a type of social influence or behavior aimed at changing perceptions of others with hidden tactics, deceptive or abusive (Braiker, 2004). In general, social influence is perceived as harmless when it respects the right of the one influenced to choose.

Motivation (self stimulation) and self-conscious always positively affect the ability to maintain an optimal state of motivation and satisfaction, leading to certainty involvement in employment and increase individual performance and even ongoing socio-professional development.

In our opinion, motivation is confirmed by the expression of the MS's components positioned in Figure 1 at (7), that is will, intention, aspiration for maximum performance, desire, belief in the efficiency and effectiveness, teasing and cognitive commitment to engage actively and with maximum efficiency in the performance of their duties. These components are obviously influenced by other elements of the MS described above (e.g. judgment, reasons, perceptions, etc.), including those located in (8) and (9), directly related to participation and performance, as we shall see below. Without will, desire and cognitive engagement and without skills, abilities, competence, etc. there is no potential for performance.

### **Involvement and work performance**

In a simplistic manner, we can define as an attachment to the work involved. It means, among other things, the importance work receives in relation to other spheres of life, the desire to be active and find work as essential for life as a whole.

The effects of work involvement refer the individual's identification with work and with the company to which it belongs (feeling self-fulfillment, self-valuing, personal development). Involvement may be considered an important phase of PM which supports the desired behavior and persistence in efficient actions.

Motivation may increase over time, as you increase involvement and also may decrease when decreasing involvement (Meyer, Becker and Vandenberghe, 2004). Yet, compared with motivation and satisfaction, involvement is the one that has direct links with the performance.

The essential difference between motivation, satisfaction and involvement might be highlighted that the latter is open to well-defined behavior that arises from an ensemble of elements of the MS related to the work itself. Unfortunately, even if an employee is motivated, satisfied and sincerely wants to be involved at work (all components of MS considered so far are favorable) it is uncertain whether the performance and efficiency are expected.

Therefore, if we are interested in the positive outcome of involvement in work and to answer the question "What skills/capabilities/efforts can support the daily work processes (physical/intellectual)?" to begin with we must orient attention, especially (but not exhaustive) to components placed on the MS (8): skills, abilities, knowledge, confidence, devotion to work, expertise, capabilities, experience, empowerment (empowerment) (see Figure 1).

The MS components (9), namely: attitudes, active behaviors, mobilization, participatory activism, self-efficacy, self-efficiency, results valuation have the most direct link with performance and they provide the answer to the question: "What effort must be made and what results (quantitative and qualitative) should be expected/valued"?

These causal variables must be necessarily accompanied by support strategies to help guide the actions needed to feed its cognitive commitment to teach employees on strategies, techniques and tools they can use relevant.

Mobilization (self mobilization) appears at the end stage of motivation (self stimulation), is therefore an internal and individual phenomenon. From our point of view, mobilization should be seen as an external and collectively phenomenon, with an important role in the development of effective action and long-term continuous leading to performance. In this case mobilization involves an ongoing process to mobilize, support and encourage the efforts, actions; a process that makes it possible to combine and dynamic energies of all employees involved. Here we take into account the support and even energy given by managers, colleagues and subordinates, with positive impact on performance at work.

Moreover, we must keep in mind the most valuable employees (motivated, satisfied, engaged and with exceptional capabilities) which, due to excessive and prolonged labor can record high exhaustion, putting in health hazard. Thus, having a moral behavior is to be viewed in relation with achieving better performance, without producing health hazard to employees. Therefore, you should be careful when you set performance standards for our employees, taking into account that they enjoy all the facilities and organizational support to successfully perform all daily tasks.

Finally, we can say that involvement in work is most related to performance. Moreover, feed-back relationship of involvement with other phases of the MP, are obvious. For example, a high degree of involvement can provide a high degree of job satisfaction, keeping motivation high, covering at the same time, many of the needs and wants. When referring to the performance, value and self-effectiveness results can affect all previous phases of the MP (motivation, satisfaction, self motivation and commitment).

## Conclusions

We live in a world where the individual proclaims himself owner of his deeds, acting freely and independently. Because by his actions he affects everything around him (including work), this freedom and independence is supported, in fact by a rule of law. Moreover, surveys have an important role on ethics, morals and morality. In Figure 1 we summarized the functions they perform.

Ethics (the science of good/evil, of happiness, of social ideal, of virtues, etc.) fulfills in particular, the cognitive function, but also the educational and persuasive one. Ethics teaches us how to properly judge our actions and our peers, helps us gain full confidence on what is good or bad, convinces us to choose the good, helps us solve the contradiction between what is and what should be, helps us ensure the trends balance of extreme altruism-selfishness, sociability-individualism, seriously-superficiality.

Morals (the subject of study of ethics) justifies his projective-programmer character as a consequences of all the norms, principles and rules which they lay down. Therefore, we accept that, in addition to the educational and persuasive function, morals fulfills other functions, such as: normative, integrative, of raising awareness, of moral reproduction, of perpetuation. The ultimate goal of morality is improving individual through moral development.

Morality, as a practical (real) manifestation of morality (acts, actions, behaviors) satisfies, in addition to the above functions, the functions of cooperation (in concrete situations), of promoting moral behavior, of moral creativity (to new situations).

In addition, we plotted in Figure 1 the direct relationship between feed-back ethics, morals and morality. Direct relations are obvious: writing determines the development of ethical norms, principles and moral rules which, once accepted, acknowledged and learned, can trigger and sustain moral behavior. Feed-back relations show that opinions about good/bad, happiness, etc. (*ethics*), norms, rules and moral principles (*morals*) adapt over time (change), depending on the specific behavior (*morality*). The meanings of morality are interpreted by constant confrontation with the new concrete situations.

Throughout the article we mentioned a few items that warrant direct relationship between ethics, morals and morality, on the one hand, and motivational system/process, on the other. Feed-back relations refer to the fact that over time, certain features (shared principles, habits) of the process of reasoning (but not only) have brought a wide range of studies related to ethics, morals and morality (for example, codes of ethics in organizations, workplace discrimination, the concept of Corporate Social Responsibility, stakeholders theory, etc.). Let's see what will happen.

In conclusion, employees' behavior is not a process for which only employee is responsible. Managers need to understand their role in triggering, stimulating and developing the behavior in directing, channeling, supporting, maintaining and/or improving it, but also in stopping and shifting behavior

## References

**Braiker, H.**

2004

Whos Pulling Your Strings? How to Break The Cycle of Manipulation and Regain Control of Your Life. New York: McGraw Hill Books.

**Broom, D.M.**

2006

"The evolution of morality". Applied Animal Behaviour Science, 100: 20–28.

**Côte, S.**

1999

"Affect and Performance in Organizational Settings". Current Directions in Psychological Science, 8: 2.

**DeScioli, P., and R. Kurzban**

2009

"Mysteries of morality". Cognition, 112: 281–299.

**Fisher, C.**

2003

"Why do lay people believe that satisfaction and performance are correlated? Possible sources of commonsense theory". Journal of Organizational Behavior, 24: 753-777.

**Goldman, A.**

2010

"Huckleberry Finn and Moral Motivation". Philosophy and Literature, 34: 1-16.

**Kernohan, A.**

2010

"Moral Beliefs and Moral Motivation". Journal of Value Inquiry, 44: 447–459.

**LePage, P., H. Akar, Y. Temli, D. Şen, N. Hasser, and I. Ivins**

2011

"Comparing teachers' views on morality and moral education, a comparative study in Turkey and the United States". Teaching and Teacher Education, 27: 366-375.

**Merritt, A., D. Efron, S. Fein, K. Savitsky, D. Tuller, and B. Monin**

2012

"The strategic pursuit of moral credentials". Journal of Experimental Social Psychology, 48: 774–777.

**Meyer, J.P., T.E. Becker, and C. Vandenberghe**

2004

"Employee Commitment and Motivation: Conceptual Analysis and Integrative Model". Journal of Applied Psychology, 98(6): 991-1007.

**Mitchell, T.**

1982

„Motivation: New Directions for Theory, Research, and Practice". The Academy of Management Review, 7(1): 80-88.

**Pinder, C.**

1998

Work Motivation in Organizational Behavior. New Jersey: Prentice Hall.

**Popa, M., and I.I. Salanță**

2011

"The Role of Moral Values in Business". The proceedings of the 7th European Conference on Management, Leadership and Governance: 350-359.

**Shamir, B.**

1991

"Mining, Self and Motivation in Organizations". Organization Studies, 12(3): 405-424.

**Sikula, A.**

2009

"Moral Management Methodology / Mythology: Erroneous Ethical Equations". Ethics & Behavior, 19(3): 253–261.

**Sikula, A., K. Olmosk, C. Kim, and S. Cupps**

2001

"A "New" Theory of Management". *Ethics & Behavior*, 11(1): 3–21.

**Snipes, R., S. Oswald, M. LaTourc, and A. Armenakis**

2005

"The effects of specific job satisfaction facets on customer perceptions of service quality: an employee-level analysis". *Journal of Business Research*, 58: 1330–1339.

**Staw, B.M., and S.G. Barsade**

1993

"Affect and managerial performance: A test of the sadder but-wiser vs. Happier-and-smarter hypotheses". *Administrative Science Quarterly*, 38: 304-331.



# Managing Diversity in International Projects: Challenge or Need?

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## Abstract

**Purpose** –Based on some relevant references, the present paper presents some important issues of managing diversity in international projects (mainly using the cultural model of Hofstede). The analysis of a diversity-training project report has proved that such training is successful in improving interpersonal cross-cultural skills.

**Methodology/approach** is based on a market survey results. A questionnaire has been used and a structured interview was developed. The context of the research was defined by the Erasmus Intensive Language Courses (EILC) project that took place in 2011 – 2012.

**Findings** – The research results identified important aspects that should be taken into consideration when managing international projects.

**Research limitations/implications** – The research has analyzed only the communication, relationship interaction and behavior during a learning process (course) and the research survey sample was weak in nationalities diversity (only Romanian, Germans, Italian Spanish and French).

**Practical implications** – After the cultures comparison analysis (survey and structural interview results) of trainers and students they have recognized the culture differences and they have adapt their behavior to mutual understanding and better work.

**Originality/value** consist of the analysis (theoretical and demonstration by a case study) of the cultural diversity in order to improve communication in international projects.

**Key words:** Culture Differences, Cultural Dimension, Management.

## Introduction

Cultural differences influence the behavior of team members of international projects. In modern organizations, intercultural dimension cannot be avoided. Distance no longer represents a drawback: modern methods and tools give employees a different space and time perception. According to Samovar and Porter (1994), intercultural communication is a process developed between people whose cultural perceptions and symbol systems are sufficiently different to alter the communication process. Performance of multicultural teams can be examined from an intercultural communication perspective. Executives, managers, and educators interested in improving multicultural team performance need to know about intercultural competence (Mateev and Milter, 2004).

People with different cultural backgrounds, working together, may bring creativity, new ideas in the projects collaboration and new approaches to problem solving. Culture diversity is to be valued, not seen as a problem and building a framework of cultural understanding and awareness can support effective international teams (Higgs, 1996). The challenge in managing multicultural project teams is that different cultural background introduces different understandings and expectations regarding team dynamics and integration (Ochieng et.al., 2009). The question (challenge

and need in the same time) is how a project manager can effectively work and positive influence a multicultural project team, at the same time being attentive to the diversity and creating the structure required for project and team success.

International project members revealed a number of multi-dimensional factors that either facilitated or limited the effectiveness of multicultural teamwork. These were synthesized into a framework of eight key dimensions that need to be considered when managing multicultural teams. The identified key dimensions include leadership style, team selection and composition process, cross-cultural management of team development process, cross-cultural communication, cross-cultural collectivism, cross-cultural trust, cross-cultural management and cross-cultural uncertainty (Ochieng et.al., 2009).

According to some relevant references in the field of multicultural, cross-cultural or diversity training programs, some observations have been made. Companies with a diversity-training program report that such training is successful in improving interpersonal cross-cultural skills (Changuk and Kye-Sung, 2000). The most significant factors for the effectiveness of teamwork have been classified in four dimensions: leadership actions, structural characteristics of work group, individual characteristics of members (including cultural differences), and interrelationships among members (Karakus and Töremen, 2008). Other researches try to answer the question of what is multicultural education and demonstrate that only a multicultural educated teacher with developed multicultural competence can create a multicultural learning environment (Vizintin, 2010).

In order to deeply explain the people behavior in multicultural working teams, many models were elaborated, but the most famous is the five dimensions of culture, in terms of behavior and values of a nation identified by Geert Hofstede (<http://geert-hofstede.com/>). This model will be used in the context of the present research.

The purpose of this paper is to investigate a multicultural working team of an international project in the field of education, with the aim of finding solutions for managing diversity for increasing team efficiency and effectiveness. In this context, the paper will focus on presenting some issues that may contribute to the improvement of managing diversity (mainly culture) in international project teams. First, the study framework and the methodology used will be presented. Second, a case study and the research results will be debated in order to test and validate the proposed hypothesis and framework.

### **The Research Problem (Context and Sample)**

The case study has been developed in the context of Erasmus Intensive Language Courses (EILC) project that took place at Politehnica University of Timisoara, during the academic year 2011 – 2012. The case study represents a phase of the process related to understand the differences and similarities of values, culture, and behavior between Romanian and other nationalities as a way to provide solutions for managing diversity in international projects.

The university started offering Intensive Language Courses since 2009 and there is a positive experience gained by professionals involved in teaching and administrating the EILC programmes. Teaching materials, cultural events, professional experiences for Erasmus students have been produced and customized for each course. All students had access to course facilities and technical equipment, free library access and language laboratory. They have access to Internet; free printed materials (even a textbook for learning Romanian language at the beginner level was created in the EILC program in 2009-2010) (Pop et. al., 2010). All these facilities were also used in the EILC program 2010-2011. Students involved in the program have different backgrounds and cultural behavior; they have technical educational background. The sample consists of 10 persons/subjects; gender characteristics: 40% were male, while 60% were female; 50% of the subjects have Spanish nationality, 30% have German nationality, and only 10% have Italian and French nationality (Figure 1).

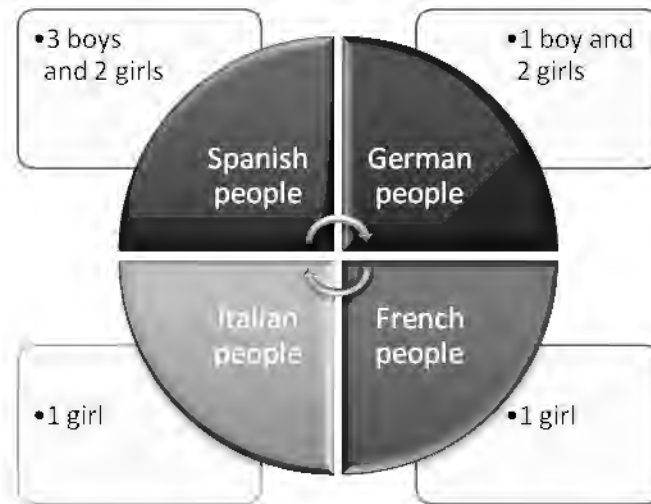


Fig. 1. The Research Sample - EILC project's students

### The Methodology Used

The paper research consists of a survey based on a questionnaire and a structure interview (face-to-face and on-line). The feed-back received (research results) from the students helped trainers and tutors (involved in the project) to improve their activities. The questionnaire consists of closed questions, as well as open questions. The open questions provide and allow participants/subjects to respond (give their opinions) using their own beliefs. The closed questions provide answers chosen by participants according to their own opinion. The Likert scale have been use to rank the importance of their answer. Those questions provide quantitative results. The questionnaire administration has revealed that the courses attendants provided by the university perceived the entire training program as highly positive (4 subjects) and positive (6 subjects).

The research is based on communication, relationship interaction and behavior reaction during the course, includes an overview of the five culture dimensions, in terms of behavior and values of a nation identified by Hofstede (were analyzed the cultural distance as an independent variable and the dimension of national culture: power distance, individualism, masculinity versus feminism, uncertainly avoidance and long term orientation). The survey results conducted in Romania have relevant conclusions for managing diversity in international projects. All the five cultural dimensions were analyzed by country culture and according to the answers received from the subjects (and tutors) considered in the sample (see Table 1).

Table 1. Cultural dimensions results according to the structure interview– Taking into account the answers received by subjects from all countries

Cultural dimensions	Spain	Germany	Italy	France	Romania
Power distance	89%	36%	73%	81%	91 %
Individualism versus Collectivism	51%	67%	76%	71%	32%
Masculinity versus feminism	37%	66%	70%	43%	42%
Uncertainly avoidance	81%	64%	75%	86%	79%
Long term orientation	30%	32%	34%	39%	36%

Individualism is highly valued in Spain. Spanish culture underline very much the importance of self and one's family. According to the questionnaire, Spain is a feminine country, a place where men and women are being seen an equal. Long term orientation has a special meaning in Spain. Spanish people want to live the moment, like a „fiesta” and have no concern for the projects in the long term time.

The Hofstede dimensions characterized by the German subjects have underlined the following: concerning the power distance, Germany has a strong belief in equality for each citizen. Germans have the opportunity to rise in society. The German society is an individualistic society. With a score of 66% (see Table 1), Germany is a masculine society. In this culture, is met the short term orientation.

The respondents descriptions regarding the Italian culture have underline that in Italy, power distance has a strong percentage (73%, see Table 1). The Italian peoples believe that hierarchy should be respected. Italy is a masculine society. For uncertainly avoidance, 75% of the subjects' answers showed that Italians are not comfortable in ambiguous situations. Italians have a short term orientation; they are focus on quick results.

According to the French subjects descriptions related to Hofstede dimensions, they conclude that the power is highly centralized, is a society in which inequalities are accepted. 71% of the answers showed that is an individualist society. France is rather a feminine country, famous for its welfare system. France society prefers to follow the rules, the procedures. French people are also a short term oriented society; they respect very much their own traditions.

In Romania there is a highest procentage on power distance (91%, see Table 1), in uncertainly avoidance (79%) and a low score in long term orientation. Romania is a collectivistic society. Here the “group” is considered to be like a family, or a extended relationships.

After the process of the questionnaire answers, the course attendants have acknowledged satisfaction with respect to the following aspects:

1. Information received - The amount and quality of the information transmitted to students was carefully selected and verified in advance. The informational content has successfully met the students' information needs. The most part of the attendants declared that they were very satisfied (4 subjects from 10) and satisfied (6 subjects from 10) with the amount of information, the timing of information, the way information was transmitted and the quality of information.

2. Course-organization issues - Course organization has carefully overseen the students' needs and expectations: Most of the attendants declared that they were very satisfied with the course dates, the accommodation costs (10 subjects from 10), the welcome received by the organizers and the overall organizational aspects (6 subjects from 10); the rest of the attendants declared that they were satisfied (4 subjects from 10). A part of attendants did not appreciate so much the type of accommodation (3 out of 10 students were very satisfied, 5 students were satisfied and 2 students were not really satisfied).

3. Course design and teaching – The course evaluation results have indicated a high quality of the teaching style: 8 out of 10 students were satisfied with the teaching materials and equipment used during the course and with the overall quality of teaching (2 out of 10 students were satisfied), 5 out of 10 students were very satisfied with the number of hours (5 out of 10 students were satisfied) and 9 out of 10 students were very satisfied with the additional activities offered (1 out of 10 students were satisfied). All students were provided with a textbook, printed materials and additional topic-customized documents (e.g. postcards, leaflets). The teaching methods used by the highly-qualified teachers have drawn on the rapid and progressive assimilation of language by the attendants. The technical equipment has proved extremely efficacious and helpful at this level, whereas the highly-equipped classroom has ensured an excellent learning environment.

The experience of the EILC course was perceived as very positive (7 subjects from 10) and positive (3 subjects from 10) for the Erasmus students attending the EILC course. The students must continue the study of the Romanian language in their host institutions. Through its content, the course has achieved its goals and helped the Erasmus students:

- To communicate on everyday life: speaking at basic level, initiation of social contacts, performing social and individual activities; formulating questions and answers in specific situations (in shops, agencies, different institutions, at the market, on the street etc.); reading/comprehension of short messages, announcements etc.;
- To understand specific aspects of Romanian culture and civilization and some differences between cultures (traditions and customs, life style, colloquial and formal language styles, education and training systems), to surpass cultural obstacles and to be open to a new culture;
- To integrate themselves into Romanian mainstream education and training system: interactions with Romanian colleagues and professors; performing academic activities (e.g. reading of short texts, comprehension of oral and written documents, oral presentations, group discussions, writing at basic level compositions on a given subject, postcards, e-mails, using diacritics specific to Romanian language, using electronic tools (dictionaries, automatic translation systems).

The structured interview with participants outlined that they are able to attend and watch courses taught in Romanian and read specific references written in Romanian. Romanian is no more a “foreign” language for them, but a language in which they feel familiar.

### **Research Results and Conclusions. Examples of Success Stories**

Based on some relevant references, the present paper presents some important issues of managing diversity in international projects. The methodology used was based on a market survey results. A questionnaire has been used and a structured interview was developed. The context of the research was defined by the Erasmus Intensive Language Courses (EILC) project that took place in 2011 – 2012. The research results identified important aspects that should be taken into consideration when managing international projects.

As consequences of the research survey there have been underlined. The content of the whole EILC international project was designed adapt to the needs of the Erasmus students as the majority of them are currently studying for periods of 3 to 10 months in Romania following this course. The activities developed within the EILC project were conceived and organized to meet the communication needs of the Erasmus students and, equally important, so as to ensure the intercultural dimension (the Romanian language and culture in contact with the three foreign languages and cultures of the course attendants) and the multicultural dimension of the courses (10 attendants from 3 represented European countries). The cultural activities were created to familiarize the foreign students with specific Romanian cultural aspects and develop their cultural awareness. During the cultural activities, professors have integrated the method of structured interview for verifying the comprehension of the activities proposed, ensuring the progression of the knowledge about Romanian culture and civilization. Professors have encouraged the intercultural communication in the group.

Followed Hofstede model there have been concluded that in countries with a relatively low score of power distance, managers and subordinates are considered unequal. Family inside masculine society orients children to arrogance, ambition and competition. Organizations from the masculine society demand results and reward them based on equity. Family from a feminine society guides children to modesty and solidarity.

Examples of success stories that were identified:

1. A German student’s case that participated at all activities proposed by the organizers and obtained an excellent result (grade A in the ECTS grade scale) at the end of the program. The student continues the study of the Romanian language and intends to write her master thesis in Romanian Language.
2. Another German student’s performance thanks to his positive attitude towards Romanian language learning. The student in question faced pronunciation, writing, and assimilation difficulties because of the differences existing between Romanian and German. The student worked hard during lessons, was extremely cooperative, serious (full course attendance), obtained high marks

at writing tests and a very good grade (grade A) at the final test. She asked for additional reading and was able to read short stories in Romanian, with a dictionary help.

3. We retained also the example of a Spanish student that studied hard the Romanian lexical, grammatical, and communicative structures. At the beginning of the course, the student had difficulties to communicate in English and teachers encouraged her to use intuition and comparison between her mother tongue and Romanian for questions and understanding. The student obtained the highest marks at the periodical examinations during the course in oral and written activities and an excellent result (grade A) at the final test.

### **Acknowledgment**

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### **References**

**Changuk, L., and C. Kye-Sung**

2000

"An investigation of multicultural training practices in the restaurant industry: the training cycle approach", *International Journal of Contemporary Hospitality Management*, 12(2): 126 – 134.

**Greene, P. K.**

2006

"Resource on Multicultural Education." *The Educational Forum*, 70(2): 190-191.

**Higgs, M.**

1996

"Overcoming the Problems of Cultural Differences to Establish Success for International Management Teams." *Team Performance Management*, 2(1): 36 – 43.

**Hofstede, G.**

1991

"Cultures and Organizations. Software of the Mind." Mc Graw-Hill Book Company Europe, London.

**Karakus, M., and F. Töremen**

2008

"How our schools can be more synergic: determining the obstacles of teamwork", *Team Performance Management*, 14(5/6): 233 – 247.

**Matveev, A. V., and R. G. Milter**

2004

"The Value of Intercultural Competence for Performance of Multicultural Teams." *Team Performance Management*, 10(5/6): 104 – 111.

**Ochieng, E. G., and A. D. Price**

2009

"Framework for Managing Multicultural Project Teams." *Engineering, Construction and Architectural Management*, 10.1108/09699980911002557, 16(6): 527 – 543.

**Pop, M., D. Tanase, and D. Popescu**

2010

"Intensive Romanian Language Course for Beginners." Editura Solness, Timisoara.

**Samovar, A.L.; E.R. Porter**

1994

"Intercultural Communication." A Reader Wadsworth Publishing Company, Belmont.

**Vizintin, M. A.**

2010

"Multicultural Education and Multicultural Sensitivity." Institute Slovenian Emigration Studies ZRC SAZU: 139-150, Ljubjana.

# Brand – an important company asset in front of crisis challenges

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## Abstract

**Purpose** – In today highly competitive markets, when quality criteria has change every year, when globalization and technology become elements that could rise a company in month, or destroyed it in days, in crisis times, brand remains one of the most important company asset. Could a strong brand become the key to insure a competitive advantage for the company? Is this available in crisis period? Is this asset strong enough to insure advantage in today markets? These are the problems we have analyzed in the paper.

**Methodology/approach** - The authors have determined the importance of branding in long term competitive advantage for an organization based on their experience and based on a bibliographical research and documentation on case studies of companies that have surpassed the difficulties the crisis.

**Findings** – Strong brands mean a lot of work and time. A brand consists of two parts: a functional one - the product and an emotional one. Linked to customer is the emotional part of the brand. The authors discovered that this part remains an important one in crisis time and could make the difference of a successful company and one of failure.

**Research limitations/implications** – Subjective measures of performance were used because of practical obstacles in obtaining financial data from the sample, which would have severely reduced the response rate.

**Practical implications** – Based on these, the authors have developed a series of recommendation in order to reorient the brand for achieving long term success. Passion in branding helps to differentiate product or services from the competition, provides opportunities in crisis period and reinforces organization.

**Originality/value** – Ideas can be stolen, products and technologies can be copy, a strong brand is intangible. A strong brand can survive from east to west and from west to east. A model of the relationships between branding process and others organizational processes was presented, too.

**Key words:** Brand, intangible company asset, product.

## Introduction

Economic change in recent years, financial crisis, further strengthens the idea that the most valuable assets of an organization are not the products, equipment, real estate, they are its intangible assets: brand, intellectual capital, knowledge.

Products are becoming more and more like each other, the innovation being imitated soon after its appearance, managers have sought to find that element to promote products to the competitors. Kotler (2011) shows that if a product can be imitated relatively easily, not the same can be done with a brand that allows differentiation of goods and services. Brand can be a differentiation factor in a highly competitive market.

Brand can offer customers additional value through information they receive, by minimizing risk through a purchasing decision through more recognition, providing an overview of what product and company mean, bringing thus awareness.

Increasingly more companies understand that in making a decision, regardless of which level shall be adopted, process performance is the key. Therefore, studying them and finding the most suitable methods to improve process in organization, become priority in management strategy in order to achieve competitive advantage.

### **Theoretical Context of the Brand Concept**

According with American Marketing Association, a brand is: "name, term, sign, symbol or design, or a combination of them, intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competition" (Keller, 2005).

The definition accepted by the American Marketing Association, makes no reference to the contribution or the value of consumers' brand awareness, the reputation it has in the market. AMA refers only to what might be called generic "brand elements", namely, those elements which distinguish the product name, logo, design, and packaging.

Brand is in the sense of Keller (2005), "based on a product, but one that brings another dimension that distinguishes it from other products meeting the same needs." This difference may be a reasonable, tangible product derived from the performance, or symbolic, emotional, intangible which is about what the brand represents.

Keller (2005) emphasize that what distinguishes a brand and differentiates it from the product or service, is the sum of consumer perceptions and feelings, how it performs. Another aspect that distinguishes it is the perception of brand name and what it represents and the perception of the company associated with the brand.

Basically brand, has several functions which are essential for the development of an organization. The first one is the function of differentiation, marking the company's distinctive elements. For customer brand simplify choices, promises a certain quality, reduce risk and generate trust (Keller, Lehmann, 2003). The brand has an important role in determining how marketing efforts - advertising, distribution, are justified or not.

This is possible due to its construction which is based on the product, and its attributes, according to this, perception of the brand reflects the perception of the product. Finally, the brand is an asset of the company financially. Brand impact occurs thus three distinct levels: in the consumer market, the product market and financial market. In each of these three directions brand generates value-added. Amount of capital gains by brand on the three markets is called "brand equity".

The brand becomes a strategic asset of the organization (Kotler, Pfoertsch, 2011) which, through careful management, may lead to competitive advantage and long term profitability of the organization.

The importance of business-to-business brands surveyed by Muenster Marketing Centrum a German institute shows after an analysis of the German business-to-business markets:

- Increasing the efficiency of information
- Harm reduction
- Added-value / benefits level image

Consequently, we can say that brand is all tangible and in-tangible attributes of a product, plus brand associations, consumers' perception and last but not least, the company image and the added value brought by all.

Brand is an important factor for producers, it provides a number of important functions (Keller, 2005)(fig.1). Serves primarily as a means of identifying products thus simplifying procedures for distribution, storage, organization, product inventory, facilitates the company's accounting records.



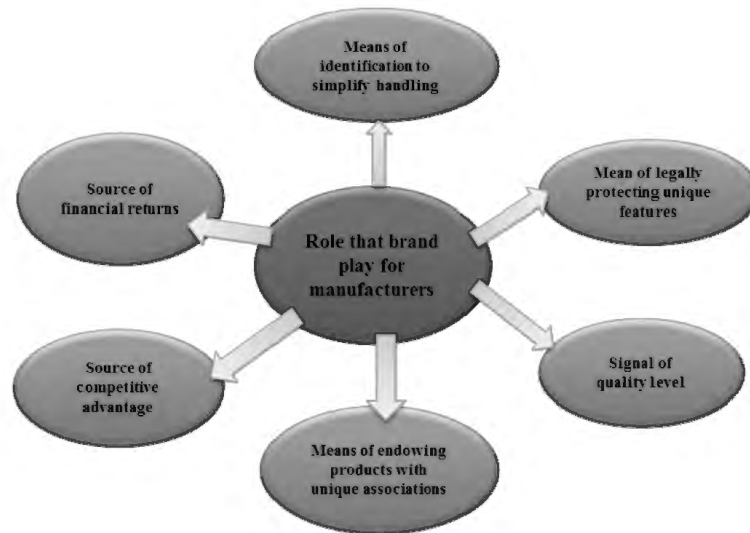


Figure 1. Role that brand plays for manufacturers

From another point, the brand is one that can provide legal protection for the unique qualities of a product. Thus, the brand is benefiting from intellectual property protection. Brand name can be protected in the program "trade mark". The packaging and presentation can be protected by copyright and design. In this way the company can invest more in brand development and benefit from its' value.

In time, this investment in brand emphasizes its distinct elements, emphasizing the unique qualities that meet consumer demands. These elements are what ultimately determine consumer choice push again the same product. Created such brand loyalty, predictability and security of demand, give the company stability, even during crisis.. Thus, brand is safe, very strong competitive advantage insurance for company (Keller, 2005).

Brand is a legal property, able to influence consumer behavior, it can be sold, and it ensure the stability of future earnings of the company. This is why in times of growth, the amount by which these brands are sold and bought, in some cases significantly exceeds the value of movable and immovable assets of the company. Enormous price paid for the acquisition of companies, was justified by the long-term profits, which makes these companies do over time. This price is still lower comparing with creating new brands. In figure 2 is shown the total value of the company vs. brand values in the 2000s for some of the most important brands on the market.

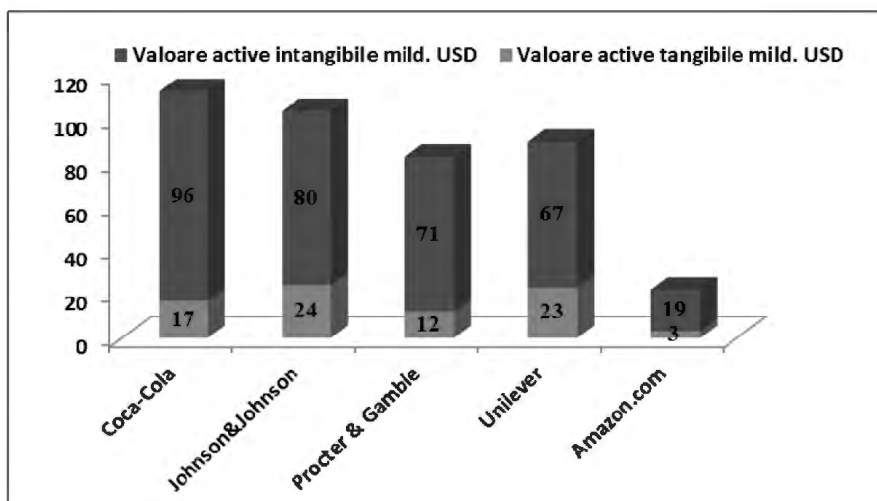


Figure 2. Brand Value vs. Company Value

## Brand Equity – an important strategic asset of the company

Emergence of the concept – Brand Equity, in the late 1980s, it meant recognizing the importance that brand plays in an organization's marketing strategy.

Marketing Science Institute (MSI) defines brand equity as: "the set of associations and behaviors on the part of the brand's customers, channel members, and parents corporation that permits the brand to earn greater volume or greater margins than it could without the brand name and that gives the brand a strong, sustainable, and differentiated advantage over competitors".

Raj Sivastava (2008) researcher at the University of Texas, defines brand equity as the sum of brand value and brand strengths. Brand strengths are set of consumer associations and behavior, distribution channels, the company, allowing brand to be sustainable and give competitive advantage. On the other hand, the brand value is defined as financial income generated by management's ability to handle the brand's strengths, combined with tactical and strategic actions to bring a higher profit as low risk.

David Aaker (2004) defines brand equity as the set of brand assets and liabilities, the name and symbol, plus or minus, the value that product or service brings to the organization or consumers. Thus, Aaker (2005) says that the brand equity is actually the intangible brand and its perception among consumers. Researcher (Aaker, 2005) has modeled the brand's equity to illustrate the definition. The model shows that brand equity is developed based on five dimensions: brand loyalty, awareness of brand name, quality brand perception, brand associations, other assets belonging to the brand (Fig. 3).

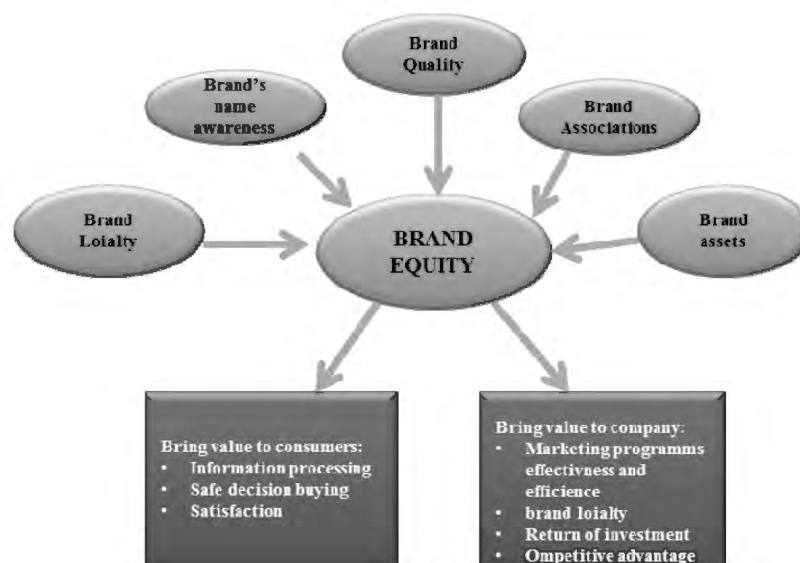


Figure 3. Brand Equity Model – Aaker

## Branding Process – as source to create value for the company

Brand equity as an important intangible asset of the company concluded that continuous improvement of the branding process is required.

The branding process - building, management, support, protect, analyze, improve brand, including these activities in an organization - involves not only the work of a brand manager or brand dedicated team. All these activities represent elements of a cross transversal process in organization with a substantial contribution of all departments: management, marketing, financial, operational. It is a holistic approach of the branding process. The branding process has direct relationships with all business processes, influencing them and being influenced by them, contributing together to create value (fig. 4).

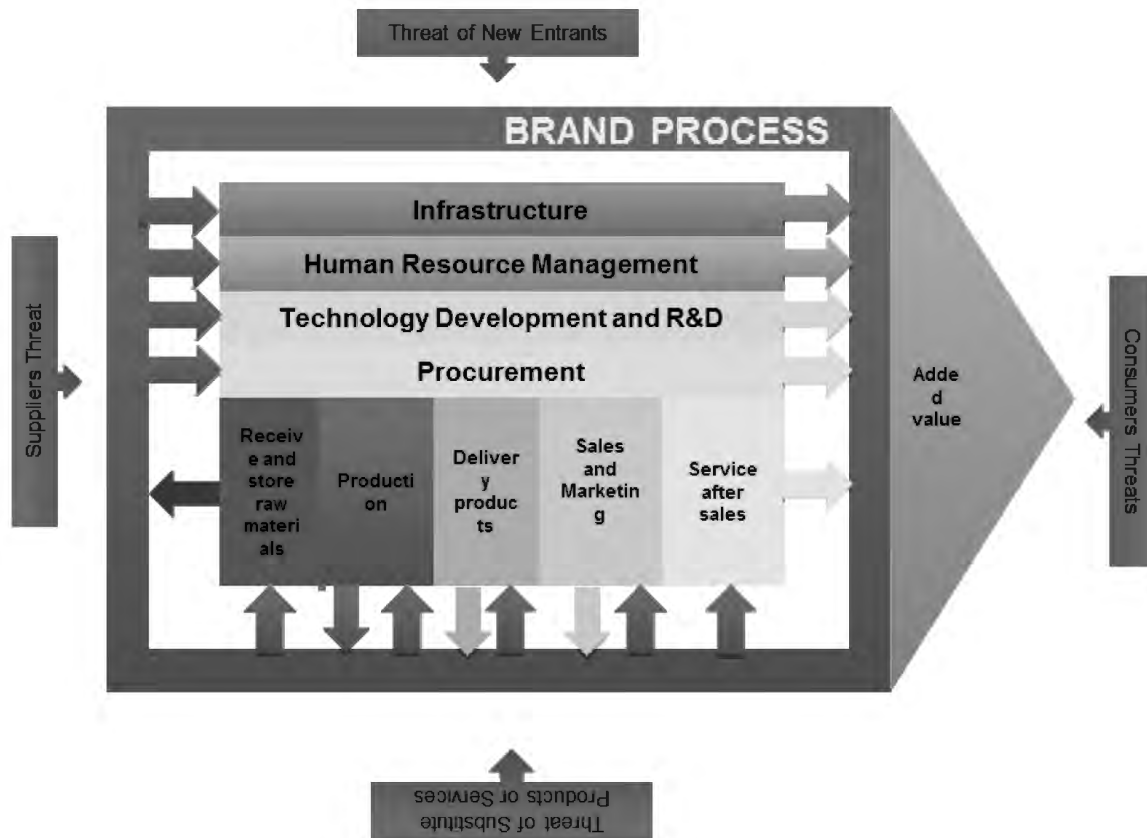


Figure 4. Relationship between Branding Process and Organization'Process  
(Adapted from: Baltazan & Phillips, 2009)

The improvement of such a process requires a comprehensive approach and actions to address each of its elements in the maintenance a trend for the brand.

Changes in organization processes, even in the short term, lead to changes in product attributes or changes in perception of the company, acting immediately on the brand, with long-term consequences.

Continuous measurement of brand equity can be viewed as a way to continuously improve business processes. Considered as an activity to be carried out continuously, help to (Munoz, T., Kumar, S., 2004):

- determine how the brand meet customer expectations
- developing the brand in relation to competition
- Identify weaknesses before they become problems
- Identify the most important areas in brand development to create value.

A program of analysis and permanent measurement of market conditions, customer expectations and perceptions, and financial results is essential in achieving the proposed objectives for the brand. A big problem is the choice of appropriate metrics so that this activity can be affordable and not become tiresome. Selecting appropriate metrics to take into account some rules (Munoz, T., Ku-mar, S., 2004), so this work to become effective:

- metrics chosen should be easy to use - to get time saving
- metrics chosen must make sense - there must be a connection between the metric and construction efforts but also with business performance
- metrics should measure the actions that can occur - metric should measure a business decision, attention should be placed on the "need for a measurement" and not "look good and to measure it"

- the metric should measure a repeatable task - to get results that provide an overview of the evolution of action, it must be repeatable
- the metric should provide measurable results over time - so you can compare, subject to a process of benchmarking with competition results or objectives.

The key is the ability to understand the causal relationship between brand perception, brand performance and financial results. Understanding the key factors of demand, the timing when a potential customer become a brand consumer by choosing the brand over the competition are elements that ensure the future success of the brand.

Once understood the causality between perception, performance and impact, we can determine the activities that create value for the brand. Munoz, T., Kumar, S., 2004, divided into three categories choosing metrics for each category, the metrics in Table 1.

Table 1 Metrics used in studying brand equity measurement

Perception metrics		Performance metrics		Financial metrics
Awareness	Familiarity and consideration	Purchase decision	Loyalty	Value creation
Are customer aware of your brand?	What do customer think and feel about the brand?	How do customer act?	How do customer behave over time?	How does customer behaviour create tangible economic value?
Saliency	Differentiation	Customer leads	Customer satisfaction	Market share
Brand recognition	Relevance	Customer acquisition	Retention	Revenue
	Credibility	Trial	Revenue per customer	Operating Cash flow
	Likeability	Repeat	Share of wallet	Market cap
	Perceived quality	Preference	Customer lifetime value (LTV)	Analyst rating
	Purchase intent	Price premium	ROI	Brand valuation
			Referrals	
			Cost saving	

(Source: Munoz, Kumar, 2004)

## Conclusions

In summary quoting and Kotler, Pfoertsch (2011) we stated that:

- A brand is a promise.
- A brand is the totality of perceptions about a product, service or company.
- A brand holds a distinctive position in the minds of customers, based on past experience, associations and future expectations.
- A brand is a summary of attributes, benefits, beliefs and values that differentiate, reduce complexity and simplify decision-making process.

Both academics and professionals, believes that the brand has become an intangible asset, a strategic asset, ensuring its long term profitability.

The authors showed that the branding should be seen holistically in interdependence with other processes of the company. To ensure a successful long term to maintain competitive advantage the company must continually improve the branding process, which requires an improvement of key processes that interact.

“Post-communist Eastern Europe has created an economic player profile total different from that of the West (- because how much business education, how much innovation, how much ethics and how much reputation you can have in such a market which still grow from year to year with more than you can handle?), in parallel a new consumer profile was created total different (because: how much information, how much preference and how much choice you

need that for years you have not had access to entire categories of products, and now you have all?). Brand because of its intangible character requires education, brand consultants from Eastern Europe must be more than simple brand consultant they are confronted with clients' business management problems and lack of education of their business.” This is the truth. The truth from a person who have built brands in Eastern Europe in last 15 years. Aneta Bogdan from Brandient (2011) has concentrated the essence of the problems in here.

Brands are long term competitive advantage generators. But first you have to know how it handles.

## References

**Aaker, D.A**

1991

“Managing Brand Equity”. Free Press New York

**Srivastava, R., Schocker, A.D**

1991

Brand Equity: A Pespective on Its Meaning and Measurement, Marketing Science Institute, MSI Report no. 91-124, Cambridge, MA

**Keller, K.L.**

2003

Strategic Brand Management, 2nd edition, Prentice Hall, NJ

**Kotler, P., Pfoertsch, W.**

2011

Business-to-Business Brand Management, Brandbuilders Grup

**Keller, L.K.**

1998

Strategic Brand Management, Building, Measuring, and Managing Brand Equity, Prentice Hall, NJ

**Aaker, D.A., Jacobson, R.,**

1994

The Financial Information Content of Perceived Quality, Journal of Marketing Research, no.31(may), pp.191-201

**Aaker, D.A., Jacobson, R.**

2001

The Value Relevance of Brand Attitude in High-Technology Markets, Journal of Marketing Research, no.38(november), pp.485-493

**Munoz, T., Kumar, S.**

2004

Brand Matrics: Gauging and Linking Brands with Business Performance, Henry Steward Publications Brand Management, Vol. 11, no.5 (May), pp.381- 387

# Cultural Dilemma Between East and West

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## Abstract

Globalization has brought people from different cultures and countries in culturally diverse organizations together. For attaining efficiency and effectiveness in the organizations, it is vital to understand the cultural differences for the purpose of connecting with and motivating workers. These cultural distinctions have been classified into 'eastern' and 'western' views in the literature. The 'western' view is more focused on explicit knowledge and tangible individualistic motivational factors, and the 'eastern' view on tacit knowledge and abstract workplace principles (Matthew Jelavic, 2010) To leverage the strength of global economy it becomes crucial for the organizations to understand the degree of convergence and impact of the external culture on the national culture.

This paper develops an understanding of the contextual variables and studies the dynamics that develops due to the interaction of these variables. In an organization, the managers bring values, experiences and beliefs that are profoundly rooted in their national cultures; which form personal reference frames (Frost & Walker, 2007). The study shows that the traditional perspectives hold their relevance in present scenario as well. The understanding of Hofstede's dimensions, can help in adaptation of the organizations to the cultural dynamism and lead to success for today's firms.

Hofstede has explained culturally based value systems as comprising of four dimensions viz., power distance, uncertainty avoidance, individualism and masculinity. The present paper focuses on understanding these dimensions in context of the paradigm shift in the cultural values. Mathew, J. suggest a divergence between Cohen's (1998) assertion that western societies focus on knowledge 'reuse' and eastern societies on knowledge 'creation' when related to the Hofstede's (1980, 2001) uncertainty avoidance index. Hofstede and Hofstede (2005) have revealed that national cultures that score high on the uncertainty avoidance index have shown to be better at implementation than invention. This shows the cultural dynamism. Also, it has been found that, low uncertainty avoidance cultures are better at invention and lacking on implementation. If we define invention as the creation of something that did not exist previously, whether it is an idea or an object, this poses an interesting paradox. With Japan scoring very high on the uncertainty avoidance index, Hofstede and Hofstede made the statement that 'Britain has produced more Nobel Prize winners than Japan, but Japan has put more new products on the market'. (Mathew, J.) Great Britain was rated low on the uncertainty avoidance index. In a study of patent processes across 33 countries, Shane (1992) determined that individualistic and non-hierarchical societies are more innovative and inventive than collectivistic societies with high power distance. This study would certainly correlate with Hofstede and Hofstede regarding statements made about Britain; Britain being very individualistic with low power distance. Similarly, people in the countries with high masculinity are highly competitive and these cultures favour industrial development and economic growth. Cohen's (1998) study contrasting Japanese 'nurturing and love' to the "American management and measurement "are dimensions of femininity versus masculinity, respectively. Japan has been originally ranked as the most masculine of all the countries in the IBM dataset. This places Cohen's statements in an interesting paradox as to where collectivism ends and masculinity begins. (Matthew, J.). Thus there is a thin line between

the concept of collectivism / femininity and uncertainty avoidance and team involvement or collectivism.

The cognition of cross cultural differences lays the foundation for developing an affective region specific multivariate model for management practitioners worldwide. Allinson & Hayes, 2000; Hutchings & Michailova, 2007 accept that a caution must be exercised when transferring management practices between nations as there is a fear of misinterpretation. The cognitive study of Hofstede's dimensions of culture can help to explain the affective behaviours in various countries and help in developing a convergence also. The management practitioners do agree that the work place dimensions pertain to the similar variables in the broader sense but the cultures respond to these differently. Thus a framework for understanding the link between these variables should be developed across cultures.

**Keywords:** Globalization, western, eastern, cross cultural differences, convergence

## Introduction

The national boundaries no longer have any meaning in the context of carrying out business. The process of globalization has brought in global dynamics. The globalization of the markets has brought people from different cultures and countries in culturally diverse organizations. Traditionally these cultural distinctions have been classified into "eastern" and "western" views. With the "Western" view being more focused on explicit knowledge and tangible individualistic motivational factors, and the "eastern" view on tacit knowledge and abstract workplace principles. (Jelavic, M.; Ogilvie, K., 2010). An understanding of these differing views is therefore necessary for effective management in the international sphere.

The North American and European perspectives have generally been associated with the western view and a significant portion of literature is based on these perspectives (Yoo, Ginberg & Ahn, 1999). The western view itself may be prone to bias based on diversity of the European population as compared to the relative cultural homogeneity of the English speaking North American population. Based on Hofstede's (1980, 2001) and Hofstede and Hofstede's (2005) cultural analysis of organizations in Europe, the general "western" grouping in literature does not address or treat the uniqueness and ongoing dynamics of the European expansion and the integration of the central and eastern European countries into the European Union (Fink & Holden, 2007).

Asian countries cannot be treated as a singular reference group and cultural diversity can be virtually perceived. With the ongoing importance of Asian countries due to globalization, this study becomes relevant. To leverage the strength of global economy it becomes crucial for the organizations to understand the degree of convergence and impact of the external culture on the national culture.

This paper develops an understanding of the contextual variables and studies the dynamics that develops due to the interaction of these variables. In an organization, the managers bring values, experiences and beliefs that are profoundly rooted in their national cultures; which form personal reference frames (Frost & Walker, 2007). The study shows that the traditional perspectives hold their relevance in present scenario as well. The understanding of Hofstede's dimensions, can help in adaptation of the organizations to the cultural dynamism and lead to success for today's firms.

## Cultural Dimensions: East and West

Hofstede has explained culturally based value systems as comprising of four dimensions viz., power distance, uncertainty avoidance, individualism and masculinity. The present paper focuses on understanding these dimensions in context of the paradigm shift in the cultural values. Mathew, J. suggest a divergence between Cohen's (1998) assertion that western societies focus on knowledge 'reuse' and eastern societies on knowledge 'creation' when related to the

Hofstede's (1980, 2001) uncertainty avoidance index. Hofstede and Hofstede (2005) have revealed that national cultures that score high on the uncertainty avoidance index have shown to be better at implementation than invention. This shows the cultural dynamism. Also, it has been found that, low uncertainty avoidance cultures are better at invention and lacking on implementation. If we define invention as the creation of something that did not exist previously, whether it is an idea or an object, this poses an interesting paradox. With Japan scoring very high on the uncertainty avoidance index, Hofstede and Hofstede made the statement that 'Britain has produced more Nobel Prize winners than Japan, but Japan has put more new products on the market'.( Mathew, J.) Great Britain was rated low on the uncertainty avoidance index. In a study of patent processes across 33 countries, Shane (1992) determined that individualistic and non-hierarchical societies are more innovative and inventive than collectivistic societies with high power distance. This study would certainly correlate with Hofstede and Hofstede regarding statements made about Britain; Britain being very individualistic with low power distance. Similarly, people in the countries with high masculinity are highly competitive and these cultures favour industrial development and economic growth. Cohen's (1998) study contrasting Japanese 'nurturing and love' to the "American management and measurement "are dimensions of femininity versus masculinity, respectively. Japan has been originally ranked as the most masculine of all the countries in the IBM dataset. This places Cohen's statements in an interesting paradox as to where collectivism ends and masculinity begins.( Matthew, J.). Thus there is a thin line between the concept of collectivism / femininity and uncertainty avoidance and team involvement or collectivism.

The cognition of cross cultural differences lays the foundation for developing an affective region specific multivariate model for management practitioners worldwide. Allinson & Hayes, 2000; Hutchings & Michailova, 2007 accept that a caution must be exercised when transferring management practices between nations as there is a fear of misinterpretation. The cognitive study of Hofstede's dimensions of culture can help to explain the affective behaviours in various countries and help in developing a convergence also. The management practitioners do agree that the work place dimensions pertain to the similar variables in the broader sense but the cultures respond to these differently. The study assumes that managerial attitude is a function of general values existing in larger society. Thus a framework for understanding the link between the cultural variables determining management attitude has been proposed in this study.

Table 1 exemplifies the traditional differences in eastern and western views regarding knowledge management. With the east focusing more on tacit knowledge and west on explicit knowledge, the more individualistic and concrete methodology of the traditional western view becomes evident against the more collectivist, communitarian and abstract eastern methods.

Table 1 : US- Japanese Contrast on KnowledgeView (Adapted from Cohen,1998)

West(American)	East(Japanese)
Focus on explicit knowledge	Focus on tacit knowledge
Re-Use	Creation
Knowledge Projects	Knowledge cultures
Knowledge Markets	Knowledge Communities
Management and Measurement	Nurturing and love
Near Term Gains	Long Term Advantage

The relationship between culture and managerial behaviour and attitudes is very well researched. Several studies ( Haire Ghiselli and Porter,1966;Davies,1971;Prasad,1967) have indicated that managerial attitudes and behaviour patterns differ from one culture to another while others found no difference. Many authors have shown how cultural factors influence behaviour in organizations and have indicated the importance of cultural differences in managerial development.(Ratiu, 1987, Hofstede,1980,1987).A number of authors have proposed conceptual frameworks for evaluating cultural differences. Hofstede has used a four dimension framework to examine the dominant at value patterns in over 50 countries around the world. Kluckholm has used a value orientation approach to identify five common or universal problem areas that are faced by most of



the societies. The five dimensions of the Kluckholm model include human nature, time, family relationships, the relationship between man nature and supernatural and activity. The study shows the cultural beliefs are evolving rather than being abandoned and management development must be adapted to the requirements of local culture. Hofstede has also challenged management experts who attempt to introduce “good management practices” into an organization to examine carefully the management techniques and models they wish to introduce, in terms of the culture of the country in which the organization operates. He has pointed out that managerial models developed in one culture may not easily translate to another because of the different traditions and values of the management and workforce.

Ford, Connelly and Meister(2003) conducted a comprehensive citation analysis that examined areas of information systems research and utilized Hofstede’s five dimensions of culture and developed a proposition within the information management systems. The research examined 57 articles across 22 journals between 1980 and 1999 in the field of information management systems and summarized the contributions within a specific management category. Table 2 shows the relationship between the cultural impacts and management categories.

Table 2: Summary of Cultural Dimensions and their relation to Management  
(Adapted from Ford et al,2003)

<b>CATEGORY</b>	<b>SUMMARY OF CULTURAL IMPACTS</b>
Organisational Architecture	Higher power distance results in top down management directives Higher uncertainty avoidance results in senior management delegating implementation roles to lower level employees in the organizational hierarchy Collectivism results in easier initiation of projects and risk taking, yet implementation of projects is more difficult
Technology Planning	Participative planning is not appropriate in higher power distance cultures Cultures with higher uncertainty avoidance experience higher resistance to technological changes within the organization
Human Resources	Higher power distance emphasizes professionalism and expertise Lower power distance results in enhanced client customer participation Female professionals are more collectivistic than male professionals
Technology Transfer	Higher power distance results in less adoption of power reducing technologies ( i.e. discussion forums) Higher collectivism results in importance being placed on voluntarism in technology adoption Collectivism results in technologies with low social presence and information richness having limited adoption
Technology Integration	Individualistic cultures will have more varied information technology infrastructures and applications
Globalisation of Technology	Higher power distance results in technogy being seen as less necessary for decentralization with more emphasis placed on the organsiational hierarchy
Technology Development and Operations	Higher power distance results in management controlling projects more, with less participation of end users
Technology Usage	Higher uncertainty avoidance results in the requirement for high context information technology
Information Systems	Higher power distance results in technogy becoming agreater equalizer within the organization Formal rules are required for technology use in higher uncertainty avoidance cultures Higher masculinity will result in more conflict in discussion forums and meeting spaces Higher femininity will result in increased anonymous participation in discussion forums and meeting spaces due to preference for conflict avoidance Short term oriented cultures will be focused more on face saving than achieving objectives

Hofstede's five dimensions of national culture can help to explain certain traits, behaviours, beliefs and values in other countries as they pertain to the workplace which can be of vital importance in the field of management. These cultural dimensions can vary widely with respect to the eastern and western views, that is why critical management implications are seen as different people from different cultures respond uniquely to same or different motivational factors and workplace situations.

Hofstede's dimensions are when comparatively analysed on a broader parameter between East and west management practices, the study shows a hair line difference between the variables. The point where collectivism ends and individualism begins is unclear. It cannot be said for one region, one organization that a particular attitude will be seen. Table 3 shows a comparative analysis on the basis of the research papers reviewed.

Table3: Comparison Between Eastern and Western Management Practices  
(based on Hofstede, 1987)

Category	East	West
Organisational Structure(Power Distance)	Collectivism	Individualism
Uncertainty Avoidance	High	Low
Individualism	Low	High
Masculinity	Low	High

## Discussion

Hofstede and Hofstede(2005) revealed that national cultures that score high on uncertainty avoidance index have shown to be better at implementation than invention. Conversely, low uncertainty avoidance cultures are better at invention and lacking on invention. Hofsted and hofstede made the statement that Britain has produced more nobel prize winners than Japan but Japan has put more new products in the market. Great Britain was rated low on Uncertainty avoidance index.

Japan originally ranked as most masculine of all the countries in the IBM dataset. This places Cohen's statements in an interesting paradox. For this suggests the possibility that Japanese high-context communication and tacit knowledge transfer is oriented towards Japanese in-groups such as a working team, organization or grouping of organizations within an industry. Japan has been viewed as a 'network society' fostering business networks known as keiretsu ( Ibata-Arens ,2004).It is possible that the Japanese view larger units of analysis as in-groups and this would be a unique characteristic of the Japanese culture. It is difficult to determine at what level collectivism ends and femininity begins or at what point uncertainty avoidance encourage group decisions and required social interaction within and across groups. In the high uncertainty avoidance category . Japan ranked among the highest. There is also the possibility that long-term orientation may influence the level of networking and social interaction; long-term goals requiring patience and development, wanted or unwanted, of long term relationships to see these goals through.

The figure no.1 shows the continuum for the cultural variables the shift from high to low for one variable can be seen from the figure. This figure has been drawn on the basis of survey conducted in IT firms situated in Delhi-Gurgaon region in India. The main firms covered are Invensys Skelta( German based), IBM and HCL.350 employees working in the middle management level were asked the questions based on the five dimensions and the responses have shown that there is a shift from high to low in all the dimensions. The shift takes place due to various factors which can be broadly outlined as project, person, environment, goal.

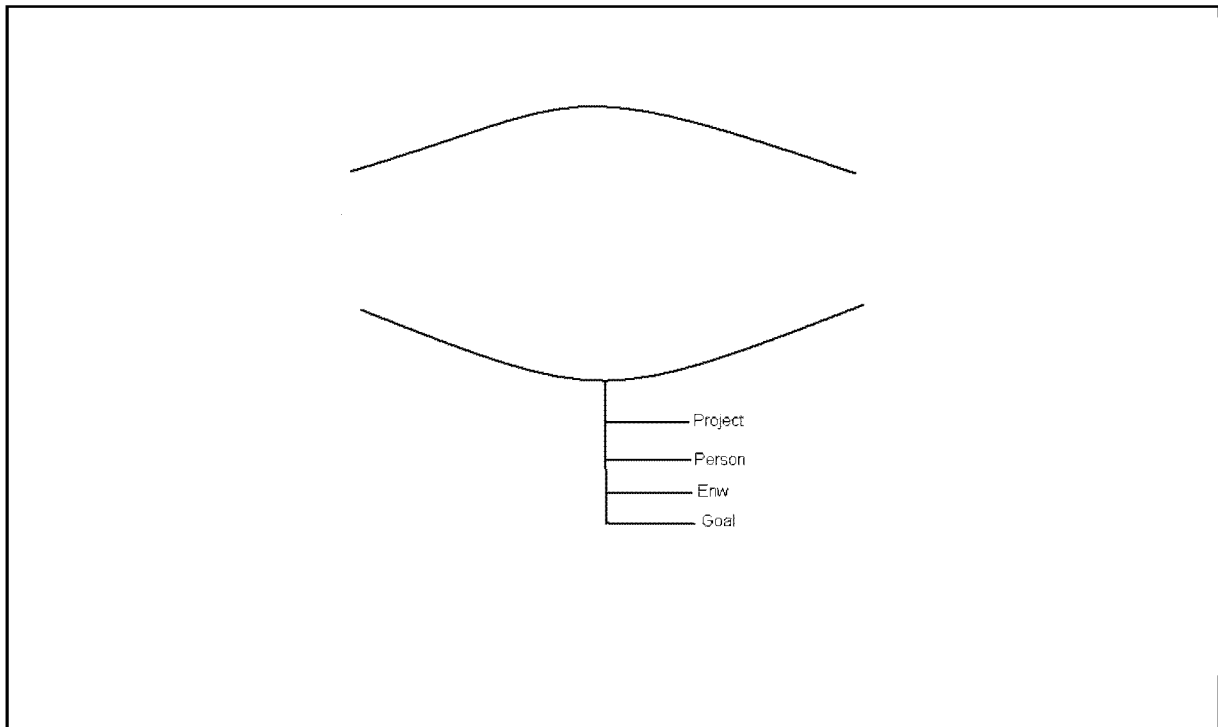


Figure No. 1 Continuum depicting shift from high to low across various cultural variables

The reason for this shift when asked has been specified by the respondents as the cognition of various variables with respect to their personal values and immediate situation. Some respondents have mentioned that at times long term view is also considered. The impact of colleagues and other person's values and cognition becomes important. Hofstede's cultural variables can be demarcated as V1, V2, V3 and V4. The cognition of these variables relates to the affective behaviour but the impact of various factors relating to the environment cannot be overlooked.

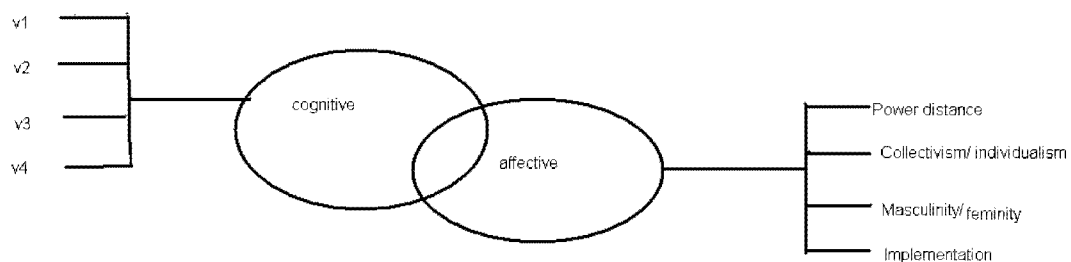


Figure no. 2 Cognitive and affective aspects of the cultural dimensions.

The literature review shows that general management theories and practices have to be viewed and reviewed in the context of local cultures. In an organization, the managers have their own values, experiences and beliefs that are rooted in their own national culture, which forms the personal frame (Frost, Walker, 2007). The blind adoption of western culture can be problematic. (Laurent, 1983). A thorough understanding of the local values beliefs and their appreciation is required for attaining effectiveness. The contextual variables and their in depth analysis thus holds relevance. Without the understanding of these dimensions in the relevant perspectives and developing the linkage between the accepted frameworks, organizations cannot leverage the strength of the global economy.

## References

**Allinson, C. W., & Hayes, J.**

2000

Cross-national differences in cognitive style: Implications for management. *International Journal of Human Resources Management*, 11(1), 161 – 170

**Cohen, D.**

1998

Toward a knowledge context: Report on the first annual U.C. Berkeley forum on knowledge and the firm. *California Management Review*, 30(3), 22 – 39.

**Davis, Stanley.M.,**

1971

*Comparative Management: Organisational and Cultural Perspectives*, Englewood Cliffs, N. J., Prentice Hall.

**Fink, G., & Holden, N.**

2007

Introduction. *European Journal of International Management*, 1 (1/2),4-13

**Fink, G., Holden, N., & Lehmann, M.**

2007

Survival by subversion in former socialist economies: Tacit knowledge exchange at workplace. In K. Hutchings, &K. Mahannak (Eds.). *Knowledge Management in Developing Economies: A Cross Cultural and Institutional Approach*(pp.35-51). Cheltenham: Edward Elgar Publishing Limited.

**Ford, D.P., Connelly, C. E., & Meister, D. B.**

2003

Information Systems resaerch and Hofstede's Cultures Consequences: An uneasy and incomplete partnership. *IEEE Transactions on Engineering Management*, 50(1), 8-25

**Frost, J., & Walker, M.**

2007

*Cross Cultural Leadership Engineering Management*, 17(3), 27-29

**Heir, H., & Borgam, H.P.**

2002

*Knowledge Management Systems Spanning Cultures: The Case of Deutsche banks HR Base*. In Xth European Conference on Information SystemsECIS, Gdansk, Poland.

**Hofstede, G.**

1980

*Culture's consequences: International differences in work-related values* Newbury Park: SAGE Publications.

**Hofstede, G.**

2001

*Cultures consequences: Comparing values, behaviors, institutions and organizations across nations – second edition*. Thousand Oaks: SAGE Publications.

**Hofstede, G., & Hofstede, G. J.**

2005

*Cultures and organizations: Software of the mind*, second edition. New York: McGraw Hill.

**Hutchings, K., & Michailova, S.**

2007

Re-examining knowledge sharing in anintercultural context: Findings from the transition economies of China andRussia. In K. Hutchings, & K.

**Jelavic, M.;Ogilvie, K.,**

2010

*Knowledge Management Views in Eastern and Western Cultures: An Intehrative Analysis*, *Journal of Knaowledge Globalisation*, Vol.3, No.2

**Kluckholm, F. R.**

*Variations in Value Orientations*, Greenwood Press, Westport, Connecticut

**Laurent, A.**

1983

The cultural diversity of western conceptions of management. *International Studies of Management and Organisation*, 13(1/2),75-96

**Laurent, A.**

1986

The Cross Cultural puzzle of international human resources management. *Human Resources Management*,25(1),91-102

**Mohannak (Eds.)**

Knowledge Management in Developing Economies: A Cross-Cultural and Institutional Approach (pp. 72 – 90).

**Matthew Jelavic**

2010

Knowledge Management Views in Eastern and Western Cultures: An Integrative Analysis, *Journal of Knowledge Globalization*, Vol.3, No.2,

**Prasad, S. B.**

1967

Management in International Perspective, N. Y. Meredith Publishing Co.

**Ratiu, I.**

1987

“Introduction”., Special Issue on Management Development and Culture”, *Journal of Management Development*, Vol.6, No.3

**Yoo, Y., Ginzberg, M. J., & Ahn, J. H.**

1999

A Cross cultural investigation of the use of knowledge management systems. Proceedings of the 20<sup>th</sup> International Conference on Information Systems, Association for Information Systems

# The Population's Perception on the Roșia Montană Gold Corporation Project

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## Abstract

*Mining with cyanide, even if it brings money, can be hazardous to the environment. The decision to start such a project in România is concerning not only the officials and the residents of the area. Starting from this perspective we have asked 152 people to share their opinions regarding 7 items. The population engaged in this research are students between 19 and 50 years old.*

*This study aimed to determine students' perception on whether or not to start mining exploitation in Roșia Montană's Gold Corporation Project. Survey results lead to several conclusions, some of them contradictory.*

*If that all students have heard about the project is not a surprising result, however it is interesting that although 56% of respondents are for developing the mining activities, and only 32 are against the project. However, those who are for the project are more active and visible than those which are against the project.*

**Key words:** Mining, cyanide, project, environmental risk, additional jobs.

## Introduction

Gold mining exploitation has a long tradition in România. Since the beginning of exploitation of gold, so far, have been extracted about 2070t of gold on the Romanian territory. This amount situated us on the 5th place in the world after South Africa, Canada, USA and Australia (3, <http://www.libertatea.ro>, 2011).

Mining with cyanide in Roșia Montană, Alba County, as it is today the designed business plan proposed by the Roșia Montană Gold Corporation company, could be the largest operating gold mining project in this area of Europe. This project covers four quarries (Orlea, Cârnic, Cetate and Jig) and an area of 12 km<sup>2</sup> (9, <http://ro.wikipedia.org>, 2011).

Estimated time for this project is 25 years (9, <http://ro.wikipedia.org>, 2011). Stages of development are structured as follow: the construction phase - a period of 2 years, operational phase - 16 years and the closure and rehabilitation - 7 years. For this project our country benefit is estimated to over 4 billion dollars.

This Apuseni Mountains project, initiated by Canadian company Roșia Montană Gold Corporation, is highly controversial (9, <http://ro.wikipedia.org>, 2011). The controversy is especially about environmental effects due to cyanide process. But this is not the only reason of the controversy.

Estimated economic benefits for România are not considered to be reliable (9, <http://ro.wikipedia.org>, 2011), jobs can not be justified because the technology has mechanized

and automated specific operations carried out in such projects (<http://ro.wikipedia.org>). Then, the effects on historical, social and cultural issues are also reasons which maintain the controversy regarding the project (9, <http://ro.wikipedia.org>, 2011). This has led to the establishment of numerous non-governmental organizations, some supporting and others opposing the project (9, <http://ro.wikipedia.org>, 2011).

Regarding the position of institutions and officials involved in the project, the situation is also undecided. Those who support the project are: President Traian Băsescu and officials (5, <http://www.realitatea.net>, 2012), members of the Romanian government, various non-governmental organizations, some of the locals from Roșia Montană, some journalists and naturally, Roșia Montană Gold Corporation (6, [www.rmgc.ro](http://www.rmgc.ro), 2012).

At the opposite pole there are those who oppose to the proposed Roșia Montană Gold Corporation project. Those who do not support the project are: Members of the Romanian Academy, Teachers Academy of Economic Studies, Presidential Commission for the built heritage, historical and natural sites, the Union of Architects of România, archaeologists, geologists, chemists, biologists, historians, architects, economists, engineers, sociologists from Romania and Germany, Italy, Great Britain, Hungary, some locals from Roșia Montană, some journalists as Cristian Tudor Popescu, and various non-governmental organizations (2, Ion Longin Popescu, 2011).

There is, of course, a third category, of the neutral population, those who do not care about this project or who recognize that they do not know anything about it.

In order to determine the population's perception and its position to the Rosia Montana Gold Corporation project we performed an exploratory study conducted among students from the University "Lucian Blaga" of Sibiu and "Babeș Bolyai" of Cluj Napoca.

The method of collecting data was the distribution of questionnaires among students from the Faculties above.

The questionnaire contains seven questions. Four of these are closed questions, three questions use Likert scale in an attempt to determine agreement or disagreement with the characteristic studied.

We have asked 152 people to share their opinions regarding 7 items. The population engaged in this research are students between 19 and 50 years old.

### **Interpretation of research results**

Based on the established hypothesis, we have compiled a questionnaire, consisting of 7 main questions. They are as follows:

1. Do they have heard about the project;
2. Which are the sources of information regarding the project;
3. How do they estimate (from not at all to very much) the TV ads to support the project: reliable, honest, lying, manipulative, deceptive?
4. Are the respondents for or against the project;
- 5.+ 6 In each case what is the reason?;
7. How are they involved on activities related to the project?

We received answers from 152 students from 2 Universities (University "Lucian Blaga" of Sibiu and "Babeș Bolyai" of Cluj Napoca). The students came from 13 different counties of România, 40 of them from rural areas and 112 from urban areas. Most of them (93,42%) are young people aged between 20 and 30 years. Only 3 (1.97%) of them are younger than 20 years, 4 (2.61%) are between 30 and 40 years old, and 3 (1.97%) are between 40 and 50 years old.

### Indicator #1. To what extent students have heard about the Roșia Montană Gold Corporation.

Pretty rare in these kind of studies: affirmative answers were unanimous, that means that all respondents have heard of this project.

This situation, in which all students have heard of this project reveals that effective communication channels worked. At the same time should be remembered that this is a sample population of young and active people, which are always in contact with other many people. These kind of people have a high degree of access to information. In addition we must say that young people are keen to obtain new information continuously.

### Indicator #2: The source of information on mining project in Roșia Montană

The main source of information was television. It was mentioned as a source by 114 (75%) respondents. In second place is situated Internet, it was mentioned in 47 (30,92%) cases. Press and radio were set in 18 and 14 cases. In the last place, with only two answers we find as source the institutions. The responses to this question confirms the well known fact that TV is the main source of information – generally speaking - for the population. Roșia Montană Gold Corporation took into account about this when they decided to aggressively promote the project through TV ads. This exploratory study was addressed to the students. From this perspective is understandable the second position of Internet as an information source, with a rate of 23% of answers. Most of the students are young people, and like the TV information source (55%), this result is not surprising and it is predictable, as well.

Table 1 Information's sources

	No of affirmative answers	Percentage of all respondents [%]
Newspapers	18	12
TV	114	76
From the known	14	9,33
Internet	47	31,33
Radio	11	7,33
Institutions	2	1,33

### Indicator #3:

**Do you consider running ads on TV for supporting Project Roșia Montană Gold Corporation: reliable, honest, lying, manipulative, deceptive and to what extent? (Answers from not at all to very much)**

In this question respondents were also invited to fill in with some other characterizations the ads aired on television. Only one of all respondents made such additional statement, calling it "*uninteresting*" and the degree of judgment were considered as "*very much*".

Regarding the perception's of students about the credibility and sincerity of TV commercials, their responses indicate a relatively balanced situation. Are considered *credible* to some extent (44 responses, 28,95%) and *unreliable* (36 responses, 23,68%). This balance is reflected in the fact that 37 respondents (24,34%) considered them *no more, no less credible*.

On the *sincerity* item, most replies believed that ads are *not more or less honest*, and balance of *more* versus *less honest* is very balanced it means 36 (23,68%) and 35 (23,03%) answers. However, 23 (15,13%) of respondents consider all *honest*, compared to only 13 (8,55) which it considers *very honest*.



Responses on the perception that TV ads are or not *lying* are clearly leans in favor of the fact that there are *not lying* (38 – 25% *not at all lying* and *less lying* 38-25%). A similar number of responses (36 - 23,68%) shows that are *neither more nor less lying*. Only 22 (14,47%) respondents consider *much lying* and *very much lying* 15 (9,87%).

The TV ads are not considered *lying*, but a very large extent the respondents considered it *manipulative*. 74(48,68%) students considered the TV ads *manipulative*: 41 (26,97%) of them as *much manipulative* and 33 (21,71) *very much manipulative*. 22 (14,47%) students considered the TV ads *no more, no less manipulative*. A total of 54 (35,53%) respondents did *not* consider the TV ads *manipulative*: 26 (17,11%) *not at all manipulative* and 28 (18,42%) *less manipulative*.

Like for the question on the perception that they are lying, for the question on how *deceptive* are considered, the scales are tipped - a moderate - to the perception that they are *not deceptive* [total 67(44,08%) responses – 38 (25%) *not at all deceptive* and 29 (19,08%) *less deceptive*].

A total of 32 (21,05%) respondents perceived *no more, no less deceptive*. However, 51 (33.55%) respondents consider *deceptive* (25 – 16,45% *much* and 26 – 17,11% *very much deceptive*).

Table 2 Appreciation to TV ads to support project [# of answers]

Degree of discretion	credible	honest	lying	manipulative	misleading
Not at all	17	23	38	26	38
Less	36	35	38	28	29
No more, no less	37	42	36	22	32
Much	44	36	22	41	25
Greatly	15	13	15	33	26
Were not pronounced	3	3	3	2	2

#### Indicator #4: Are you for or against the Roşia Montană Gold Corporation project?

From the total of 152 responses, 85 responses representing **56%** voted **for** the project. 48 respondents, representing **32%** of the total are **against** the project. Uninterested are 18 respondents, representing 12% of the total.

Table 3 For or against the project

Are you for or against the project? [# of answers]	
For	85
Against	49
I don't know/I am not interested	18

As the area of where the respondents are is relatively uniform state, meaning that 33% of those who support the project and 18% of those who oppose the project are from rural areas. This ratio is maintained on the uninterested, it means 17% came from rural areas and the rest from urban areas.

Table 4 - The age of those for or against the project [no of answers]

Are you for or against the project?	Age of respondent (years)			
	< 20	20-30	30-40	40-50
Yes	2	80	3	0
No	1	44	1	3
I do not know/I am not interested	0	18	0	0

Table 5 - Where are from - those for or against the project

Are you for or against the project?	Where are the students from?			
	Rural area		Urban area	
	no of answers	%	no of answers	%
Yes	28	32,9	57	67,1
No	9	18,8	40	81,3
I do not know/I am not interested	3	16,7	15	83,3

**Indicator #5: If you support the mining project, please give a score from the list below, depending on their importance (1 - not at all important, 5 - very important):**

- Economic benefits to Romanian state;
- Additional jobs created;
- Tourism development;
- Increase the comfort for locals - new constructions and reconstruction of the town hall, churches, clinics, pharmacies, police office, post office, bank, schools, hotels, residential areas, recreational areas, etc..
- Continuation of traditions related to mining exploitations in the Apuseni Mountains;
- To support the Romanian Government efforts

In this question respondents were asked to indicate other reasons for considering that this project deserves support. Nobody made such a statement.

The most important argument to support the project is considered by respondents the additional jobs created. This reason lies ahead with a score almost double (61points, 30,81%) to the following reason: the economic benefits that would have Romanian State (37 points, 18,69%).

This reflects the aggressive TV promotion campaign. Creating new jobs has always been the argument used by President Băsescu, when referring to this project.

Positions 2, 3 and 4 are occupied in a very short distance by the following reasons:

the economic benefits that the Romanian State would have (37 points, 18,69%), the increased comfort for residents (36 points, 18,18%) and the tourism development in the area (32 points, 16,16%). Continuing the mining traditions in the Apuseni Mountains is the last one, with 21 points (10,61%). The Romanian Government efforts are credited less (only 11 points, 5,56%), although the main argument that our Government relies on, that of creating jobs for locals, is considered very important.

Even if tourism development in the area and continuing mining traditions in the Apuseni Mountains are not considered the most important, they are situated on the first two places (32 points – 21,05% and 31 points – 20,39%) which are considered *important*.

Table 6 - Why to support the project and how important is for you [# of answers]

The degree of appreciation of why the project deserves support	economic benefits that would accrue to the Romanian state	additional jobs will be created	tourism development in the area	increase convenience for locals	Continue the mining traditions in the Apuseni Mountains	to encourage the Government of România
not at all important	4	0	0	0	2	5
less important	5	0	6	2	10	18
neither more nor less important	13	4	14	18	21	35
important	26	20	32	28	31	15
very important	37	61	32	36	21	11

**Indicator #6: If you oppose the mining project, please give a score for each item from the list below, depending on their importance (1 - not at all important, 5 - very important):**

- Economic benefits are only estimates and there are doubts that the Romanian State will get any benefits;
- Estimated jobs can not be justified, because the technology has mechanized and automated for the specific operations carried out in such projects;
- Immediate negative impact on the environment (soil, water, air and noise pollution);
- Ecological effects on long term;
- The immediate impact on community;
- Effects on historical, social and cultural issues.

Like the previous question, respondents were asked to indicate other reasons for considering that this project should not be supported. Only one respondent felt that this project is "limited only to political interests."

The reasons considered as *very important* by the respondents who oppose to the project are ecological factors, both long term (38 points, 24,2%) and short term (38 points, 24,2%).

The following three arguments are relatively equal: the immediate impact on the community (23 points, 14,65%), the economic benefits that would accrue to the Romanian state are uncertain (23 points, 14,65%) and the effects of historical, social and cultural, long-term (22 points, 14,01%).

What was very important for supporters, the jobs creation, is seen *least important* by those who are against the project (only 13 points, 8,28%). However, those who are against the project and mentioned that jobs can not be justified, rank secondly, with 14 points,( 21,21%), on the appreciation group of *important*.

Table 7 - Why to be against the project and the measure [# of answers]

The degree of appreciation of why the project should not be supported	uncertain economic benefits	new jobs can not be justified	immediate negative impact on the environment	ecological effects of long term	immediate impact on the community	effects of historical, social and cultural
not at all important	3	0	1	0	0	0
less important	2	4	2	1	3	1
neither more nor less important	6	14	2	2	6	13
important	12	14	5	7	16	12
very important	23	13	38	38	23	22

### Indicator #7: Do you participated in any endeavor related to the mining project in Roșia Montană?

Most frequent steps of this project refer to the transmission of information by forwarding emails with the subject concerning Roșia Montană Gold Corporation (37 respondents, 41,11%).

Although the number of people who declared support the project is more than of those who oppose it, a total of 26 (28,89%) respondents have signed petitions against the project, compared to only 12 (13,33%) who have signed petitions in favor.

A total of 15 (16.67%) respondents are involved and interested in a larger measure of this project. 14 (15,56%) of them have participated in public debates about the Roșia Montană and one respondent (1,11%) is directly involved in the project by the nature of his job.

Table 8 - The activities related to the project [# of answers]

Forward emails	37
Signing petitions against the project	26
Participation in debates	14
Signing petitions for the project	12
Participation in the project by type of service	1

### Research Limitations

Although this study can extract some conclusions about the population's perception of the Roșia Montană Gold Corporation, however the fact that it was addressed only to students do not allows us to consider general results valid for the general population. If this study would be conducted on a sample covering all categories of population and age, the Internet certainly would not have been among the first sources of information. Also almost all respondents are very young (95,39%). This leads us to think that the maturity of the age could bring a greater capacity for analysis of information received before the formation of opinions. We also suspect the students, and generally young people, on some inconsistency on the views expressed in this questionnaire.

### Conclusions

This exploratory study holds us in two quite surprising respects. First is the unusual situation to obtain an absolute majority in responding to the first question. The fact that absolutely all respondents have heard about Roșia Montană Gold Corporation project shows, on the one hand,

that communication channels from transmitter to sources worked. On the other side lies the desire of youth to be informed, their ability to keep up with current topics.

The second issue that strikes us is that exactly the arguments invoked by those who are for the project are considered the least important by those who are against the project, and the reverse is available. Namely, that the arguments brought by those who are against the project in order to stop any initiative related to the project are located on the last place as importance by those who are for the project.

The exploratory findings and conclusions mentioned above lead us to the recommendation that each of the two sides has to deepen more thoroughly their documentation on such controversial topic to be absolutely certain about a final decision regarding the project. It must not be neglected the fact that such a subject can be used successfully by the politicians, especially in a time when various electoral battles are ongoing. And the lack of scruples of most politicians is not to remember. But we can emphasize out that the lure of additional jobs and a good life of residents of Roșia Montană and the increase revenues as well, to the state budget, can be an easy argument waved through the eyes of the less informed.

It is also ignored, intentionally or not, the fact that in our country there is enough intelligence, that could find - if not already exists - ways to exploit the gold with less dangerous methods for the environment. It is unbelievable that we could accept the idea that România does not have resources to invest in equipment.

## References

### **Paul C. Thistlethwaite**

1998

*“Research Design Dynamics: an Integrated Approach”*, Western Illinois University, Published by the Department of Marketing, Finance & Transportation Western Illinois University Macomb, 17 - 93, IL 61455, May 1998;

### **Ion Longin Popescu**

2011

\*\*\*

*“Proiectul Roșia Montană contravine principiilor dezvoltării teritoriale ale Uniunii Europene”*;  
“Formula AS” – Anul XXI, nr. 995, noiembrie 2011, pag. 2

2011

<http://www.libertatea.ro/detalii/articol/Avem-6-000-de-tone-de-aur-adica-250-de-miliarde-de-euro-364785.html> – 201, ora 16.25

2012

[http://www.observatorulurban.ro/24-argumente-contraproiectului-roia-montana.html?searched=rosia&highlight=ajaxSearch\\_highlight+ajaxSearch\\_highlight1](http://www.observatorulurban.ro/24-argumente-contraproiectului-roia-montana.html?searched=rosia&highlight=ajaxSearch_highlight+ajaxSearch_highlight1) – din 02.05.2012 – ora 11.34

2012

[http://www.realitatea.net/basescu-vrea-aviz-pentru-rosia-montana-nu-mai-avem-resurse-pentru-locuri-de-munca\\_931894.html](http://www.realitatea.net/basescu-vrea-aviz-pentru-rosia-montana-nu-mai-avem-resurse-pentru-locuri-de-munca_931894.html) - din 02.05.2012 - ora 15.50

2012

[www.rmgc.ro](http://www.rmgc.ro) – din 02.05.2012, ora 11.30

2012

<http://www.scrisoarecatreromania.ro/> - din 21.03.2012, ora 12.31

2011

[http://ro.wikipedia.org/wiki/Ro%C8%99ia\\_Montan%C4%83\\_Gold\\_Corporation](http://ro.wikipedia.org/wiki/Ro%C8%99ia_Montan%C4%83_Gold_Corporation) – din 25.11.2011, ora 8.55

2011

[http://ro.wikipedia.org/wiki/Ro%C8%99ia\\_Montan%C4%83,\\_Alba](http://ro.wikipedia.org/wiki/Ro%C8%99ia_Montan%C4%83,_Alba) – din 25.11.2011, ora 9.20

2011

<http://www.youtube.com/watch?v=anmmpAhD3lg>- din 25.12.2011, ora 20.55

2011

<http://www.youtube.com/watch?v=e3q6X6pNruY&feature=related> – din 30.12.2011 – ora 17.30

# Opportunity Recognition by Western vs. Eastern Entrepreneurs

## 3 Romanian Case Studies

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### Abstract

**Purpose** – The results of this exploratory study exhibit a comparison between western theories and models from the research literature and the practical means used by Romanian entrepreneurs, based on three case studies.

**Methodology/approach** - The information used in this qualitative research had been collected by in-depth interviews with entrepreneurs from three companies: two manufacturers and one from IT&C based in Eastern part of Romania.

**Findings** – Whilst the number of cases presented in the study would not advise any generalization of results, several interesting particularities were highlighted.

**Research limitations/implications** – These results enable academics, practitioners and policy makers to benefit from a better understanding of Romanian entrepreneurs' perception of opportunity and its exploitation.

**Practical implications** – Some practices matched the western theory as described in the literature, but the companies also developed particular solutions as means to respond to significant changes in the Romanian environment and personal entrepreneur's characteristics.

**Originality/value** – The analysis of opportunity recognition process within a Romanian context reveals good practices explained within specific environmental and personal contexts. Results highlight the successful solutions developed by the Romanian entrepreneurs, in their efforts to adapt to and exploit environmental changes.

**Key words:** Entrepreneurship, opportunity recognition, alertness, prior knowledge

### Introduction

The paper exhibits the results of an exploratory study on opportunity recognition among three Romanian entrepreneurs. Their perspectives are compared against western scientific literature, based on several important topics: definition of "opportunity", opportunity recognition process and role of prior knowledge in the discovery process.

### Literature review

#### What is an "entrepreneurial opportunity?"

A considerable amount of research is dedicated to entrepreneurial opportunity, aiming to provide a better understanding of its nature and sources (McMullen et.al, 2007, p. 282).

Shane and Venkataraman (2000) define entrepreneurial opportunities as "those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their costs of production".

Hansen et al (2011), based on an in-depth analysis of the opportunity scientific literature propose six definitions of opportunity as following (page. 292): "An opportunity is:

1. The possibility of introducing a new product to the market at a profit
2. A situation in which entrepreneurs envision to create new means ends frameworks
3. An idea that has developed into a business form
4. An entrepreneur's perception of a feasible means to obtain/achieve benefits
5. An entrepreneur's ability to create a solution to a problem
6. The possibility to serve customers differently and better".

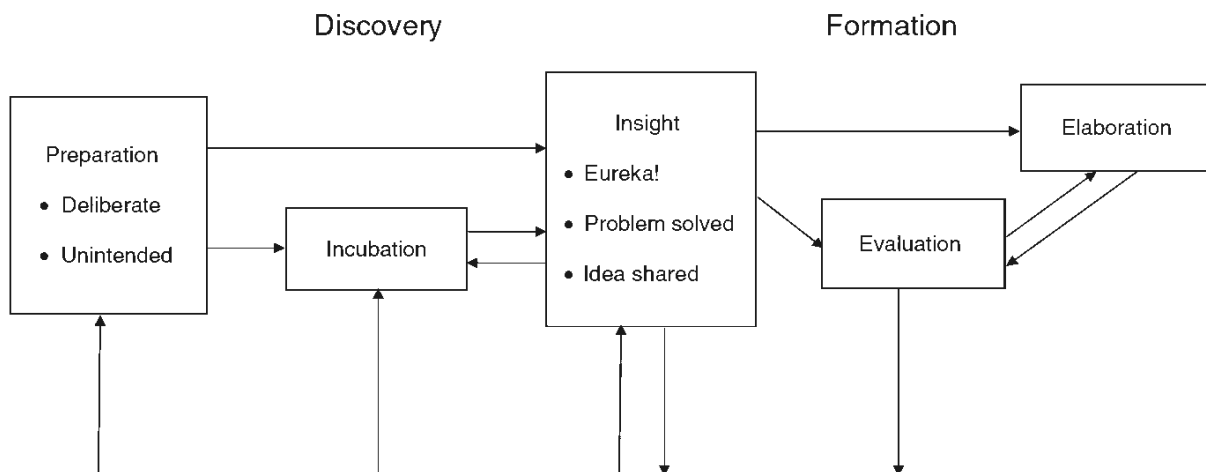
Shane and Venkataraman (2000) definition was adopted for the research; the authors also compared the Romanian's entrepreneur's definitions for opportunity against the framework proposed by Hansen et.al. (2011).

### Opportunity recognition process

Lumpkin and Lichtenstein (2005) define Opportunity recognition as "the ability to identify a good idea and transform it into a business concept that adds value and generates revenues".

Opportunity (or entrepreneurial) discovery "consists of actions initiated by individuals or teams directed at identifying a hitherto neglected opportunity" (Foss and Foss, 2008). The authors draw the attention on the key roles played by alertness, and its antecedents as anticipated rewards and accumulated experience and knowledge. Such rewards would influence the perception of opportunity "value" and therefore the amount of efforts and resources used to pursue a specific opportunity.

Casson and Wadeson (2007) provide a valuable analysis of the recognition and exploitation of opportunities through "projects". Thus, the entrepreneur will recognize many projects from which he/she will have to choose. Making a choice involves committing a considerable amount of resources for a long period of time, the risk that these resources may not be recovered if the project is abandoned later and the responsibility that someone must assume to finance such resources before revenues come on stream (Casson and Wadeson, 2007, p. 288)



**Figure 1** Creativity-based Model of Entrepreneurial Opportunity Recognition (Lumpkin and Lichtenstein, 2005)

Lumpkin and Lichtenstein (2005) propose a five stages opportunity recognition model (see figure 1 p. 458-459):

- preparation (as experience and knowledge that precedes the opportunity-discovery process)
- incubation (the part of the opportunity-recognition process in which entrepreneurs or an entrepreneurial team contemplates an idea or a specific problem)
- insight (as the "eureka" moment or "aha" experience)

- evaluation (involves analysing whether concepts developed in the discovery phase are workable, whether the entrepreneur/team has the necessary skills to accomplish it, and whether it is truly a novel enough idea to pursue) and
- elaboration (capturing value from the creative act)

### **Role of prior knowledge in the discovery process**

Prior knowledge is one of the most important factors influencing opportunity identification (Shane 2000) with three key components: people's prior knowledge about markets, people's prior knowledge about how to serve markets and people's prior knowledge about customer's problems. He argues that "individuals who have developed particular knowledge through education and work experience will be more likely than other people to discover particular entrepreneurial opportunities in response to a given technological change (Shane 2000, p.465).

Thus, "Prior information, whether developed from work experience, education, or other means, influences the entrepreneur's ability to comprehend, extrapolate, interpret and apply new information in ways that those lacking that prior information cannot replicate". (Shane, 2003: 452).

### **Methodology**

Based on literature review and former cooperation with these companies, an interview structure was designed. In depth interviews with CEO or senior partner lasted between 45 and 90 minutes, with several additional follow-ups for clarification. Case study research was employed to analyse their personal opportunity recognition experiences, the impact of alertness to perpetual environmental changes, and the impact and use of prior knowledge. Permission to record the interview was granted by all companies.

In order to reduce bias of the information provided, the author asked permission to use the real name of the company in the paper at the end of the interview. Some were somehow doubtful to accept and referred to the other partner or CEOs acceptance to include their company's name. We considered that anonymity would enable a more transparent and objective data analysis and named the companies one, two and three in the text.

### **Case studies**

**Company 1** holds high competences in R&D used to design and manufacture mechanical equipment for street brushing, container washing and snow removal (blades, snowplow and salt spreaders). Founded in 1992, it employs an average of 19 people in 2011. Turnover in 2011 was 289,565 Euros, with an operating profit of 12,032 Euros (Ministry of finance, 2012a). Exchange rates were computed for all case studies at an exchange rate of 4.2379 RON/Euro (cursvalutar, 2012).

**Opportunity** is the "chance of an information that would provide you with a road that is shorter and more advantageous (with smaller costs) towards a target. If there is no target, there is no opportunity."

The company has a long record of R&D mechanical equipment. It had started its activity with earth moving and digging machinery, that would be sold to both small companies and local councils in villages and towns. It competed with imported similar equipment, which was more expensive to purchase and operate (service, spare parts, etc.) Whilst having an excellent design of mechanical, electrical and hydraulic subsystems integrated by the two highly skilled in R&D partners, Company 1 lacked brand name and therefore trust.

However, it competed through quality similar to imported goods and innovative selling technique such as "Trojan horse" (company would provide the equipment for free to be tested for 2 weeks, time when they would thoroughly observe the employee that would operate it, understand special needs and customize the product through their inclusion in the original design).



Two examples came up during the interviews: the addition of a handle on the edge of the cabin to facilitate access of the driver to a mechanism that had to be handled, and inclusion in the design and assembly of a small web camera and associated display. The latter improvement came as a claim of the designated employee that operated the equipment that complained that the “other” equipment which could be purchased had such a facility to enable comfort in reverse driving.

Another opportunity identified and pursued was the design and manufacture of garbage compaction in 2009, with the beginning of the economic crisis, based on the information that there exists EU funding for “Ecology”. Owners provided an excellent design in terms of reliability (better integration of hydraulic, electrical and mechanical systems as a smaller team had to design the whole equipment) and considerable smaller costs (based on both smaller number of subassemblies and made locally). The sudden drop in demand for trucks enable the company to develop partnership with one of the large lorry manufacturers that could expose and sell their trucks with the garbage transportation equipment.

The latest opportunity perceived by the owner and described during the interviews revealed snow removal joint venture. Recent deepening of the economic crisis in Euro Zone catalyzed the need to reduce costs. The perception of opportunity occurred when visiting a supplier of parts (and competitor as importing snow removal equipment). Based on mutual benefit occurred through cost reduction, opportunity consists of Company 1 to design and manufacture the chassis for the snow removal vehicle and the supplier to provide imported High-Tec components such as blades and other precision devices. Thus the overall costs would significantly decrease because of the Romanian made bodywork.

**Company 2** also holds high competences in R&D, capabilities in mechanics, electronics and creativity through the 4 partners that founded it, as proved by a long history of innovations and original designs before becoming an important player on the aluminum and plastic windows and doors market in Eastern Romania. Founded in 1991, it employs an average of 28 people in 2011. Turnover in 2011 was 971,177 Euros, with an operating profit of 22,252 Euros (Ministry of finance, 2012b).

**Opportunity** is “something new that could bring you some profit. If there is no profit, than that is not an opportunity”.

Company started trading as a local subcontractor to service street connector boxes for the national telecommunication company, which made him notice how difficult is to carry and climb up a heavy wooden ladder. First innovation was an aluminum ladder, product that acquired (based on the telecom employees’ request) beyond the appropriate certifications a “plastic proof” as electrical insulator (whilst neither the standard nor the products abroad had such plastic insulation).

The four partners had weekly meetings in order to collect and assess ideas. CEO proudly searched for the “notebook” that was nearly 20 years old with the handwritten 4 pages list of opportunities. Some of the perceived market needs in the mid 90’s included coffee or cigarettes vending machines, garage doors and blinders (a need perceived in his home and seen abroad in offices) to name just a few.

CEO was invited to Bucharest by a former partner to attend a company presentation. Decision to go marked the beginning of spectacular growth in the aluminum windows and doors market. He was impressed by the product and persuaded the organizers of the event that came from abroad to let him have the two samples which were transported nearly 500 Km to the premises to be disassembled and studied. As the parts did not require high-tech equipment to manufacture, the decision was to import the aluminum profiles and start production in Romania. Before that they went to the foreign production plant and learned to use the equipment in order to achieve high quality windows.

High growth and margins attracted over the next decade a large number of competitors, some of them also large companies. A shift in the policy opened the market for Polyvinyl Chloride windows due to a former non competitor entrance on the aluminum market.

Further innovations occurred in the painting techniques, through the acquisition of a modern painting equipment, and introduction on the Romanian market of Aluminum Composite Material (ACM) plating. CEO also acknowledged opportunities that occurred through listening to supplier's and customer's needs.

**Company 3** is an outdoor advertising agency. The owner, former vice president of a major advertising company, decided to use his prior knowledge and network and start up his own company. Founded in 2003 it was declared "suspended activity" for several years, including 2011 as the owner worked for the major advertising company (no employee and no turnover in 2011) (Ministry of finance, 2012c).

**Opportunity** is "The moment when you feel that you can do something; and from that thing to be able to live you and those around you. It could be a product or improvement in working processes".

He describes his business as a succession of opportunities that must be perceived, evaluated and exploited, drawing the attention on an event that you feel that can control but sometimes crisis or lack of sufficient funding "makes you take a step back and retreat... You are afraid that something bad may happen [and lose all the invested resources]"

One missed opportunity presented by the CEO was in 2008 when he decided to diversify into the Indoor advertising market, as many Shopping Malls were opened across Romania and focused on the Eastern part, where he sold to some beer producers and one of the key players on mobile communication in Romania. However, the competition was fierce and the rents were enormous. For his company at that time the breakeven point was considered good if it just covered just the rents. They did not enter the high schools as education laws were on the brink of interdicting fast food in and around all high schools in Romania.

CEO emphasized that "a shoe maker should keep making shoes and not enter another market. At most could diversify and manufacture sandals..."

When economic crisis intensified, the decreasing revenues and perspective for growth triggered the decision to cut losses and stop the business. CEO identified a company that purchased the second hand equipment for indoors advertising at a substantial discount and closed all contracts. Company 3 still has a large stock (about 80% of inventory) of the initial purchase of brand new indoor advertising equipments, waiting for an opportunity to generate revenue.

In the outdoor market, CEO of company 3 proved an excellent ability to spot new locations and dimensions of advertising panes generating market niches that would be presented to potential clients with creativity and intelligence: "speculate, present and sell inventive and atypical advertising products that are significantly distinct from the standards from this industry". On his website he propose clients two innovative products: *Scrolling Ligthbox<sup>TM</sup>* and *Bus Ad Handle<sup>TM</sup>* that were seen abroad and are now adapted and implemented in Romania.

## Data analysis

### Opportunity definition

Company 1's definition of opportunity identifies the following key elements of the concept:

- Chance (as in luck to identify or "spot" it )
- Target (to be pursued)
- Information (as knowledge that would consequently provide the road to the target)
- Efficiency (to generate profit in the end through "shorter and more advantageous")

The definition of opportunity proposed by Company 2 reveals

- Novelty (as something new) that may be new for local market but not necessary in Europe or the rest of the world.
- Profit (as a result of successful trading)

- Innovation (whilst not explicit) resulted through new features of the existing products (or services) or reduced costs (through process improvement)

Analyzing the definition proposed by Company 3 we see some key elements of the concept:

- Key role played by the entrepreneur (you feel),
- Innovation (as you can do something)
- Vision (that would focus and drive the energy to do it),
- Profit (required in order to sustain the organization), and
- Threshold (which would imply a moment in time when this particular opportunity “hatch” and a period of incubation where several potential opportunities stay together within the same nest in the entrepreneur’s mind).

Whilst the Romanian’s definitions overlap well over those proposed by Hansen, there are several interesting differences.

First is the emphasis on the “vision” or “target” that also exists implicit in “the possibility”, “idea”, or “situation envisioned” by the entrepreneur. Such emphasis on the “target” should be further investigated in following research, as it may provide a key factor for a better understanding of opportunity recognition and pursue.

### **Opportunity recognition process**

All CEOs have excellent skills in spotting good ideas (for that specific moment in time in terms of both environmental conditions and personal conditions for growth) that were transformed into business concept that added value to the customers.

The Creativity-based Model of Entrepreneurial Opportunity Recognition proved to be well suited for all three case studies.

Depending on specific circumstances, some “projects” generated sufficient revenues and others not. For example, Company 2 decided to take on a large contract for bread kiosks that was in excess of 100,000 Euros. Balance sheet analysis of the client showed excellent cash flow, and the decision was to manufacture about 100 small cubicles for selling bread and other small items found in corner shops. Towards the end of the contract, the client declared to be insolvent and Company 2 realized it had a stock of unsold cubicles and decided to set up a new company to enter the retail business. Whilst in after a couple of years of struggle it managed to recover some of the investment in kiosks there were at a great loss at least at missed opportunity to grow in those booming years for aluminium and plastic windows.

### **Role of prior knowledge in the discovery process**

Company 3 is a very good example of the use of prior knowledge about the markets. CEO used it to extrapolate from outdoor to indoor advertising and to develop the outdoor market through inventive and away from the standard products offered by regular competitors.

## **Discussion and conclusions**

This exploratory research is a starting point that will enable a better design of further quantitative research on opportunity recognition.

Whilst the number of cases presented in the study would not advise any generalization of results, several interesting particularities were highlighted. Some practices matched the western theory as described in the literature, but the companies also developed particular solutions as means to respond to significant changes in the Romanian environment and personal entrepreneur’s characteristics.

The main differences occurred in the opportunity definition process, where Romanian CEOs expressed the need for a “vision”. Further research is necessary to understand how such a vision could better contribute at the successful exploitation of the identified opportunity and how to com-

plement it in order to increase the success rate of exploited opportunities. The need for a little “luck” was highlighted by Company 1.

Some of the opportunity recognition were not triggered by future revenues but imposed by the need to cut losses. (Company 2 and Company 3)

All the companies from the case studies operate in the B2B markets. Therefore, their definition of opportunity and its exploitation related processes should be influenced by this particularity, as compared with those targeting the end user directly.

Companies 1 and 2 had strong competences in R&D and therefore great capabilities on identifying new products to be engineered and manufactured. CEO of Company 3 by the nature of his business has a better ability to spot and speculate market imperfections and take appropriate actions towards market equilibrium based on his ability to better present and sell. Here acts in Kirzner’s perspective of entrepreneur as he “can be seen as responsible for equilibrating market movements (such as changing prices) in the absence of dramatic changes in product specifications or in production methods” (Kirzner 2009, p. 147).

## References

**Casson Mark, Wadson Nigel**

2007

The Discovery of Opportunities: Extending the Economic Theory of the Entrepreneur, *Small Business Economics*, 28:285–300.

**Cursvalutar**

2012

<http://cursvalutar.dailybusiness.ro/curs-valutar-mediulunar-2011>, accessed on July 27 2012

**FOSS Kirsten and FOSS. Nicolai J.**

2008

Understanding Opportunity Discovery and Sustainable Advantage: The Role of Transaction Costs and Property Rights, *Strat. Entrepreneurship J.*, 2: 191–207

**Hansen David J., Shrader Rodney, Monllor Javier.**

2011

Defragmenting Definitions of Entrepreneurial Opportunity, *Journal of Small Business Management*, 49(2), pp. 283–304.

**Kirzner Israel M.,**

2009

The alert and creative entrepreneur: a clarification, *Small Business Economics*, 32:145–152.

**Lumpkin GT, Lichtenstein BB.**

2005

The role of organizational learning in the opportunity recognition process, *Entrepreneurship Theory and Practice*: 451–472.

**McMullen Jeffery S., Plummer Lawrence A., Acs. Zoltan J.**

2007

What is an Entrepreneurial Opportunity? *Small Business Economics*, 28:273–283.

**Ministry of finance**

2012a,

Financial data for Company 1, [www.mfinante.ro](http://www.mfinante.ro), accessed on July 27 2012

**Ministry of finance**

2012b

Financial data for Company 2, [www.mfinante.ro](http://www.mfinante.ro), accessed on July 27 2012

**Ministry of finance**

2012c

Financial data for Company 3, [www.mfinante.ro](http://www.mfinante.ro), accessed on July 27 2012

**Shane, Scott**

2000

Prior Knowledge and the Discovery of Entrepreneurial Opportunities”, *Organization Science*, 11, 4, 448-469.

**Shane, Scott**

2003

*A General Theory of Entrepreneurship, the Individual Opportunity Nexus*, Edward Elgar Publishing Limited, Glensanda House, 315p.

**Shane, S. and Venkataraman S.,**

2000,

The Promise of Entrepreneurship as a Field of Research, *Academy of Management Review* 25(1), 217–226.

# Use of marketing indicators in some firms from Romania

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## Abstract

**Purpose** – This paper presents some results of an exploratory research regarding the use of marketing indicators by some firms from Romania.

**Methodology/approach** – The survey was used as research method, the sampling was non-random, based on judgment and convenience. A questionnaire was used as the research instrument. 100 firms participated to this research.

**Findings** – The investigated firms focus on the measurement of traditional indicators of marketing performance, like customer satisfaction or loyalty, sales or profit. They pay less attention to more sophisticated indicators like those specific for brand equity and customer equity. Only 12 percent of the enterprises use a software solution to support them in measuring their marketing performance.

**Research limitations/implications** – Due to the non-random sampling used, the obtained results cannot be extrapolated, they are valid only for the investigated firms.

**Practical implications** – Marketing managers should monitor several indicators instead of limiting at using a single indicator for measuring marketing performance; this paper suggests a set of 21 marketing indicators.

**Originality/value** – The research enables to draw some interesting coordinates regarding the marketing performance measurement practices used by some firms from Romania, a valuable approach since this field is not as advanced in Romania as it is in other western countries.

**Key words:** marketing performance measurement.

## Introduction

In a 2004 article it was stated that for years the marketing managers attended the budget allocation meetings without being able to fully justify the results they obtained by using the financial resources that were previously allocated to them; in addition, they required even more money from their top management for expensive marketing actions. But as it was stated in that article, those days in which the marketing managers required an increase of the marketing budget in the absence of some evident results that would justify this increase are about to fade, as they “are fast being replaced with a new mantra: measurement and accountability” (Brady, Kiley and Bureau Reports, 2004).

But many aspects related to marketing performance and its contribution to organizational performance are difficult to measure and evaluate, because as some authors stated (McGovern et al., 2004, p.74), “measuring marketing performance isn’t like measuring factory output – a fact that many nonmarketing executives don’t fully grasp. In the controlled environment of a manufacturing plant, it’s simple to account for what goes in one end, what comes out the other, and then determine your productivity. But the output of an advertising campaign can be measured only long after it has left the “plant””. Despite the measurement difficulties, companies’ CEOs have a particular certitude that marketing leads to organizational performance improvement, otherwise they would reduce or even eliminate their marketing budgets or departments (Kotler, 2009).

The increasing pressure on companies' marketing departments to prove their accountability and contribution to the overall organizational performance generated the development of various marketing indicators. In this context, Farley and Barwise (2005) considered that using marketing indicators represents an important trend that manifests globally and which, through its decisive influence on companies' marketing activities and performance, obliges the European enterprises to successfully reposition themselves on the market.

Various studies regarding the use of marketing indicators in organizations from different countries were developed. These studies significantly varied under several aspects: the marketing indicators whose use was analyzed, the number of firms included in the analysis or the investigated firms' country of origin. Most of these studies proposed a hierarchy of the marketing indicators according to the share of firms from the total number of the investigated enterprises within each study which declared that they use each analyzed indicator. An exception in this context was a research developed in USA, whose authors (Farris et al., 2010) argued that developing such a hierarchy is not at all conclusive, as the use of marketing indicators in firms decisively depends on a series of variables like the company's field of activity, the required costs for collecting the necessary data and for computing the respective indicators or even the managers' lack of knowledge regarding the benefits they can get by using some marketing indicators. On the other hand, others argue that beyond the traditional indicators of financial performance, there are some marketing indicators like market share, product perceived quality, customers' loyalty, customer profitability, relative price or customer lifetime value, which denote a certain degree of generality and can be relevant for enterprises from most industrial sectors (Barwise and Farley, 2004).

### **Research coordinates**

This article presents some results of a research that intended to investigate some of the marketing performance measurement practices used by some enterprises from Romania. A significant part of the results of this research was previously disseminated (Bodea (Sava) and Bacali, 2011; Bodea (Sava), Bacali and Avasilcai, 2011).

Among the research hypotheses that were elaborated the following ones can be mentioned:

H<sub>1</sub>: From the category of marketing productivity / effectiveness indicators, most of the investigated firms consider that the most important indicators are the financial ones (sales, profit, gross margin).

H<sub>2</sub>: At most one third of the investigated enterprises considers that brand equity indicators are very important from the perspective of firm's marketing performance.

H<sub>3</sub>: Over two thirds of the investigated enterprises consider that customer equity indicators are very important from the perspective of firm's marketing performance.

H<sub>4</sub>: At most 25 percent of the investigated firms use a software solution for measuring and monitoring the results of their marketing activities.

The research method used was a survey, the sampling being non-random, based on judgment. The initial intention was to obtain information from enterprises from Cluj county that were included in the 2010 edition of the Top of Firms developed by the Chamber of Commerce and Industry of Cluj. This top of firms is annually developed and aims to award and promote the firms that have remarkable results at county level; the assessment of the enterprises' performance level is done based on a unique methodology at national level. The 2010 edition of the top awarded 290 firms from the Cluj county (Gazeta Afacerilor, 2010). Therefore it was considered that these enterprises can provide useful insights regarding the practices they use for measuring their marketing performance. Subsequently it was decided to extend the area of research to firms from other Romanian counties as well.

The research instrument was a questionnaire containing mainly closed questions, especially with scale responses. The respondents were asked to indicate how important they considered to be each indicator from a set of 21 marketing indicators; an importance scale in five points was used,

varying from *not at all important* to *very important* and additionally the respondents were provided with an extra option, *do not monitor*, for the situations when they did not use a certain indicator. For elaborating the questionnaire several works from the specialty literature were considered as starting points; thus the marketing indicators selected for the analysis were structured into three distinct categories, which represent an adaptation after Franchi's proposal (2007): marketing productivity indicators, brand equity indicators, customer equity indicators. The selection of the 21 marketing indicators was based on proposals advanced by several authors (see Table 1).

Table 1. The marketing performance indicators analyzed in the research

Category of indicators	Indicators included in the category	Recommended by:
Marketing productivity / effectiveness indicators	Sales Profit Gross margin Absolute market share Number of customers Customer satisfaction Customer loyalty Perceived quality Number of new products launched in the last three years Marketing spend Return on marketing investment	Ambler et al. (2001) Franchi (2007) Farris et al. (2010)
Brand equity indicators	Brand awareness Attitude towards the brand Brand purchase intent Brand financial value	Aaker (1996) Ambler et al. (2001) Franchi (2007)
Customer equity indicators	Revenue per customer Profit per customer Frequency of customer purchases Average cost of retaining a customer Average cost of attracting a new customer Customer lifetime value	Ambler et al. (2001) Franchi (2007) Farris et al. (2010) Rust et al. (2004)

Two methods were used for contacting the enterprises: sending the questionnaire via e-mail and face to face interviews, at companies' headquarters, where possible. The final number of questionnaires that were collected and used for data analysis and interpretation was 100. Among these, 37 filled questionnaires were provided by firms included in the top developed by the Chamber of Commerce and Industry from Cluj, which represents a response rate of 12.75 percent of the total number of 290 firms included in this top, while the remaining 63 questionnaires were provided by firms which were not included in this top.

After centralizing firms' identification data, it was observed that according to their type of offer, the largest part of the investigated enterprises (44 percent) offer their customers a mix of products and services, 27 percent of the firms offer services and the offer of 29 percent of the firms is composed of products. From the point of view of the type of customers these companies target, over half of the investigated firms (57 percent) target both individual or familial consumers and businesses and other organizational entities; other 32 percent of the firms have businesses and other organizational entities as customers, while 11 percent address to individual or familial customers. According to the firm's type of capital, the majority of the enterprises (81 percent) have Romanian capital, 8 percent have foreign capital and 9 percent have mixed capital. Depending on company's type, most of the investigated firms (72 percent) are legally constituted as limited liability companies, 24 percent of the firms are joint stock companies, while 4 percent declared other legal types.

### Some results of the research

If in a previous work (Bodea (Sava), Bacali and Avasilcai, 2011) a hierarchy of the 21 marketing indicators that were analyzed was built, according to their degree of use among the investigated firms and to the percentages of firms who considered each indicator as being very important re-



spectively, this time it was intended to present a little more detailed situation of the importance levels attributed to each indicator by the investigated enterprises.

According to the results (see Tables 2 and 3), it can be noted that each of the 11 indicators from the marketing productivity category enjoys a degree of use of at least 88 percent among the investigated firms; moreover, it seems that indicators like customer loyalty or product perceived quality are being used by 100 percent and 99 percent respectively of the enterprises. The indicators belonging to this category which are considered to be the most important are perceived quality and customer satisfaction, as 80 percent of the firms consider each of these two indicators as being very important for assessing their marketing performance. According to the opinion expressed by the investigated enterprises, the least important indicator is the number of new products launched in the last three years.

Table 2. How important do you consider to be each of the following marketing productivity indicators? (%) (I)

Indicator \ Importance level	Sales	Profit	Gross margin	Absolute market share	Number of customers	Customer satisfaction
Very important	64	57	42	24	51	80
Important	23	27	34	41	31	14
Average importance	5	11	14	17	9	2
Reduced importance	2	1	1	6	6	2
Not at all important	0	0	1	1	0	0
Do not monitor	4	3	5	8	2	0
No answer	2	1	3	3	1	2

Table 3. How important do you consider to be each of the following marketing productivity indicators? (%) (II)

Indicator \ Importance level	Customer loyalty	Perceived quality	Number of new products launched in the last three years	Marketing spend	Return on marketing investment
Very important	69	80	21	21	32
Important	22	14	29	46	36
Average importance	9	4	28	24	18
Reduced importance	0	1	8	2	4
Not at all important	0	0	2	0	1
Do not monitor	0	0	9	5	7
No answer	0	1	3	2	2

The four brand equity indicators are characterized by close levels of use among the investigated firms (see Table 4). 38 percent of the enterprises declared they monitor brand awareness; attitude towards the brand and brand purchase intent respectively are each being used by 37 percent of the firms, while 35 percent of the organizations perform a financial assessment of the brand. More significant differences between the four indicators are recorded from the point of view of the importance level assigned by the firms to each of the indicators, in the context of firms' marketing performance assessment. Brand awareness is an indicator considered very important by 29 percent of the enterprises, while attitude towards the brand is considered very important by 26 percent of the firms. Lower shares of the investigated firms considered that the other two brand equity indicators are very important: 17 percent for brand purchase intent and 11 percent for brand financial value.

Table 4. How important do you consider to be each of the following brand equity indicators? (%)

Indicator \ Importance level	Brand awareness	Attitude towards the brand	Brand purchase intent	Brand financial value
Very important	29	26	17	11
Important	9	10	17	18
Average importance	0	1	2	4
Reduced importance	0	0	1	2
Not at all important	0	0	0	0
Do not monitor	50	50	50	52
No answer	12	13	13	13

In what concerns the use of customer equity indicators (see Table 5), 37 percent of the investigated firms declared they monitor customer lifetime value, frequency of customer purchases, revenue per customer and average cost of retaining the customer, while profit per customer and the average cost of attracting a new customer are used by 36 percent of the enterprises. The most important indicator from this category of indicators is customer lifetime value, according to 23 percent of the investigated firms, closely followed by frequency of customer purchases, a very important indicator in the opinion of 21 percent of the firms. 16 enterprises consider that profit per customer is very important, while the remaining three indicators, revenue per customer, average cost of retaining the customer and average cost of attracting a new customer are each considered important by 15 percent of the enterprises.

Table 5. How important do you consider to be each of the following customer equity indicators? (%)

Indicator \ Importance level	Revenue per customer	Profit per customer	Frequency of customer purchases	Average cost of attracting a new customer	Average cost of retaining a customer	Customer lifetime value
Very important	15	16	21	15	15	23
Important	18	15	6	15	16	13
Average importance	4	5	9	4	4	1
Reduced importance	0	0	0	2	2	0
Not at all important	0	0	1	0	0	0
Do not monitor	50	50	49	49	49	49
No answer	13	14	14	15	14	14

Most of the investigated firms, 76 percent, do not use a software solution for measuring and monitoring the results of their marketing activities. Ten percent of those who filled the questionnaire did not know if such a tool is being used in their enterprises and only 12 percent of the firms declared they use a software solution that supports them to measure and monitor their marketing performance. The reduced share of firms that uses such a software for the mentioned goal can be correlated with the reduced share of firms, 10 percent, which declared themselves as being very satisfied regarding their ability of measuring the results of the marketing activities they conduct (Bodea (Sava), Bacali and Avasilcai, 2011). The benefits of using such a software solution are significant as it facilitates to a high extent the efforts that firms have to put for their own marketing performance measurement; although there are many providers of software tools designed for marketing performance measurement, probably one of the main reasons which can explain the reduced level of using such a tool by the investigated firms refers to the high costs associated with the acquisition of such a software solution.

Table 6. Does your firm use a software solution for measuring and monitoring the results of its marketing activities?

Yes	12%
No	76%
Do not know	10%
No answer	2%
Total	100%

### Discussion and conclusions

From the category of marketing productivity/ effectiveness indicators, the financial indicators were considered very important for marketing performance assessment as it follows: sales are considered very important by 64 percent of the firms, profit by 57 percent and gross margin by 42 percent. Because other indicators from this category were considered very important by largest shares of the 100 firms – perceived quality 80 percent, customer satisfaction 80 percent, customer loyalty 69 percent – the hypothesis “H1: From the category of marketing productivity / effectiveness indicators, most of the investigated firms consider that the most important indicators are the financial ones (sales, profit, gross margin)” was not confirmed. These results showed that for the investigated firms the customer focused indicators are more important than the indicators which have a financial nature (sales, profit, gross margin).

The confirmation of the hypothesis “H<sub>2</sub>: At most one third of the investigated enterprises consider that brand equity indicators are very important from the perspective of firm’s marketing performance” is justified by the fact that each of the four brand equity indicators was considered as being very important by less than one third of the firms.

The results according to which each of the six customer equity indicators is considered very important by at most 23 percent of the firms does not support the confirmation of the hypothesis “H<sub>3</sub>: Over two thirds of the investigated enterprises consider that customer equity indicators are very important from the perspective of firm’s marketing performance.”

The last hypothesis, “H<sub>4</sub>: At most 25 percent of the investigated firms use a software solution for measuring and monitoring the results of their marketing activities” was confirmed because only 12 out of the 100 enterprises declared they use such a software tool.

Based on these results, it is considered that firms from Romania should follow the example of firms from western countries and put more efforts on the direction of creating and consolidating the intangible marketing assets, like brand equity and customer equity, including here the measurement and assessment aspects of the obtained results. It is true that indicators like brand financial value or customer lifetime value have recently appeared in the marketing practice and literature, but an adequate marketing performance measurement should relate to them as well.

### References

- Aaker, D.**  
1991  
Managing Brand Equity. New York: The Free Press.
- Ambler, T., F. Kokkinaki, S. Puntoni, and D. Riley**  
2001  
“Assessing market performance: the current state of metrics.” Centre for Marketing Working Paper, No. 01-903, London Business School.
- Barwise, P., and J. U. Farley**  
2004  
“Marketing metrics: status of six metrics in five countries.” European Management Journal, 22(3): 257-262.

**Bodea (Sava), A. M., and L. Bacali**

2011

"Importance of the marketing mix components in the context of Romanian firms' marketing performance." *Review of Management and Economic Engineering*, 10(2): 52-70.

**Bodea (Sava), A. M., L. Bacali, and S. Avasilcai**

2011

"Research on practices used by Romanian companies for measuring marketing performance." *Proceedings of the 2<sup>nd</sup> Review of Management and Economic Engineering Management Conference "Management of Crisis or Crisis of Management"*, Cluj-Napoca, Romania, Toderco Publishing House, 238-246.

**Brady, D., D. Kiley, and Bureau Reports**

2004

"Making marketing measure up." <http://www.businessweek.com/stories/2004-12-12/making-marketing-measure-up>

**Farley, J. U., and P. Barwise**

2005

"How European marketing management measures up to take on the future." *Organizational Dynamics*, 34(3): 273-284.

**Farris, P. W., N. T. Bendle, P. E. Pfeifer, and D. J. Reibstein**

2010

*Marketing metrics: the definitive guide to measuring marketing performance* 2<sup>nd</sup> ed. New Jersey: Pearson Education.

**Franchi, F.**

2007

„Value of marketing metrics." Master's Thesis, Cranfield University.

**Gazeta Afacerilor**

2010

"Camera de Comert si Industrie Cluj a publicat Topul Firmelor Membre pentru anul 2009." <http://gazeta-afacerilor.ro/2010/12/03/camera-de-comert-si-industrie-cluj-a-publicat-topul-firmelor-membre-pe-anul-2009/>

**Kotler, P.**

2009

"Marketing: the unappreciated workhorse." *Market Leader*, 2: 2-4.

**McGovern, G. J., D. Court, J. A. Quelch, and B. Crawford**

2004

"Bringing customers into the boardroom." *Harvard Business Review*, 82(11): 70-80.

**Rust, R. T., T. Ambler, S. G. Carpenter, V. Kumar, and R. K. Srivastava**

2004

"Measuring marketing productivity: current knowledge and future directions." *Journal of Marketing*, 68: 76-89.

# About The Human Resources Activities within the SME Sector

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## Abstract

*The experience of developed countries from the last decades emphasises the more and more important role the human factor plays in the growth or restructuring of the economy.*

*In the last decade of the last century, the specialists in human resources tried to emphasize the importance of this side of an organization to its general strategy, hoping for cooperation with the line managers and even sites in the management board.*

*Even if, in the large companies, those desires became facts, in the SME sector, especially in Romania, the HR activities consist mainly in doing wage calculi, recruitment based on recommendations or empirical annual appraisals.*

*Serious studies on human resource management from small and medium enterprises started relatively recent, the research in this domain being still in an explorative phase.*

*The implications generated by the insufficient researches are important both for the SMEs and for the human resources domain.*

*This study tries to contribute to the identification of the specific elements of the human resources domain in the SMEs and to the improvement of the understanding of HR practice within SMEs.*

**Key words:** *SMEs, human resource management.*

## Introduction

Small and medium-sized enterprises continue to play an essential role in the European economy, especially because the EU countries seek for resources and solution for exit the crisis and revival there economies. SMEs represent a source for entrepreneurial initiative and innovation, which can generate new jobs that will compensate the jobs lost because of the world economy recession.

In Romania, the economic and financial crisis strongly affected the evolution of the economy in 2009 and 2010. The business environment, especially the SME sector, knew significant changes because of the impact of the world economic crisis. Besides the demographic changes of the SME sector and the negative economic results, the crisis affected also the entrepreneurial spirit and the antipathy for risks assumption by the investors increased.

The companies faced with new conditions, characterized by shortages or discontinuities of cash, deterioration of contractual relations consolidated in the period of the economic growth, and diminished of consumption and number of clients, both in the manufacturing and services sectors.

In the same time, those changes in the demography of this sector reflect a renewal process that could be an opportunity for modernization and innovation.

The dynamic context of assiduous quests for egression from crisis and preparing the economy for resuming the economic growth show the necessity of using innovative, knowledge based solution for the future economic development in general and the SME sector in particular.

Moreover, the features of the EU countries economies, especially the vision and the objectives assumed through Europe 2020 strategy that seek for modernization, innovation, eco-efficiency and social inclusion impose the creation of the necessary condition for a long term modelling of an economy based on knowledge and innovation.

One of the most important resources that can make a difference between a successful enterprise and failure is the human resource. Despite its importance serious studies on human resource management from small and medium enterprises started relatively recent.

The research in this domain is still in an explorative phase even it offers a high potential for empirical studies opportunities mainly because of there number, there rate of growth, and there diversity in management practice.

The implications generated by the insufficient researches are important both for the SMEs and for the human resources domain.

That is why I decided to do an opinion survey between some of SME managers and owners regarding the practices of human resource activities.

The survey represented a mix between a random stratified survey with less variation of answers, and a semi-random directed survey because of objective restrictions limitations of a study done by only one researcher.

### **The survey development**

Because of its weight in the Romanian economy, I decided to do the survey between the SMEs from the Development Region Bucharest-Ilfov.

The region Bucharest-Ilfov has more then 20 percent of the registered companies in Romania. From a survey developed by the National Council of Small and Medium Sized Private Enterprises in Romania (CNIPMMR) in 2011 with data from 2009<sup>1</sup> results that the density of the companies in Bucharest (is 65.44/1000 habitants) is above the average from European (42 companies/1000 habitants) while the average in Romania is 30 companies/1000 habitants.

A study about the active enterprises in the region mentioned (Stanciu, 2012a) emphasized that the dimension of the companies is rather small, more then 99 percent from the companies being SMEs (representing more then 71 percent as turnover and almost 70 percent as employment).

Speaking of SMEs, the micro enterprises (1 to 9 employees) represent almost 89 percent while the medium sized enterprises (50 to 249 employees) are less then 2%. This situation is a little better then the situation at the country level (91.66 percent micro enterprises vs. 1.35 percent medium sized enterprises).

In designing the sample for the survey, it was hard to group the Romanian SMEs based on the definition given by European Commission<sup>2</sup> because the majority of the Romanian SMEs had less then 2 million Euro turnover in 2010. Therefore, I used only one dimension, the number of employees. The huge weight of the micro-enterprises as number (88.81 percent) in the same time with the low weight as employment - only 33.44 percent (Stanciu, 2012) conduct to the idea that a proportional stratified survey, which will reproduce this situation, will not generate relevant information.

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<sup>1</sup> National Council of Small and Medium Sized Private Enterprises in Romania, White charter of Romanian SMEs, Bucharest, Romania, 2011.

<sup>2</sup> European Commission, The new SME definition. User guide and model declaration, Enterprise and Industry Publications, 2005.

I also used as a criterion the main domain of activity. A previous study of the author (Stanciu, 2012) indicated that more than 35 percent of the SMEs are in the trade domain while other services represent more than 45 percent.

The sample used for the survey consisted of 100 SMEs mainly from Bucharest as region representative for the sector, as shown in figure 1.

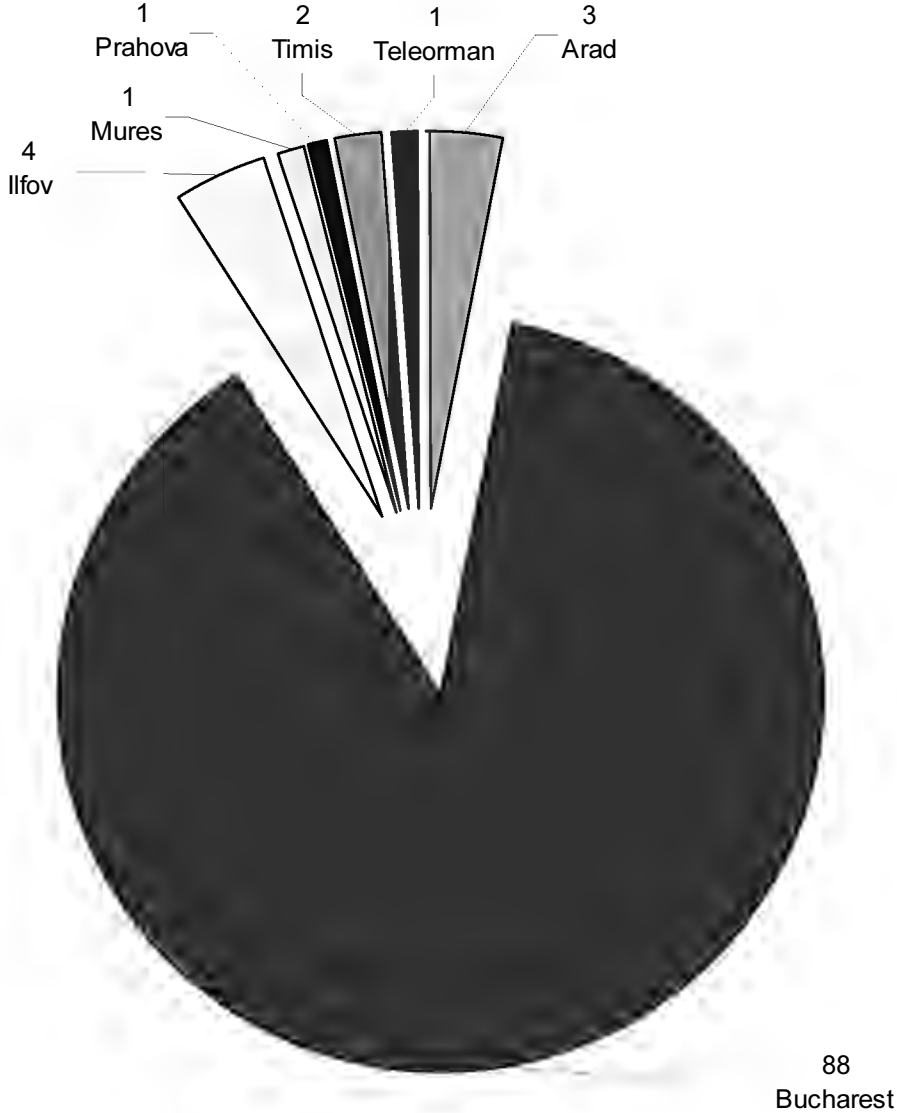


Figure 1. Regional distribution of the sample by county

Starting from the structure of the SME sector from the Bucharest-Ilfov region shown before, I needed to make some adjustments regarding the size and the main domain of activity in designing the sample to increase the relevance of the information obtained. Figure 2 shows the sample structure based on those two criteria.

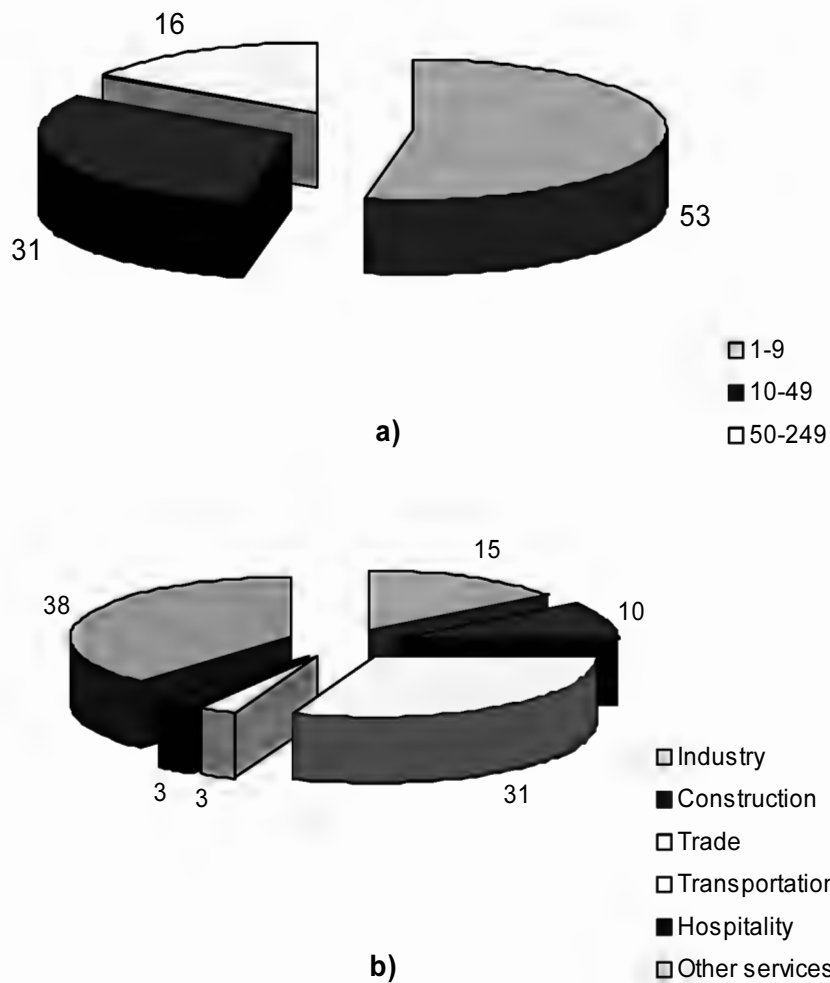


Figure 2. Sample's structure based on size of the enterprise (a) and the main domain of activity (b)

The structure of the questionnaire allowed us to obtain relevant information regarding the human resource activities in the SMEs from the discussed region.

The items were grouped in 3 main categories: (1) general information about the company – its age, domain of activity, size, the level of turnover; (2) the human resources of the company – their structure as type, level of education, gender; (3) the HR activities, the largest part of the questionnaire – the existence of a HR department, a specific strategy, the HR specific tools.

The next section shows the main findings for each of the item category.

### The findings of the survey

Table 1 summarises the data regarding the general information about the companies from the sample are, some of them being presented before (see Figure 2).



Table 1. The data regarding the general information about the SMEs from the sample

Item	No. of employees			Turnover [million Euros]			Age [years]		
	1-9	10-49	50-249	<2	2-10	>10	<5	5-10	>10
Structure (as number)	53	31	16	80	16	4	18	27	55

As one may observe, the main category of the analyzed SMEs consists of micro enterprises with less than 2 million Euros turnover and more than 10 years on the market.

The next way to analyze the sample of SMEs referred to the structure of their human resources regarding the type of employment (full-time – FT or part-time – PT), position (management – MA or worker – WO), age, level of education (higher – HE or secondary – SE), and gender (male – M or female – F). The total number of employees from the SMEs included in the sample was 2571. Table 2 presented the main findings.

Table 2. The structure of the human resources within the SMEs from the sample

Item	Type of employment		Position		Age				Education		Gender	
	FT	PT	MA	WO	18-35	35-50	50-65	>65	HE	SE	M	F
Structure												
as number	2455	116	269	2302	983	1268	303	17	1147	1424	1658	913
as percentage	95.49	4.51	10.46	89.54	38.23	49.32	11.79	0.66	44.61	55.39	64.49	35.51

As one may observe, predominates male persons (64.49 percent), in age of 18-50 years (87.55 percent). Those findings could indicate that the owners are looking for versatile persons, that in many activities predominates the physical labour, and that there is still a preconception according to which females don't have the capacity to fulfil such tasks.

It is also obvious that the number of employees with higher education is quite important (almost 45 percent) which could be partially explained by the fact that people with such education that left research & development institution and large state owned enterprises could easily fit to the new job descriptions even if in many cases there was no need for higher education.

The greatest part of the questionnaire and of course of the findings referred to the HR activities within the SMEs.

Only 27% from the surveyed companies have a HR department. By correlating the answers with the size of the company, one may observe that the finding vary from micro enterprises (none of them) to small (35 percent) and medium-sized enterprises (all of them), as shown in table 3.

In the same time, just 3 out of 73 companies that do not have an HR department referred to HR consultancy companies. The lack of understanding of the necessity and benefits of qualified help finally would lead to less efficiency, low quality of products and difficult relations with the clients.

Table 3. Correlation between existence of a HR department and the size of the company

HR department	Size of the company (as no. of employees)		
	1-9	10-49	50-249
Yes	0 (0%)	11 (35%)	16 (100%)
No	53 (100%)	20 (65%)	0 (0%)

The number of companies that develop strategies regarding their human resources represents 51% of the sample. This percentage varies from micro-companies (35 percent) to medium sized enterprises (almost 88 percent). The presence of strategies in the surveyed micro enterprises seems to be a little bit strange as long as none of them has a specialized department. By analyzing the ways those activities take place, one may observe that they consist mainly of managers' estimations (29 companies) and development of annual plans and budgets containing HR estimation based on previous experience (19 companies).

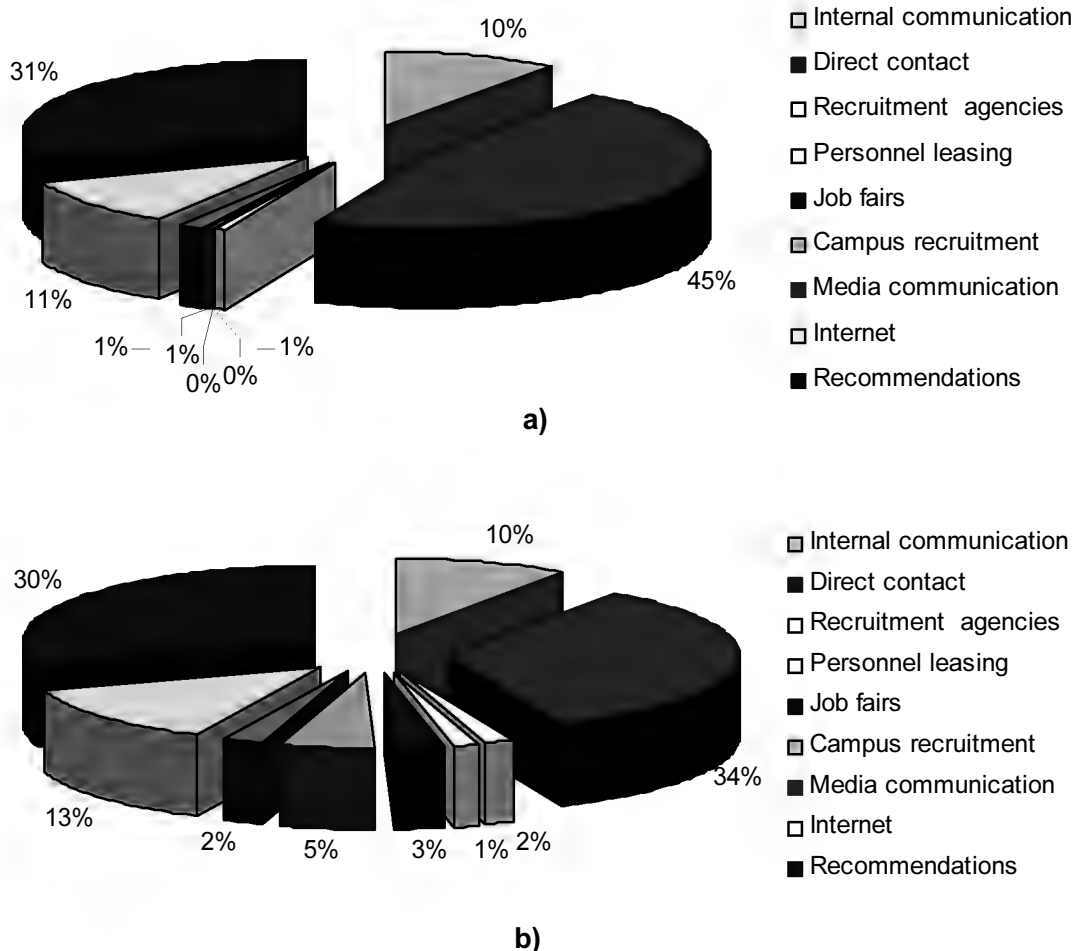


Figure 3. The distribution of the recruitment methods for managers (a) and workers (b)

Regarding the recruitment methods, the managers had to choose the methods particularly used in their companies between ten ways, listed for management position and for the rest of the employees. The most indicated methods for both management and the rest of the employees were the informal

channels: direct contact (74 percent, respectively 76 percent) followed by recommendations (49 percent, respectively 68 percent). Other methods used were announcement of the vacancies on dedicated internet sites (17 percent respectively 39 percent) and inside the organization (16 percent, respectively 22 percent). Figure 3 shows the data for each of the main categories of employees – managers, respectively workers.

Table 4 presents the selection criteria used by the surveyed SMEs together with their relative score. As one may observe, the most used selection criterion is the one that refers to competences and aptitudes proved by the applicants during the tests (which is normal). On the second place comes the qualities resulted from the interview in the detriment of the competences resulted from certificates, diploma, etc. That fact may indicate that the entrepreneurs and managers do not trust the competences provided by the present Romanian education system.

Table 4. The relative scores of the main selection criteria (5 – very important, ..., 1 – less important)

No.	Criterion	Average score
1	competences resulted from certificates, diploma, etc.	1.94
2	tenure	2.63
3	recommendations	3.02
4	competences and aptitudes proved by the applicants during the tests	4.46
5	qualities resulted from the interview	4.02

The next analysed HR aspect was the way the training process takes place in the SMEs. The first question referred to the existence of training plans in the company. Sixty two of the enterprises declared that they have such plans. Nevertheless, even if the answer was no, all the surveyed SMEs affirmed that they do some training activities. Figure 4 presents that situation.

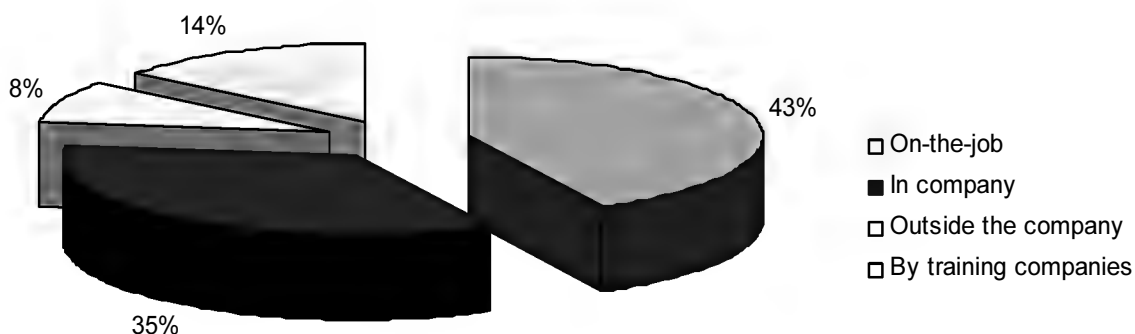


Figure 4. The main types of training used in the surveyed SMEs

Regarding the performance appraisal of the employees, 72 percent of the analyzed companies declared they have a formal system, the appraisal taking place annually (63 percent) or two times per year (29 percent), rarely more often (monthly – 1.4 percent, quarterly – 8.2 percent).

Only 25 of the respondents declared that they use more than one source of information for appraising the performance, the majority indicating the line manager as the only source which raises questions regarding the relevance of the obtained information.

This becomes more important as long as the results are mainly used substantiate administrative decisions: salary increasing/reducing (87 percent) and promotion/ downgrade (61 percent). Only 25 percent of the surveyed companies use the findings for training needs identification and none for validating the selection procedures.

The main appraisal methods used are ranking scales (52 percent) and management by objectives (44 percent), 98 percent of the respondents using only one method.

Finally, there were two questions regarding the compensation system within the company. The first one referred to the type of wage system. 74 percent from the companies use wages partially based on job evaluation, while 28 percent use individual incentive programmes. Regarding the programmes for stimulating performance, 15 percent from the companies use more than one programme. 61 of them use annual bonuses while 40 use periodically individual bonuses.

### **Conclusions**

The activity of small and medium-sized enterprises is complex, varied and influenced by a large range of factors. Talking about SMEs, one may refer to companies of different sizes, with different degrees of complexity in the management practices. Nevertheless, the approach of that sector is often homogeneous. Generally, no organizational or management system may be a model for all the organizations, even less HRM systems that deal with people that have different features, in a continuous change.

One finding of the study is that, the SMEs usually have a small management team that use a small diversity of management tools and techniques, often without knowing in depth the scientific basis of those.

There is a strong relation between the size of a company and a formalized human resource management (Kotey and Slade, 2005).

In the large companies, the HRM practices are formal. In the same time, in the SME sector those practices vary with the size of the enterprise, from informal practices in the micro enterprises to prescribed, specific and clear defined practices in small and medium-sized companies (Grigore, 2008).

As long as, the decision making process belongs only to the owner (whom is the manager of company in the same time) the need for systems, procedures and formal documents decreases in the same time with the necessity of specialized personnel to operate that system.

### **Acknowledgements**

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### **References**

\*\*\*

2011

National Council of Small and Medium Sized Private Enterprises in Romania, White charter of Romanian SMEs, Bucharest, Romania.

\*\*\*

2005

European Commission, The new SME definition. User guide and model declaration, Enterprise and Industry Publications.

**Grigore, A. M.**

2008

Cercetări privind managementul resurselor umane în întreprinderile mici și mijlocii, *Oeconomica*, Issue 02, pp. 89-112, ISSN 1223-0685.

**Kotey, B., Slade, P.**

2005

“Formal Human Resource Management Practices in Small Growing Firms”, J. of Small Business, Management, Vol. 43, Issue 1, pp. 16-40

**Stanciu, D. R.**

2012

“Analysis of SME Sector in the Economic Development Region Bucharest-Ilfov”, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Vol. XI (XXI), No.1, pp. 5.116 – 5.123.

**Stanciu, D. R., Pârgaru, I.**

2012

“An Analysis of the HR Practices in the Small and Medium-Sized Enterprises from the Development Region Bucharest-Ilfov”, Metalurgia International, forthcoming

# **Integrative Approaches to the Management of the University - Alumni Relationship**

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## **Abstract**

**Purpose** – *By investigating on the existing practices in different country-specific cultures regarding the management of the university - alumni relationship, the paper proposes an integrative approach of such practices into a broader and more complex system, aiming at an even better capitalization on the high potential of this relationship.*

**Methodology/approach** – *The study combines a survey of the literature and of the websites of a large number of universities worldwide, with research on the current practices of capitalizing on the university - alumni relationship, in different cultures.*

**Findings** – *Apparently, universities that value and capitalize on their alumni benefit from a diversity of resources which can help university maintain on the quality standards of its services and strengthen its role in society.*

**Research limitations/implications** – *Being a theoretical approach, even if based on existing practices, the theme may still be subject to further developments.*

**Practical implications** – *The more complex a university's approach to capitalizing on its alumni, the greater its potential and opportunities to improve its sustainability.*

**Originality/value** – *Looking at ways to improve the capitalization of the alumni potential, through integrative management techniques, from combining the culturally specific world experience and best practices, is genuine. Especially in the globalization era, it can offer universities even broader resources and largely improved competitive advantages.*

**Key words:** *alumni integrative management*

## **Introduction**

The world academic experience concerning the university-alumni relationship is quite extensive. Also, wherever it exists in a functional way, this relationship is historically proven (in point of viability and benefits). At the same time, it is geo-culturally diversified and institutionally specific. As well, it is on the one hand information-wise accessible (on university and/or alumni associations sites, as well as in the literature dedicated to the field), but also universally valid, as practices. That is why it appeared useful to study such practices with various important universities, aiming to identifying the multitude of possible approaches, in the sense of attempting to put them together and thus diversify the range of managerial instruments a university may use to strengthen its capacity of capitalizing the resources of its alumni community. Furthermore, through its alumni and also separately, to strengthen its capacity of accessing the support that society, as a general rule, could and should provide to universities.

Relying on the references gathered and also on the field research undertaken over the past five years, one can safely say that alumni represent a strategic resource (Stefanescu, Candea and Candea, 2009a si b; Stefanescu and Manolache, 2012c) for a university's competitive advantage (Stefanescu, Candea and Candea, 2010a). The process of institutionalizing the management of the university – alumni relationship (Stefanescu, Candea and Candea, 2011a and c) can provide

universities with tools (Stefanescu and Candea, 2012a and b) for an improved capitalization (Stefanescu and Manolache, 2011b) of their alumni potential and enhance their sustainability (Stefanescu, Candea and Candea, 2010b).

On the other hand, it is well known that specifics of educational styles differ from a continent to another and from a particular culture to another. Thus, while the European approach to education is generally considered more academic and heavily theory oriented, the American style exceeds in more pragmatically business-oriented approaches, while the methods in the Oriental countries are much more based on and subdued to community codes and goals serving<sup>1</sup>. Given the importance of education for the evolution of humankind, especially in the current era of globalization, in view of the technological advance in communication support, and the ever more internationalized companies and markets, as well as the tremendous turnover of human resources, it is time to take a closer look at these different styles in the educational systems and try to combine them in an integrative approach<sup>2</sup>, for improved effects in the efficiency of academia management.

At the same time, against the background of the ongoing crises (political, economic, financial, social, of natural resources, etc.), more and more states - even highly developed ones, cut down the national budget allocations to the educational system, especially the university one (which studies are optional) – as it is the case at the University of Sydney<sup>3</sup>. Thus, ever more universities, especially public ones, are confronted with dramatic measures to overcome financial challenges – for instance at Queensland University<sup>4</sup>, or at California State University (Krupnick, 2012).

It is especially within this framework that alumni, as well as social communities, become the essential support for preserving higher education institutions in a functional way, but also for ensuring their quality standards, so that they can fulfill their mission in society and for the future of mankind. Therefore it becomes ever more important for universities to maintain, develop and capitalize on their alumni community, as well as on their relationship with various societal sectors (also through their alumni), so that they can attract and benefit from more and more support and resources.

The experience the world has gathered in the field of philanthropy shows that both the ways in which universities appeal for support and the society's availability towards offering it differ function of specific cultural area and of institutional culture, in particular. Thus, to collect information and useful knowledge from the experience of other universities, including other national cultures may represent a major way of improving one's own institutional ways and means of managing more efficiently the university-alumni relationship and of better capitalizing on its valences. Learning from of all these practices and experiences, from all over the world, and identifying ways to combine strategic management methods in an integrative approach (Bleicher, 1994; Ellis-Christensen, 2012) could help universities get more benefits towards sustainability, especially if starting with improving and broader strengthening of their relationship with their alumni and by maximizing their capitalization of this relationship potential.

### **Worldwide University Ways of Capitalizing on Alumni Resources**

It is unanimously acknowledged that most US universities rank highest around the world, being closely followed by two or three UK universities<sup>5</sup>, all of them having achieved worldwide fame<sup>6</sup>. In the attempt to analyze the proper course and the renown of these universities in terms of their relationship with alumni and in correlation with national cultural elements, there should be underlined some specific managerial approaches whose value has been proven and which could be, therefore, interesting benchmarks and tools to be shown to and possibly to be used by other universities as well.

“Cultural differences between nations are especially found on the deepest level of values” and, in comparison, “cultural differences among organizations are especially identified on the level of practices, which are more tangible than values” (Hofstede and Minkov, 2010). If these very practices were to be subjected to an integrative approach, they might represent a common potential, not only to strengthen the universities' institutional capacities to capitalize on their

alumni values in the most efficient way, but also to go beyond cultural differences, with a view to generating global educational and societal benefits.

According to Hofstede's five Cultural Dimensions model<sup>7</sup>, applied to countries characterization<sup>8</sup>, the United States has a short-term oriented, highly individualistic, liberal and masculine culture. For the American society, these mean orientation towards rapid success gained through honest work, cooperation with people from other countries, open communication and sharing of information, respect for traditions and fulfilment of social obligations, merit-based promotion and achievement of objectives, accepting change and innovation, respect for other people's opinions, desire for the new, sustaining competitiveness, involvement and determination to know, to be the best. Lastly, this is about the well-known pragmatic orientation towards efficiency and performance. Considering this setting, the American universities also convey and cultivate these values and maintain this spirit both in the training of professionals, and with respect to organizational culture and performance. Based on such coordinates, the alumni management seems to be focussed towards achieving the two fundamental objectives: obtaining the alumni support, particularly the financial one, and getting such support from the enlarged social community as well. For instance, the 2001 alumni contributions at Harvard (Bombardieri and Schweitzer, 2005) – which is preserving its position as the world's top university<sup>9</sup>, accounted for 48% of the funds attracted by this university. The record, however, belongs to Princeton<sup>10</sup>, where the funds obtained from its alumni accounted for 60.8%, in 2011. However, the Harvard University has the top position also in terms of budget, *i.e.* \$ 32 billion/ 2009. Consequently, the capacity to attract such significant financial resources towards the mother university, beyond the other types of alumni contributions, should be, for other universities as well, a reason strong enough to learn from such practices and follow the example. An important element that makes Harvard such an attractive university is, obviously, its indisputable prestige which was built on and is maintained and strengthened by investments in the services provided. Again, this is related to the importance of attracting and being in possession of funds. This is probably why obtaining funds for Harvard appears as a dominant characteristic of the university's relationship with alumni. For this purpose, the mobilization to attract contributions is done both through the university<sup>11</sup> and through alumni associations, various foundations, clubs, societies, campus activities, etc<sup>12</sup>. More particularly, it is to note the diversity of the methods used to prompt donations: contests, awards, fund-raising activities, set-up of a contribution plan with lines directed to students, scholarships, investment projects, some educational or recreational activities, library, research, charity, social involvement, working facilities, thematic centres, services additional to the campus activity or to the activities supporting the learning process, tax exemptions, learning or special case assistance, throughout the entire alumni life, or for the graduates' heirs and friends and their families, including a parents' fund, the generic slogan being "making a difference". Everything is managed in the most transparent manner or confidentially, but providing the possibility to follow up the funds' destination and highlight significant contributions, where acceptable, and also reveal the successes achieved due to the support given.

At MIT – Massachusetts Institute of Technology<sup>13</sup>, the emphasis is on connectivity: attracting, maintaining, cultivating, extending, developing, strengthening, diversifying, and multiplying the institution's human connections, at any level and in all the possible categories of interests, involvement or penetration. Their slogan is "infinite connectivity". And this is the benchmark on which all the institution's strategic efforts are focused, starting with the University's President and up to each and every member or person who interacts with it, so that a tradition has been developed to create fidelity, bonds and a sense of belonging. This is the foundation on which everyone is motivated to join MIT's mission, as if invited to join a community with its well-defined individuality, but open and hospitable, one who cares for people and shows respect, solicitude, consideration, appreciation and reverence. The vision of MIT is that any contribution not only stands for support to the institution and its services, but actually validates it as exemplary. Hence, the special and thoughtful care which the University shows to every detail and aspect of the cultivation of its relationship with any individual, within or outside the institution.

In Princeton, the message stimulating fund raising by any individual, group or category of society prevails. In this spirit, it can also be found here an "All communities: classes, graduate, field



associations, affiliated groups, future alumni Funding Guide”, the fundraising campaign slogan being: “Your connection to Princeton lasts a lifetime. Here’s how to make the most of it”, and “Aspire”.

In Stanford<sup>14</sup>, the slogan used to approach the community and raise its interest to support the institution and its concerns and services is “Stay informed, stay connected”. In this respect, the university maintains several information and assistance facilities and programs covering various categories of interests (future and current students, alumni, parents, retired people, professors, the community, etc) at various levels and in various fields (documentation, campus visit, science, sports, cultural, recreational, socializing, health, life-long learning events, jobs, partnerships, volunteering activities, trips, etc). One of the University’s successful fundraising campaigns is “DARE – Diversifying Academia, Recruiting Excellence” (a multi-disciplinary program encompassing cross-age categories, meant to stimulate creativity in strengthening the institution’s professional expertise potential and promote the educational process at large, for the benefit of human society, focusing on its major and global issues).

At Berkeley<sup>15</sup>, the emphasis is on advertising and on the creation of partnerships, especially with the power: state government, federal government, local and community government, other public institutions, but also with other universities, museums, the community, etc. The permanent challenge to creativity and support launched here is “find a project”, “start an evolution”.

For the European continent, the Hofstede model reveals approximately the same value ranking of the five dimensional parameters for the British culture and for Australia as well. However, the British nation is viewed keen on maintaining the segregation of social classes, also being of the opinion that all individuals should be treated equally to some extent. In terms of their individualistic orientation, the British people believe in the right to private life and personal fulfilment, whereas social and personal success should be based on individual development and unique contributions to society. Driven by success, they also accept the reality of change. This is the reason why they seem to be prone to uncertainty, as they also treat everything with their specific humour, which is also apparent in their way of speaking and behaving, as if conveying meaning mostly in an indirect way. However, they are dominated by the need for creativity, innovation and novelty, at a general level, with all its risks. It is not by chance that the London Stock Exchange was set up here and that horse betting races are so popular in UK. As for higher education, this is acknowledged as extremely prestigious – in terms of status, quality standards, and academic requirements. It is still rather conservatory, but very rigorous in terms of professional approach. As in the US, higher education creates characters and defines strong personalities, but on different coordinates, *i.e.* less extravagant or extroverted. In this respect, even the university-alumni relationship is less of a business type, being rather similar to community relationships. At Cambridge<sup>16</sup>, for example, the group activities prevail and the concern for creating and maintaining such activities. They even have guidelines in place on how to set up a group (of common interest), how to coordinate or find an association for a certain area of interest, how to work in a group, etc., probably following the pattern and cultural roots of clubs, castes and social enclaves. Voluntary activities and contributions are also highly valued and even acknowledged by awards. Fund requests are only meant to disseminate education to all social groups and categories and their members, to the largest possible extent.

In Oxford<sup>17</sup>, the focus is rather on life-long learning and career, including through the support provided by alumni (as mentors, supporters or future employers). An interesting manner of obtaining funds is through an advantage card. Advantages increase proportionally with the number of additional members whom each card holder can convince to get join in his turn (this is some sort of a “pyramid system”, where everybody wins, and the “customers” network is getting higher and higher). The overseas alumni network offices, organized by continents, also seem important. The paramount career assistance is also supported by a well developed monitoring system which follows up the graduates’ insertion in the labour market, the graduates’ evolution and the support provided (financially and in terms of guidance, specialization and expertise) to ensure a spectacular individual development.

The Warwick University<sup>18</sup> prides itself on its international alumni, as a “global network”; along the same line, the studies provided by this university generally approach major problems of the humankind, including in the field of the highly advanced scientific research on health and environmental issues, on the world’s resources at risk of exhaustion, etc., and also on matters of local and global accountability and cooperation.

Still on the European continent, the Hofstede indicators for Denmark reveal a society built on balanced work relationships. Everything is done by consultation, involvement and consensus, confidence in individual honesty and seriousness. Known as trustful business partners, Danish people rank first in Europe in terms of employees’ autonomy. They neither rule nor order, but guide and cooperate, in a spirit of mutual respect. This is the reason why at the University of Copenhagen<sup>19</sup>, nothing is said about the generic aspects of the relationships with alumni, but the emphasis is placed on the involvement of alumni and of the whole institution in projects, relationships, collaborations and partnerships with companies in the economic, industrial, agricultural and production sectors, etc. Thus, both direct learning and research are possible and funds can be obtained from the goods sold or the investments made.

For Germany, a country with a strong middle class, characterized by the culture of responsibility, confidence in expertise, attention to details, appreciation for professionalism, respect for traditions, commitment to one’s duty, the self-esteem comes from keeping your word and fulfilling your tasks in the most rigorous and honest way. In such a setting, the efforts and the resources of Heidelberg<sup>20</sup>, despite being an almost international university, are allocated to excellence. In this respect, the university’s cooperation with the industry and business sectors is encouraged in order to ensure a direct and efficient path of the technology transfer from academic research to its effective and commissioned putting into practice. Thus, both parties are involved in the respective achievements and the capitalization thereof. Following this line, the alumni, as entrepreneurs or experts, are the closest to the university, both to support it, to bring such collaborations, but also to benefit from them.

Farther on, in the Scandinavian countries which are among the most prosperous in the world<sup>21, 22</sup>, and also have famous universities, the Hofstede model reveals that Sweden is a feminine type society, cultivating equity, solidarity and quality, a balanced attitude characterized by moderation and calm behaviour, the merit-based promotion being encouraged. At the Lund University<sup>23</sup>, research is strongly encouraged, since this is the European higher education institution that has received the highest number of research grants both from the national government, and from the European Union funds. This explains why Sweden had the largest number of representatives included in the Top 100 Global Innovators<sup>24</sup>. Another idea promoted here is that of long-term global cooperation and professional connectivity, by involvement in international projects, programs, associations and partnerships throughout the world, many of them being initiated or coordinated by the university. This is the reason why, in the relationship with alumni and society, fundraising is directed here to a Global Scholarship Fund, a fund of investments in promoting education and supporting talents worldwide. The slogan expressing the priorities at Lund University is “making a difference for tomorrow’s global society”. Prompted by such ideals, the university’s leaders were faced, in 2011, with an important decision regarding the distribution of the budget surplus obtained (White, 2011).

In Canada, the analysis of cultural dimensions reveals that social values are focused on egalitarianism and interdependence. However, appreciation is gained through personal merit, results and performance at high standards – including sports results. With a 150 year old alumni association, operating under the “history in the making” slogan, the McGill University<sup>25</sup> openly states that alumni are its most valuable resource, that it needs their support, in all matters and under all forms, for a lasting legacy, which should continue to nurture young talent, foster groundbreaking ideas, and address some of the world’s most pressing challenges. At the University of Toronto<sup>26</sup>, the management takes interest in alumni ever since they are students, as “future alumni”, and assists all of them, also as “senior alumni”, in maintaining a permanent life-long learning relationship.

Hofstede's studies also reveal that whereas Western national cultures are very individualistic and embrace the short-term orientation of strategic plans, the national cultures in the Middle and Far East rely on long-term strategies, being strongly committed to support the community's priority objectives.

In Hong Kong, with a collectivist culture, where people are adaptable, entrepreneurially minded and success driven, persistence and perseverance predominate. At Hong Kong University<sup>27</sup> the relationship with alumni, although strongly encouraged and motivated by investment in a long-term collaboration, is carefully managed and built on condescension, connections being created based on accessibility degrees. The same applies at the National University of Singapore<sup>28</sup>, where members of various categories are given special cards for certain privileges. However, alumni are valued as former students, the slogan used to attract the connection with them being "once a student – forever an alumnus". Students are seen as members of a "University Town", where facilities are created to develop them as members of a global generation.

At the Pecking University<sup>29</sup>, although programs for local alumni and the national community are in place, the organization seems rather focused on maintaining the interest for overseas alumni – which is quite understandable, considering the need to initiate and strengthen the connections with the rest of the world.

All these are only a few examples of the rich and diverse points of interest in the global experience, relating to the methods and actions, attitudes and approaches in capitalizing on the university-alumni relationship. Examples and case studies, useful practices and lessons to learn can be found in any place where concern, interest, openness and involvement are shown towards the capitalization of alumni resources, where the awareness of their inexhaustible potential is appropriated by the academic management and capitalized by the university's strategy.

One last geographical zone to look at, here, is New Zealand and Australia, because they represent some sort of synergy of Western management with Asian culture influences.

At the University of Auckland, a Society headed by alumni for the alumni is in place<sup>30</sup>. The fundraising campaign organized under the "Leading the Way" slogan annually collects around \$120 millions for education and research. A special fund – "Welcome Trust" used to invest in major causes, has been established for international assistance.

At the University of Sydney<sup>31</sup>, the focus is on investing in intellectual capacity. For this purpose, everyone - professors, students, alumni, parents, the governance, the business sector, the society - are called upon to become involved within an act of communion, by consultation and collaboration. Alumni and other supporters are stimulated to contribute to the university's mission by slogans such as "Giving back", "Become a mentor" and even "Donate", on an A to Z list of options to support the academic act and the university's involvement in society and the issues facing humankind. The University also set up an Institute for Sustainable Solutions, which gathers together some of the world's leading thinkers, researchers and educators, to guide the educational, research and social accountability process, by global priorities. The assistance lines offered to alumni fall under the objectives: bettering our alumni, informing our alumni, understanding our alumni, valuing our alumni, etc – which means investing in this potential which is, in the end, the university's support community and representation in society and the future evolvement of both the university and the society.

At the University of Melbourne<sup>32</sup>, the community has a special program providing access to its services and enabling it to contribute to the orientation of such services towards the best possible fulfilment of the public's interests.

At the University of Queensland<sup>33</sup> even the institution's staffs contribute in a fund to support the university.

Thus, various national cultures, and more particularly, various organizational cultures, are characterized by different orientations, approaches and priorities. However, in terms of managerial practices and instruments, differences are no longer so obvious, since in the end, this

is about the management's capacity to administer the available resources and attract other resources, capitalizing on them in the most efficient way, and achieving the major strategic goals.

### Conclusion

Any higher education institution can benefit from a wealth of valuable resources, the validity of which can be checked in time with respect to sustainability, by studying, analyzing, taking over, adapting and creatively and interactively applying managerial tools and working practices from other universities in the world. This phenomenon has already been identified in the academic world as early as the sixties, with respect to improving the university curriculum (Huber, Hutchings and Gale, 2005), and also in connection with the internationalization of higher education, especially in the current globalization era. While the concerns within the European Union for harmonizing academic studies in order to achieve an interstate recognition of graduate and post-graduate degrees are already widely known and regulated - with the Bologna Process<sup>34</sup>, such a change is under way in Asia as well.

Within the framework of such globalization trends, but also for economic and social reasons, the time has arrived when academic managerial practices should be reassessed and enriched from the highly valuable perspective of the whole academic world, and integrating approaches from all geo-cultural experiences (Heatwole, 2006). Furthermore, since alumni are a major, perennial, ever-growing and easily available university resource, which offers multiple advantages (financial, human, informational, material, of creativity and innovation, as well as social support, etc.), it is imperative for universities (even the top ranking ones) to diversify and strengthen their means of capitalizing the infinite valences of this kind of potential as efficiently as possible.

That is why a strategic-management type approach of the university-alumni relationship, allowing for the relevant global experience to be put to use in a superior and integrative manner and adjusted to the characteristic features of each higher education institution can really offer a major response to the challenges facing higher education all over the world. Furthermore, such an approach may provide numerous and various advantages to the universities, as well as a stronger social support for achieving their role in prefiguring and defining the future of mankind in a responsible way, while maintaining and enhancing their quality and ethical standards.

Human society will not be able to achieve progress in the absence of universities, not along the lines of a sustainable growth, capable of ensuring its existence and continuity. This goal, however, makes it necessary for universities to realize as well that social integration has become imperative for the fulfillment of their mission. In an era of great changes, at all levels, universities must become institutions characterized by flexibility and openness to change; furthermore, they must be a factor if not even the triggering leader of future social trends, in a capacity as learning and teaching organizations which take it upon themselves to guide the evolution of mankind.

Against this background, alumni are the universities' messengers in society and their agents of change. That is why to capitalize on the alumni community has almost become an obligation for the academic management; furthermore, an integrative approach, encompassing and capitalizing on the world's relevant experience can only be a logical and beneficial step, like any other turn towards adaptability and progress.

### Notes

<sup>1</sup> <http://EzineArticles.com/5378901>  
2006

"National Cultures: Differences and similarities between East and West"  
<http://www.filation.com/blog/2006/11/21/national-cultures-differences-and-similarities-between-east-and-west/>

<sup>2</sup> <http://www.macmillandictionary.com/dictionary/british/integrated;>  
<http://www.thefreedictionary.com/integrated>

<sup>3</sup> **ABC News, Australia**  
2012

"Budget cuts sting at Sydney University"

<http://www.abc.net.au/news/2012-02-21/budget-cuts-sting-at-sydney-university/3842788>

<sup>4</sup> **The University of Queensland, Australia – UQ News**

1996

"University announces staff appointment freeze to prepare for Federal budget cuts"

<http://www.uq.edu.au/news/index.html?article=1250>

<sup>5</sup> <http://www.usnews.com/education/worlds-best-universities-rankings/top-400-universities-in-the-world>

<sup>6</sup> **Times Higher Education – Thompson Reuters**

"World's top 100 universities 2012: their reputations"

<http://www.guardian.co.uk/news/datablog/2012/mar/15/top-100-universities-times-higher-education>

<sup>7</sup> <http://geert-hofstede.com/national-culture.html>

<sup>8</sup> <http://geert-hofstede.com/country.html>

<sup>9</sup> <http://www.topuniversities.com/university-rankings/world-university-rankings>

<sup>10</sup> <http://alumni.princeton.edu/>; <http://www.princeton.edu/main/alumni/>

<sup>11</sup> <http://alumni.harvard.edu/>

<sup>12</sup> [http://www.gse.harvard.edu/alumni\\_friends/council/nominate/#ixzz20tTHJjEX](http://www.gse.harvard.edu/alumni_friends/council/nominate/#ixzz20tTHJjEX)

<sup>13</sup> <http://alum.mit.edu/>

<sup>14</sup> <http://www.stanford.edu/gateways/alumni.html>

<sup>15</sup> <http://alumni-friends.berkeley.edu/>

<sup>16</sup> [http://my\\_alumni.cam.ac.uk/s/1321/index.aspx](http://my_alumni.cam.ac.uk/s/1321/index.aspx)

<sup>17</sup> <https://www.alumni.ox.ac.uk/>

<sup>18</sup> <http://www2.warwick.ac.uk/alumni>

<sup>19</sup> <http://alumni.ku.dk/englishkubulusalumni/>

<sup>20</sup> [http://www.uni-heidelberg.de/alumni/index\\_e.html](http://www.uni-heidelberg.de/alumni/index_e.html)

<sup>21</sup> **Reuters - Daily News Staff Writer**

2009

"Top 10 most prosperous countries in the world (the U.S. doesn't even crack the top 5!)", NY Daily News - Economic

[http://articles.nydailynews.com/2009-10-27/news/17936450\\_1\\_asian-nations-freedoms-world-s-population](http://articles.nydailynews.com/2009-10-27/news/17936450_1_asian-nations-freedoms-world-s-population)

<sup>22</sup> **Legatum**

2011

"The 2011 Legatum Prosperity Index Table Rankings", Legatum Institute/ Legatum Prosperity Index,

<http://www.prosperity.com/>

<sup>23</sup> <http://www.lunduniversity.lu.se/>

<sup>24</sup> <http://www.top100innovators.com/home>

<sup>25</sup> <http://www.mcgill.ca/aoc/column-5/about/alumni-association>

<sup>26</sup> <http://alumni.utoronto.ca/>

<sup>27</sup> <http://daaoweb.hku.hk/en/alumni/home.do>

<sup>28</sup> <http://alumnet.nus.edu.sg/module/portal/index.html>

<sup>29</sup> <http://www.pku.org.cn/eng/eindex.html>

<sup>30</sup> <http://www.alumni.auckland.ac.nz/uoa/>

<sup>31</sup> <http://sydney.edu.au/alumni/>

<sup>32</sup> <http://alumni.unimelb.edu.au/>

<sup>33</sup> <http://www.uq.edu.au/>

<sup>34</sup> <http://www.ond.vlaanderen.be/hogeronderwijs/bologna/>

## References

**Bleicher, K.**

1994

"Integrative management in a time of transformation", Elsevier Ltd. Switzerland. SciVerse, ScienceDirect - Long Range Planning, Vol. 27, Issue 5, p. 136–144

<http://www.sciencedirect.com/science/article/pii/S0024630194902348>

**Bombardieri, M. and Schweitzer, S.**

2005

"Drop in Harvard alumni donations spurs questions", Globe Newspaper Company, US

[http://www.boston.com/news/education/higher/articles/2005/11/06/drop\\_in\\_harvard\\_alumni\\_donations\\_spurs\\_questions/](http://www.boston.com/news/education/higher/articles/2005/11/06/drop_in_harvard_alumni_donations_spurs_questions/)

**Ellis-Christensen, T.**

2012

“Integrative approach”, wiseGREEK, Clear answers for common questions, O. Wallace Ed., Conjecture Corporation, <http://www.wisegeek.com/what-is-an-integrative-approach.htm>

**Huber, M. T., Hutchings, P., and Gale, R.**

2005

“Integrative Learning for Liberal Education”, Peer Review, Summer/ Fall, American Association for Colleges and Universities, Washington D.C, US [http://www.aacu.org/peerreview/pr-sufa05/pr\\_sufa05analysis.cfm](http://www.aacu.org/peerreview/pr-sufa05/pr_sufa05analysis.cfm)

**Heatwole, C.A.**

2006

“Culture: A Geographical Perspective”, Department of Geography, Hunter College, The University of the State of New York, The State Education Department, Albany, New York, US <http://emsc32.nysed.gov/ciai/socst/grade3/geograph.html>

**Hofstede, G.J. and Minkov, M.**

2010

“Cultures and Organizations: Software of the Mind”, Hofstede Foundation

Lund

**Krupnick, M.**

2012

“California State University's threatening budget”, Bay Area News Group, [http://www.contracostatimes.com/news/ci\\_21095507/california-state-universitys-threatening-budget](http://www.contracostatimes.com/news/ci_21095507/california-state-universitys-threatening-budget)

**Stefanescu, R., Candea, D. and Candea, R.**

2009a

“Alumni – a strategic resource for universities”, 5th Balcanic and 2nd International Conference on Engineering and Business Education, BRCEE&ICEBE - LBU Sibiu, Romania, Vol. 2, p. 557-561, <http://www.cedc.ro/conf.brcee/>

**Stefanescu, R., Candea, D. and Candea, R.**

2009b

„Alumni – o resursa strategica pentru universitati”, Studii si Cercetari „Intreprinderea Sustenabila”, cartea a IV-a, Ed. UTPress, Cluj-Napoca, Romania, p. 71 – 79

**Stefanescu, R., Candea, D. and Candea, R.**

2010a

“Alumni – a university’s resource for competitive advantage”, 6th International Seminar on Quality Management in Higher Education - QMHE, Tulcea, Book I, UT Press, Cluj-Napoca, Romania, p. 343 – 346, <http://www.allconferences.com/conferences/>

**Stefanescu, R., Candea, D. and Candea, R.**

2010b

“The sustainable university”, Review of International Comparative Management, Vol. 11, No. 5, p. 841 – 852, Academia de Studii Economice, Bucharest, Romania, <http://www.rmci.ase.ro/>

**Stefanescu, R., Candea, D. and Candea, R.**

2011a

“A Model for Managing the University - Alumni Relationship Strategically for Sustainability”, 7th International Conference on Management of Technological Changes, Alexandroupolis, Ed. Democritus University of Thrace, Greece, Book 2, p. 213 - 216

**Stefanescu, R. and Manolache, R.**

2011b

“Capitalizing on the Potential of University-Alumni Relationship in Romania”, 2<sup>nd</sup> Review of Management and Economic Engineering – RMEE Conference on Management of Crisis or Crisis of Management?, Ed. Toderico Publishing House, p. 192 – 198, [www.conference2011.rmee.org](http://www.conference2011.rmee.org)

**Stefanescu, R., Candea, D., Candea, R. and Manolache, R.**

2011c

„University - alumni relationship in the opinion of Romanians from the local and the international academic environment”, Studii si Cercetari „Intreprinderea Sustenabila”, cartea a IV-a, Ed. UTPress, Cluj-Napoca, p. 65 – 106

**Stefanescu, R. and Candea, R.**

2012a

“Alumni inclusion as human resources into the strategic management of the university”, 5th International Management Conference on Managerial Challenges of the Contemporary Society – MCCA, Babes-Bolyai University of Cluj-Napoca, Romania. In print.

<http://www.econ.ubbcluj.ro/mcca/>

**Stefanescu, R.**

2012b

“Managing university through business approaches”, 6<sup>th</sup> Balkan Region Conference and 5<sup>th</sup> International Conference on Engineering and Business Education and 4<sup>th</sup> International Conference on Innovation and Entrepreneurship, Sibiu, Romania. In print.

<http://cedc.ro/conf.brcee/>

**Stefanescu, R. and Manolache, R.**

2012c

“Organizational creativity and idea generation through investing in alumni potentials capitalization”, Journal of International Scientific Publication: Educational Alternatives, Volume 10, Part 2, Info Invest, Bulgaria, <http://www.science-journals.eu>

**White, M.**

2011

“University budget surplus a decisive question for the Board”

[http://www.lunduniversity.lu.se/o.o.i.s?id=24890&news\\_item=5536](http://www.lunduniversity.lu.se/o.o.i.s?id=24890&news_item=5536)

# Republic of Moldova: caught between east and west

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## Abstract

*Many studies have proven empirically that companies' productivity and performance depends on the management practices they do apply. More than that, differences in management styles of enterprises sustained by an appropriate state management are a relevant explanation of the discrepancies in productivity among countries and very important factors to succeed in a world marked by continues changes. Benefiting from internationalization process opportunities, companies and policymakers worldwide have the possibility to learn from the experience of others and take over the practices they think will guarantee them success. Till not long ago the experience of the world economic leaders –USA, Western European economies and Japan, represented a worthy model to be taken over beyond the influence that main economic partners have on a company/state specific management style. For most post-soviet countries choosing between east and west models has represented a serious concern since their independent proclamation. Now, as new economies from the developing world, continue to affirm them as rapidly growing economies and in the context of recent evolutions in the developed countries the problem of choosing between east and west seems to become a challenge for most economies. The present paper offers some reflections on this issue and the way it could be addressed.*

**Key words:** management, competitiveness, post-soviet countries, developed economies.

## Introduction

We live in an era characterized by a dynamic environment of changing social, economic and political conditions. As the internationalization process is growing, competitiveness became a critical challenge to be met by companies all over the world to perform. Now, issues as being innovative and adjusting to technological and market changes, including making improvements in the way of business management are mandatory to be considered by companies whether they want to survive the competitive pressure. And it's not only about internationally active companies. As economies reflect greater levels of freedom, the competition became stiffly even in the local markets forcing the entrepreneurs to think constantly about what to produce to better meet consumers' expectations; how to use resources more efficiently and how to organize the production process so as to increase productivity, sales and profits. Otherwise, ignoring the importance of these issues, they risk to be rejected from the market.

There is a common assumption that if companies perform well, they must have good managers at all levels of the organization (Stephen J. Dorgan, John J. Dowdy, Thomas M. Rippin, 2006). On the quality of firm's management style depends its productivity and therefore, the possibilities to earn increasing profits and foster investments. More than that, in a highly competitive global economy, improved management practice is one of the most effective ways for a firm to outperform its peers (Bloom N., Dorgan S., Dowdy J., Reenen J., 2007). Thus, as other studies have proven, variations in management practices are also an important determinant and a lucid explanation of large differences in productivity between countries (Nicholas B.; Reenen J., 2010).



It's true, that the enterprises create the wealth in an economy. However their capacity to grow is dependent on Government's policies that are responsible for building a healthy internal business environment that generates opportunities for output growth. So, the prosperity of a nation and its external image relies largely on the ideology and quality of the policymakers – their capacity to identify the deficiencies of the existing models of development and the appropriate solutions to remove them, adopting thus policies that will best suit the needs of the economic agents and will foster business development and productivity. Good policies enable and consolidate business success and all these policies and the appropriate designed actions for their implementation form the macroeconomic management model that is specific for every country, depending on its social and economic conditions.

In the above mentioned context we can conclude that the wealth of a nation is created at the microeconomic level and the enterprises productivity and prosperity depends on their management practices and that of the national authorities. At the same time, discrepancies in development level between companies and countries always have existed and in view to reduce it, the success story of the best performers, their management style used to serve as an example for the others.

### **Solving the East-West dilemma – a challenge for the future development of the Republic of Moldova**

Despite 20 years of transition, accompanied by multiple reforms, unlike other countries from Central Europe, Republic of Moldova has registered very modest performances. The country ranks among the poorest nations in Europe: foreign investments hardly come in the economy; the trade deficit is huge; the economy is very vulnerable to external shocks and finally it has very low per capita revenue. The business that is considered to create the wealth of an economy proves to be very feeble and the data for the last half-decade shows that almost half are loss-making enterprises. So, why do we register so poor performances?

When looking at the entrepreneurial behaviour of local companies, a mix of elements specific for the command economy, on the one side and for the capitalist economies, on the other side can be observed. Otherwise said, a strong oscillation between east and west occurs. Transition process from command economy to free market: progressive transfer of state property into the private hands, reducing state intervention in economy, opening access for foreign investors and trade liberalization inevitably imposed a change in managers' attitudes and respectively practices they use. As local market was opening and domestic companies became internationally active, they should review their management practices and try to enhance the mode of organizing and administer their affairs in view to adjust to the market developments and survive.

As in the case of some other post soviet economies, despite they were passing through a process of liberalization and thought a gradual reorientation towards other economic partners except those that have formed the soviet block a strong link with the last does yet exist. In this context, it couldn't be neglect the fact that the management style of companies is influenced by that of the foreign partners they have to deal with. Intensifying economic relations with foreign companies spur an exchange of managerial skills.

- Foreign Direct Investments (FDI) facilitate the transfer of advanced managerial knowledge from foreign to local firms, either unintentionally through demonstration-by-implementation and movement of trained staff or intentionally through transfer of advanced management practices to business partners in the supply chain [Xiaolan FU, 2011];
- Trade relations with foreign partners, especially in the case of those strategic one, make local companies to fit their managerial practices to partners requirements;

Migration that has achieved huge dimensions in some of the former soviet countries however is not an economic flow that could directly encourage an exchange of managerial skills between companies, it is supposed to have a great influence on entrepreneurs behaviour, including the case of young people left to make university studies abroad, even if they not always return home.

In the present, the main economic relations of Republic of Moldova are divided between two key economic partners: the CIS block to the east and European Union economies to the west. After many exhausting long run efforts, it seems that external economic relation of Republic of Moldova have registered a noticeable reorientation to the west, while the link with eastern partners remain to be enough thigh, especially with Russia. The last concentrate 10% of Moldovan FDI stock in equity, 37% of emigrants and 19.5% of external trade against 2%, and, respectively, 23% and 16% assigned to other CIS members countries.

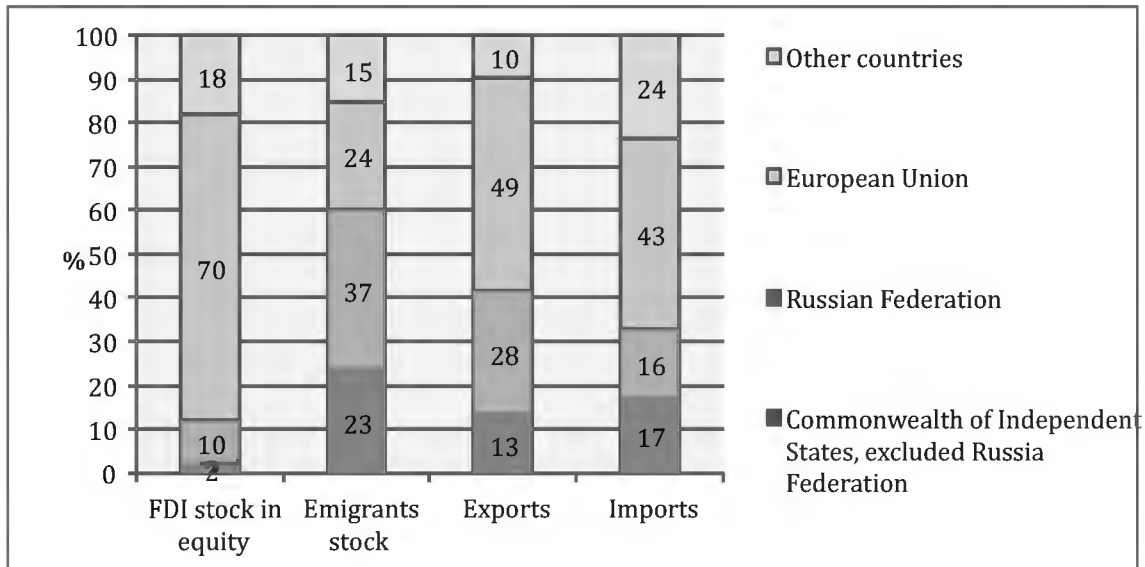


Figure 1. Distribution of the main foreign economic flows of Republic of Moldova among CIS countries, inclusively Russian Federation, and EU

**Source:** National Bureau of Statistics of Republic of Moldova, World Bank data on Bilateral Migration and Remittances 2010

**Note:** Data on FDI are for the 2011 year, 1 September; on emigrants for the 2010 year; on external trade for the 2011 year.

Despite different cultural values among European countries which make it difficult to talk about an European management style, there are some common features that could characterise business culture of these countries: the respect for the law, long term thinking, social responsibility, focus on products and services quality and consumers security etc. These obviously create incentives for the local entrepreneurs to improve and to progress whether they want to succeed on this market. At the same time the management style of eastern partners, including the Moldovan one is yet imbued with elements from the socialist past. A study shows that the management style of Russia, the central element of the CIS block and the sixth largest economies in the world, despite the high discrepancies in development compared to others former soviet republics is yet an autocratic one, characterised by a high distance in the hierarchy, little communication within the organizations, short term planning made in a top-to-bottom fashion, inherent or acquired flexible attitude towards rules and regulations etc.

After long years of transition, corporate culture of Moldovan companies is oscillating between the two poles and this swing seems to occur between a model that keep us tight to the past, based on low concerns on efficiency and quality and a style focused on primacy of competitiveness. This situation that obviously leaves a shade on enterprises perspectives to growth and on the country's development is determined as well by the Government position and policies they adopt. State policies oriented towards a highly competitive market create attractive conditions for foreign investors and ensure fair market access for all of them; promote free trade and a friendly cooperation for mutual benefits with economic partners. By the end of the last decade, despite the tremendous progresses that have been achieved in liberalizing these areas in Republic of Moldova, a high dependence on economic relations with east was yet maintained, even if it was obvious that sometimes it was detrimental to national interests and economy further development. The re-

luctance to diversify natural gas suppliers, and the delay to reforming the national quality infrastructure as local producers have had guaranteed stable markets even for the low quality products, of course with the condition for Republic of Moldova to be a disciplined partner, can serve as only some example in this sense.

Since 2009 however, a balanced position of national authorities between east and west could be seen clearer. A manifestation of the Government really concern about the national economy interests and its readiness to make radical changes that are expected to foster the long-term economic development, could represent the Moldovan choice between intensifying economic cooperation with the CIS countries by joining the Customs union of Russia, Belarus and Kazakhstan, on the one side, and with EU by creating a Deep and Comprehensive Free Trade Zone (DCFTA) that would precede the signature an of accession agreement, on the other side. As the two options in fact are not compatible, a choice between the two had to be made. Taking into account the multiple benefits of the signature of a DCFTA with EU for the further development of the country and the fact that for almost two decades the eastern bloc didn't succeed to create at least a viable free trade area in the region, manifesting for it more interest especially in the last three years, national authorities have choose the path of consolidating relation with both partners. Republic of Moldova is now negotiating a Deep and Comprehensive Free Trade, while within the CIS block the work for establishing a free trade area is in process to. We really hope that these steps will contribute to qualitative changes in our economy spurring competition and stimulating the business to improve their management practices and become competitive.

### **Concluding remarks**

Every country has its own style of management that is strongly influenced by the existing culture of its nation. However, as companies' involvement in international affairs and the degree of openness of economies began to increase, under various influences, companies have been looking to adjust their management practices: to give up the oldest one that prove to be inefficient and to apply other new. Usually, the experience of the better performers represents the most attractive models to be undertaken. Until not long ago United States, Japan, and Western Europe - the leader economies, used to play the role of pattern worthy to be followed.

However, in the case of Republic of Moldova economic relations with European Union countries have increased, especially during the last decade, the strong influence of its soviet past determined a strong oscillation of companies' management style between Eastern Europe and Western Europe. At the same time, to choose between the two vectors issued a lot of challenges for entrepreneurs and policymakers to increase their competitiveness. It may seem to be a hard step requiring a lot of commitments. However it should be made, or the inability to chose the right external vector and to establish a properly management that will meet the requirements for a sustainable development could hold Republic of Moldova among the least performing European countries for a long time.

But what about the concern that management practices of Western Europe are losing from their efficiency? The recent world crisis that began in the United States and that has turned into a profound lasting sovereign debt crisis in European Union cast a shadow on the effectiveness of management strategies applied by the economic leaders. At the same time, the accelerated growth of some developing countries like China and India that stand now in the top five biggest economies in the world, set a new challenge and dilemma for most countries: to choose properly the suitable management style between that of west and east. However is this concern well grounded? Despite the weaknesses that more developed countries have faced during the last crisis, including USA, Japan and West European economies nobody can neglect their magnitude. First of all, even some countries on our East register significantly higher growth rates compared to the developed economies in the West, the gap between their living standards remain to be very wide; secondly nobody could neglect that the development of the first mentioned is strongly sustained by the last one. The remarkable success of the fast developing east countries – China and India, besides the abundance of cheap production factors like labour and land have been sustained by enormous investments, technology and managerial skills transfer from developed countries. So, is there the case to call into question the westerners abilities to lead a business?

Or, maybe it will be the case for companies and policymakers to think about applying the best managerial practices that would fit the real business conditions indifferently from where do they come - from the east or west and taking into account the specific national context because in a certain environment they may work while in other not.

## References

**Bloom N., Dorgan S., Dowdy J., Reenen J**

2007

Practice & Productivity: Why they matter.

<http://www.stanford.edu/~nbloom/ManagementReport.pdf> (accessed 05.05.2012);

**Elena Groznaya**

2009

Conflict of generations: Business culture of contemporary Russia. Magazine for international information management "tc world". <http://82.165.192.89/initial/index.php?id=36> (accessed 19.07.2012);

**Fu, Xiaolan**

2011

Foreign Direct Investment and Managerial Knowledge Spillovers Through The Diffusion of Management Practices. Journal of Management Studies

<http://www3.qeh.ox.ac.uk/pdf/ptmd/SLPTMD-WP-035.pdf> (accessed 18.07.2012);

**Leonas Žitkus**

2011

Features of the European style of management as core competences of managers. Societal Studies. 2011, 3(3): p. 769–788;

**Nicholas B., Reenen J.**

2010

Why Do Management Practices Differ across Firms and Countries?, Journal of Economic Perspectives, Volume 24, Number 1, p. 203–224.

<http://www.stanford.edu/~nbloom/JEP.pdf> (accessed 05.05.2012);

**Porter M. E.**

1990

The competitive Advantage of Nations. <http://kkozak.wz.cz/Porter.pdf> (accessed 05.05.2012);

**Pudelko M., Harzing A-W**

2007

How European is management in Europe? An analysis of past, present and future management practices in Europe. <http://www.harzing.com/download/eurmgt.pdf> (accessed 05.05.2012);

**Stephen J. Dorgan, John J. Dowdy, and Thomas M. Rippin**

2006

The link between management and productivity.

<http://www.uexcel.com/resources/articles/LinkMgtandProductivity.pdf> (accessed 06.06.2012);

**The World's Largest Economies**

2012

May 20, 2012 . <http://www.therichest.org/world/worlds-largest-economies/> (accessed 19.07.2012);

# Organizational culture the key to the financial performance of Romanian SMEs

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## Abstract

**Purpose** – This article presents the results of a research that is aiming to discover the relationship that can appear between the characteristics of organizational culture and the financial performance indicators.

**Methodology/approach** - The study was conducted through an online questionnaire that was completed by employees in Romanian SMEs. For these enterprises, using the data on the Minister of Finance site, there were calculated financial performance indicators.

**Findings** – The financial indicators show the economic problems that SMEs had to face during this turbulent period of crisis and the cultural analysis revealed the fact that problems also come from inside the organization.

**Research limitations/implications** – These data collected and analysed can not be generalised. The number of enterprises was selected because of the limited time and resources of an individual researcher.

**Practical implications** – This research can be a good instrument for managers to diagnose the organizational culture, to observe the relations with performance and to see how do other enterprises in the field stand.

**Originality/value** – The most important point of this research is to highlight the characteristics of the organizational culture in Romanian SMEs and to initiate an analysis that can prove that there are strong cultures there is performance.

**Key words:** organizational culture, performance, SMEs

## Introduction

The objective of studying organizational culture is to help understand organizational life more. The term organizational culture was used for the first time in academic literature by Pettigrew in 1979 and it was used to explain the economic success of the Japanese enterprises against American ones. So we can say that the researches regarding organizational culture were born because of the „economic war” between the East and the West. This so called war continues still and the managers can't decide whether the eastern way to do business is more adequate or the western one.

In the recent years the researchers are in search of a model of demonstrating a link between organizational culture and enterprise performance. The direct linking between organizational culture components and performance is not a new idea. But it is an idea that few managers take in count when defining the strategies of their enterprise. One can say that is difficult to link two notions so different such as organizational culture (a qualitative dimension) and performance (in most cases a quantitative dimension defined through indicators). Organizational culture through its specific values influences directly the way objectives, policies and strategies are made in the enterprise. Organizational culture through its elements contributes to the increase of the competitiveness of the enterprise. As far as organizational culture means respecting norms and ethics in the business,

keeping and improving interpersonal relations, team work, keeping and developing traditions, creating and transmitting the most powerful values and convictions, the competitiveness of the enterprise is maintained or even improved.

Continuous performance must be the primary objective for any organization because only through performance organization have the possibility to progress and evolve. When selecting to use financial performance indicators one of the motives was that using them is easier for a person outside the organization to evaluate performance using those indicators. Many researchers say that financial performance indicators are too historical in order to offer a clear image over the performances of an enterprise (Henri, 2006). But looking objectively at the situation we can observe that the first thing that defines the state of the enterprise is the level of profit and the turnover. The most important thing is that performance indicators are not calculated for internal use. They are used for comparison with other enterprises in the same field of activity and to see where the enterprise stands.

Why choosing financial performance indicators? One can say that in the context of an organizational culture analysis would be logical to select nonfinancial performance indicators. But looking at the national reality and the reminiscences of a social mentality the authors realized that when looking at an enterprise the most important things are profit and turnover. This was the main reason for which we have not included in the research another qualitative variable, and therefore subjective. This is the mode the authors try to find a link between subjective and objective, between perceptions and numbers. The financial indicators do not offer informations about the values that run an organization or how can managers run the business. But the financial situation is the first information one can obtain about an enterprise and one of the first information that investors, clients and suppliers require.

According to Kandula (2006), the key to good performance is a strong culture. He further maintains that due to differences in organizational culture, some strategies do not yield the same results for two organizations in the same industry and in the same location. A positive and strong culture can make an average individual perform and achieve brilliantly, whereas a negative and weak culture may demotivate an outstanding employee to underperform and end up with no achievement. Therefore, the organizational culture has an active and direct role in performance management. The purpose of performance management is to transform the raw potential of human resource into performance by removing intermediate barriers, as well as motivating and rejuvenating the human resource (Kandula, 2006).

The recent economic crisis had a bad influence on the financial performances of the majority of the enterprises in Romania. But the most hit sector was the sector of small and medium enterprises (SMEs). So in order to avoid future problems and to begin reconstruction organizational culture must be diagnosed and the change must begin with it. The organizational culture is the "heart" of the organization and through this study we want to demonstrate that not only the economic crisis influences the organizational performance but organizational culture has a very important part in the development of enterprise performance.

## **Methodology**

The method used to collect data was the survey technique. The instrument used was the questionnaire sent through email to firms in the Cluj county, in the North-West region of Romania.

The questionnaire had two types of questions. The first 25 questions were dedicated to organizational features of SMEs. Some of the features considered were: the encouragement of initiative, attachment, the desire for continuous improvement, the concordance between what is stated and the true situation, the involvement of employees in taking the decisions, the trust in the management. The answers could be rated on a scale from 0 to 5. The second part of the questionnaire was dedicated to rank the organizations cultural components, the scale used was from 1 to 20. The components taken in consideration were: adaptability, stability, risk assumption, autonomy, corectitude, tolerance, competitiveness, good organization, performance, accent on quality, enthusiasm, innovation, responsibility, communication, team-work, motivation, opportunities, workplace security, accent on rules, ethics. In the end of the questionnaire the respondents were

asked a few questions about the organization such as: the year of foundation, number of employees, the domain of activity and how long they were working there. The domain of activity for the enterprises used for this study is presented in figure 1. Insert figure 1 here.

The performance indicators were calculated using the data on the Ministry of Finance site. The number of indicators was limited because on the site you can not find all the data needed in order to calculate all financial indicators. So the authors used the following performance indicators: return on gross business, return on net trade, the return on investment, return on equity, general liquidity ratio, acid test, financial leverage, rotation of total assets.

## Results

In order to exemplify the steps to take after the performance indicators are calculated and the diagnosis of the organizational culture is completed the authors have selected two enterprises from the same activity domain. The domain selected is information technology. After observing the results of the organizational culture questionnaire for the first part the components with scores below 3 were considered weaknesses and the components with the scores above 3,5 were considered strengths. Table 1 shows a comparison between the strengths and weaknesses of the two enterprises considered. Insert table 1 about here.

For the second part of the questionnaire strengths were considered the components with the scores below 8 and weaknesses those with scores over 12. The comparison for the two enterprises is presented in table 2. Insert table 2 here.

The comparison of the financial indicators calculated is presented in table 3. It is important to underline that for every enterprise the financial indicators are used to make comparisons with the principal competitors. Insert table 3 here.

The analysis of the financial indicators showed the following:

For firm A: The turnover decreased in 2009 compared to 2008 and then increased in 2010. The same trend was observed in the enterprises profit. One can observe that the general liquidity ratio is between 2 and 3, so within the normal levels in 2008 and 2009, but in 2010 falls below 2. The acid test shows that assets have a fast-moving, indicator falling within normal limits. However in 2008 the value of the acid test is quite high indicating that stocks are moving too slow. The financial leverage is normal so the enterprise has no difficulty in obtaining loans.

For firm B: The turnover increased very much in 2009 compared with 2008 and had a slight decrease in 2010 compared to 2009. The profit followed the same trend that the turnover in the three years considered. The general liquidity ratio is smaller than 2, that meaning that the enterprise has difficulties in finding liquidity to pay the debts. The acid test indicator is within the normal limits. The financial leverage has a decrease because of the fact the value of total assets fell to the equity value, but this is not a major problem because big value for this indicators increases risk.

Making a comparison of the financial situation of the two enterprises we can immediately observe that firm A has the first three indicators much higher in value than the first three indicators of firm B. That is because of a very big increase in the profit of firm A and it means that firm A has valued better the potential of the market, surpassed the crisis and had a more efficient cost policy. Also in the years 2008 and 2010 firm A has a rotation of total assets bigger than firm B, that means it was more efficient in using the assets. In the years 2008 and 2009 firm A has no problems with liquidity, but in the 2010 this problems appear.

Looking at the two tables with the cultural strengths and weaknesses we can observe that these two enterprises analyzed have more strengths than weaknesses, this observed also in the financial indicators that show the two firms have problems, but still have profit and have surpassed the economic crisis. It is important to observe that in some cases the two firms complete each other, using the weaknesses of the other in their advantage and changing them in strengths ( the role model leader, the resolving of conflicts, the functional procedures etc.). Firm B has more

strengths than firm A, but this does not mean that financial has better results. It has potential though because of a cultural stability inside the organization. It is not important that a firm has many strengths in this cultural analysis if it has also many weaknesses. It is better for a safe internal environment that the number of extremes to be small.

### **Discussion and conclusions**

The most important point of this research is to highlight the characteristics of the organizational culture in Romanian SMEs and to initiate an analysis that can prove that where there are strong cultures there is performance. These data collected and analysed can not be generalised. The number of enterprises was selected because of the limited time and resources of an individual researcher. After analyzing the enterprise we observed that many have financial problems due to the global economic crisis. But as we could notice at the two enterprises we selected the problems can be surpassed and the financial problems can be mended. Our important point is that an organization seeks to make changes to increase performance the first point is to analyze and change organizational culture. Without a strong culture performance can not be at the levels desired. The financial indicators show the economic problems that SMEs had to face during this turbulent period of crisis and the cultural analysis revealed the fact that problems also come from inside the organization. One can not achieve performance when employees are not involved in decision making, when procedures are not respected, when innovation is not a priority, when people think negative or when appears any of the weaknesses we found in the enterprises. Without managers understanding the importance of organizational culture the step ahead can not be made and performance in the true meaning will remain just a dream.

### **Acknowledgements**

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### **References**

**Aktas, E. and Cicek, I.**

2011

„The Effect Of Organizational Culture On Organizational Efficiency: The Moderating Role Of Organizational Environment and CEO Values“, 7th International Strategic Management Conference, Procedia Social and Behavioral Sciences, 24:1560–1573. New York: Elsevier

**Aluko, M.A.O.**

2003

„The impact of culture on organizational performance in selected textile firms in Nigeria“, Nordic Journal of African studies, 12:164-179

Barbulescu, C.

**1999**

„Sisteme strategice ale intreprinderii“, Editura Economica, Bucuresti

**Denison, D. and Misha, A.**

1995

„Toward a theory of organizational culture and effectiveness“, Journal of Organization Science, 2:205-223

**Gordon, G. and Di Tomaso, N.,**

1992

„Predicting corporate performance from organizational culture“, Journal of Management Studies, 6:783-798

**Henri, J.F.**

2006

„Organizational culture and performance measurement systems“, Accounting, Organization and Society, 31:77-103. New York: Elsevier



**Kandula, R.**

2006

Performance management, Prentice Hall of India, New Delhi

**Ogbonna, E. And Harris, L.**

2000

„Leadership style, organizational culture and performance: empirical evidence from UK companies“, International Journal of Human Resource Management, 4:766-788

**Ojo, O.**

2010

„Organizational culture and corporate performance: empirical evidence from Nigeria“, Journal of Business Systems, Governance and Ethics

**Tidor, A. and Morar, L.**

2012

„The Role of organizational culture in the development of Romanian SMEs“, paper presented at the ESD International Conference, Frankfurt am Main, Germany

**Zhang, M.**

2011

“Linking Organizational Culture with Performance: The Mediator and the Moderator“, Economics of Crisis, Education and Labour Chinese, Hungarian International Conference, Budapesta

## APPENDIX

Table 1 The strengths and weaknesses of the two firms resulted from the first part of the questionnaire

Firm A		Firm B	
strengths	weaknesses	strengths	weaknesses
the organization encourages team work	employees are not involved in taking decisions	the organization encourages involvement	the employees think negative
the organization has a clear mission	correctitude is less important than reducing costs	the organization encourages team work	the leader is not a role model
the organization adapts rapidly to changes	the procedures are not functional	the organization adapts rapidly to changes	
the organization surpassed the economic crisis	in the organization there are no informal meetings	the organization surpassed the economic crisis	
there is a desire for continuous improvement	the conflicts are not amicably resolved	the organization has resources to achieve the objectives	
the organization makes long term plans		the employees are involved in taking decisions	
the employees know the organizations values and ethics		there is a desire for continuous improvement	
employees fell like being in a team		what officials say is the truth	
the leader is a role model for the employees		the organization makes long term plans	
		employees fell like belonging to a team	
		employees trust the leadership	
		employees are satisfied about their workplace	
		the procedures are functional	
		in the organization there are informal meetings	
		the conflicts are amicably resolved	

Table 2 The strengths and weaknesses of the two firms resulted from the second part of the questionnaire

Firm A		Firm B	
strengths	weaknesses	strengths	weaknesses
competitivity	not being able to adapt	stability	not being able to adapt
performance	bag organizational structure	quality	bag organizational structure
responsibility	lack of innovation	communication	not rewarding performance
team work	lack of autonomy of the employees	professional development	lack of innovation
workplace security		enthusiasm	no risk assumption
		competition	no respect for rules
		tolerance	

Table 3 Comparison between the performance indicators of the two enterprises considered

Firm A				Firm B			
indicator	2008	2009	2010	indicator	2008	2009	2010
return on gross business	7.28	9.17	11.89	return on gross business	0.04	0.18	0.14
return on net trade	6.2	7.9	10	return on net trade	0.04	0.13	0.12
the return on investment	15.88	16.58	29.35	the return on investment	0.04	0.25	0.15
return on equity	34.69	34.2	67.22	return on equity	0.13	0.07	0.46
general liquidity ratio	2.55	2.16	1.74	general liquidity ratio	1.43	1.54	1.55
acid test	2.33	1.88	1.56	acid test	0.82	1.39	1.19
financial leverage	1.46	0.42	2.13	financial leverage	3.28	0.28	2.95
rotation of total assets	2.55	0.44	2.82	rotation of total assets	1.15	1.95	1.27

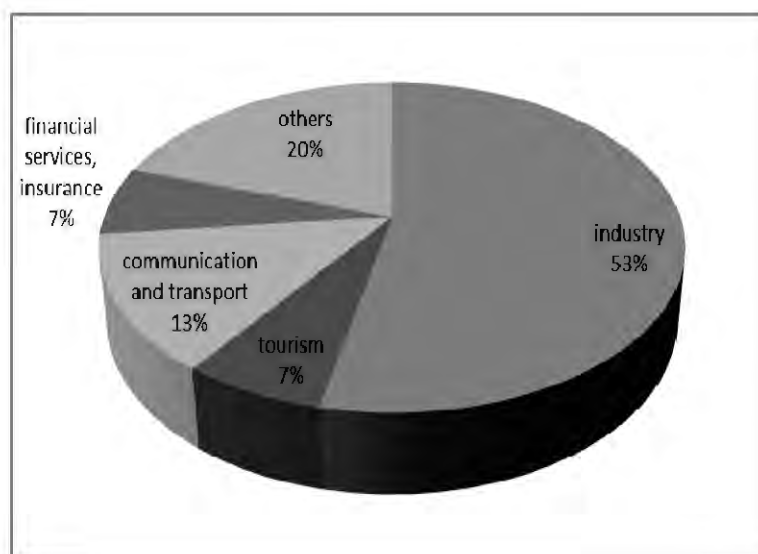


Fig.1 The domain of activity of the enterprises

# Going hand in hand? Comparing the Romanian ceramic industry with the tendencies observed in Western Europe for the period 1998-2008

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## Abstract

While the ceramic sector occupies an important part of the manufacturing industry, we started researching this sector by comparing its development in Western and Eastern countries. This paper aims to fill in the gap that exists in the domain of the development of the ceramic industry.

The research methodology is based on statistical analysis. In order to perform the desired study we used Eurostat's database and updated information. We chose to analyze four indicators in three domains of activity. All the results presented throughout this article are an outcome of a comparison between values recorded in 1998 and values recorded in 2008.

Despite the fact that Romania is an Eastern country, it recorded high increases throughout the years. Its production value grew in all the three domains of activity, and the number of enterprises also increased. Romania also registered in two domains of activity the highest investment in machinery and equipment. Romania witnessed in some cases much higher developments than some Western countries.

This paper's contribution and originality lies in the fact that it proves that Romania is quite developed, compared to Western countries. Romania has seen a very strong growth over the years, which is really gratifying.

**Key words:** ceramic industry, statistical analysis

## Introduction

Industry has always been and will always remain one of the main sectors of national economy by having an important role in achieving and maintaining a high rate of sustainable economic growth. Today, even during the crisis, companies appeal to the newest and most effective methods in order to enhance their level of performance, which is essential for an enterprise to occupy and maintain such a place on the market, which assures a continuous activity, sustainable development and success.

In the manufacturing industry the production of different ceramic products occupies an important place. As the theme chosen for the PhD thesis is entitled *Research on Industrial Enterprises' Performance Growth*, we have chosen to compare Europe's Western and the Eastern ceramic industry. Certainly, there has been and there still is a dilemma the balancing between East and West. Unfortunately, many studies show that Eastern countries are left behind when comparing them to the Western ones.

Western Europe is distinguished from Eastern Europe by history and culture, rather than by geography. There is a definition that describes Western Europe as a geographic entity, which lies in the Western part of Europe. Another definition was created during the Cold War, which was used to describe the non-communist states of Europe. Most of the countries from Western Europe are high-income developed, and have democratic political systems and mixed economies. These European borders are changing, and there are overlaps and fluctuations that make any kind of dif-

ferentiation very difficult. We are aware of the fact that there are multiple differences between East and West. These differences embrace culture, organizational culture, politics, styles of management, business ethics, ways of thinking, etc.

This paper aims to fill in the gap that exists in the domain of the development of the ceramic industry, this being presented under the form of a comparison between Eastern (Romania) and Western countries.

During the period of Cold War Western Europe was used as a reference to: Andorra, Austria, Belgium, Denmark, Finland, France, German Federal Republic, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, United Kingdom and Vatican City.

In this paper we chose to compare the Romanian ceramic industry with the ceramic industry of Austria, Denmark, Germany, Spain, France, Italy, Luxembourg, Finland, Sweden, United Kingdom and Norway.

The chosen domains of activity are the following:

- Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products
- Manufacture of ceramic household and ornamental articles
- Manufacture of ceramic sanitary fixtures

Our purpose is to present real differences that have existed and probably still exist in the:

- number of enterprises,
- production value,
- number of employees and
- gross investment in machinery and equipment.

These analyses will offer us a clearer image on the differences between Eastern and Western Europe's ceramic industry.

### **Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products**

The first analyzed domain of activity was the manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products. In the first figure we can observe how the number of enterprises oscillated between 1998 and 2008.

If we consider the values from 1998 to be 100 percent, we obtain the following: the highest growth in the number of enterprises can be observed in the case of Norway - an increase of 595.65 percent. In Sweden the number of enterprises grew by 104.32 percent. Less significant increases can be observed in the case of Romania: 16.59 percent, Austria: 16.36 percent, Spain: 11.51 percent and France: 7.26 percent. The highest decrease can be seen in Denmark: 74.79 percent, in the United Kingdom: 44.55 percent, and in Germany: 42.62 percent. In Italy and in Finland the decreases are below 21 percent.

We can also observe that Romania throughout the years had more companies activating in the domain mentioned above than Denmark, Luxembourg, Austria, Finland and Norway.

The following indicator studied is the production value among the enterprises that have as principal domain of activity the manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products.

"Production value measures the amount actually produced by the unit, based on sales, including changes in stocks and the resale of goods and services."(Eurostat)

**The manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products - Number of enterprises between 1998 and 2008**

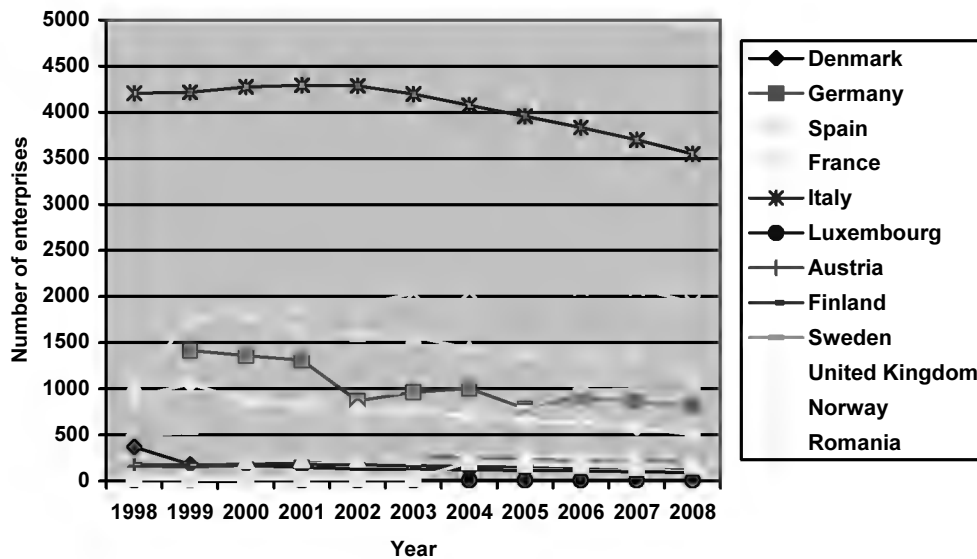


Figure 1. Evolution of the number of enterprises between 1998-2008 - Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products  
Source: Data processed by information obtained from Eurostat

The monetary data are expressed in millions of €. Despite the fact that the production value reached much higher values in Germany, Spain, Italy and France, the highest production value increase can be seen in Romania, having a rate of 40.12 percent. Romania is followed by Sweden, where the production value grew by 28.82 percent. Increases can be traced in Germany: 24.98 percent, Norway: 16.10 percent, Austria: 6.93 percent, France: 6.08 percent and Spain: 5.60 percent. The highest decrease in production value was registered in the United Kingdom, with a percentage of 47.57. Denmark also registered a fall of 29.50 percent.

**Increase/decrease of production value**

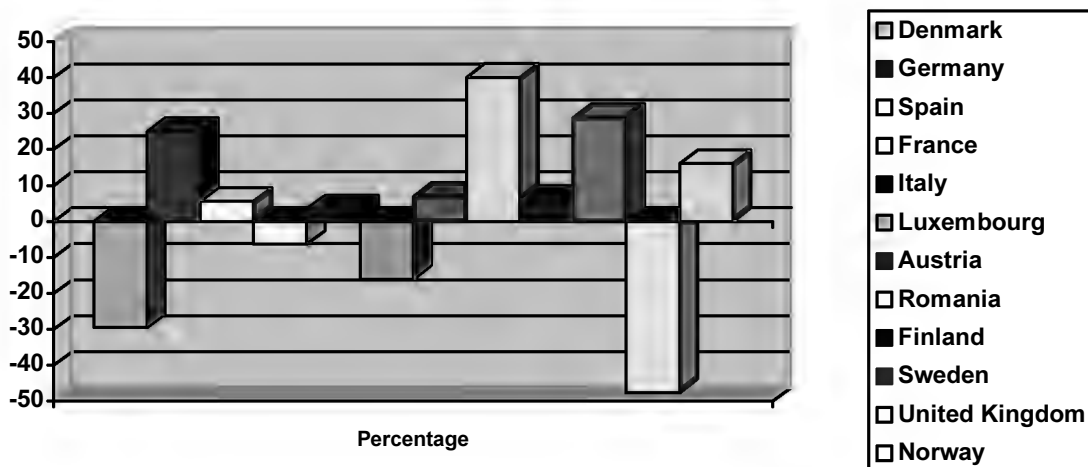


Figure 2. Increase/decrease of the production value - Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products  
Source: Data processed by information obtained from Eurostat

**Production value - Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products**

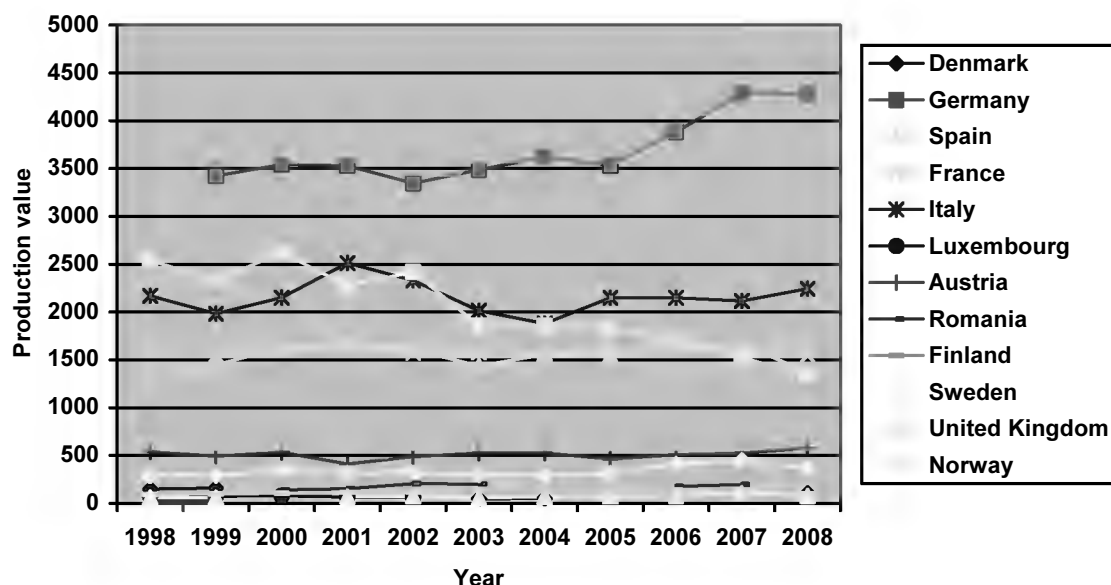


Figure 3. Evolution of production value between 1998-2008 - Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products  
Source: Data processed by information obtained from Eurostat

The third indicator chosen for monitoring the development of the ceramic sector is the number of employees. Number of employees is defined by Eurostat as “those persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind.”

If we compare the number of employees that enterprises had in 1998 with the number of employees in 2008, we can see a common phenomenon, which is the decrease of the employed persons.

In some countries this decrease reached very high rates. For example, in Denmark the number of employees decreased by 68.15 percent. Denmark is followed by the United Kingdom, with a percentage of 60.01 percent. In Norway the number of employees decreased by 48.64 percent, in Romania by 45.57 percent, in Spain by 38.38 percent, etc.

This decrease in the number of employees is probably due to the reorientation of employees to other sectors, and to the appearance of small business entrepreneurs, where they no longer appear as employees.

The fourth and last indicator consists in the gross investment in machinery and equipment. The largest investment has been made by Romania, if we compare the investment made in 2000 with the investment made in 2008. Romania’s investment in machinery and equipment increased with 280 percent. The second place is occupied by Spain, with an increase of 225.08 percent. The third biggest investment was made by Denmark: 138.18 percent.

Norway invested less in machinery and equipment in 2008 than in 1998, with 62.86 percent. The United Kingdom occupies a similar place, its investment being smaller with 63.47 percent in 2008 than in 1998. Italy also neglected investments throughout the years, its investment decreased with 42.71 percent.

**Number of employees - Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products**

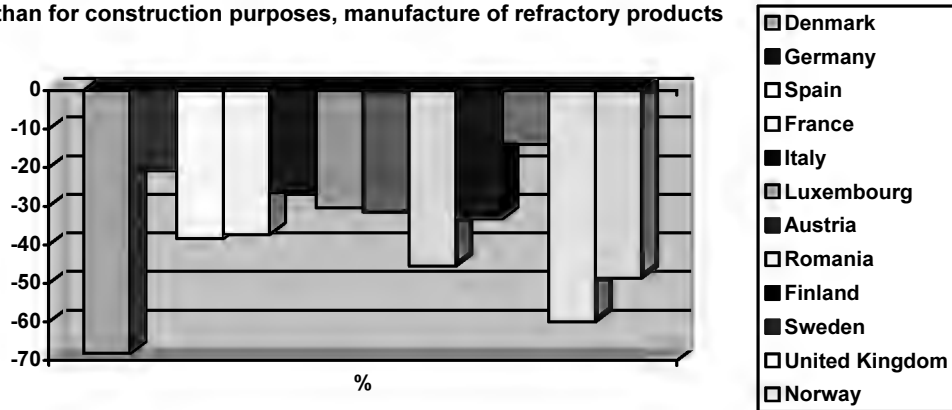


Figure 4. Evolution number of employees - Manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory products  
Source: Data processed by information obtained from Eurostat

### Manufacture of ceramic household and ornamental articles

The second domain of activity analyzed consists in the manufacture of ceramic household and ornamental articles.

In this domain of activity, the number of enterprises decreased in most of the countries. The biggest fall can be observed in Denmark, where the number of enterprises decreased by 82.89 percent, when comparing the number of enterprises existing in 1998 and the ones existing in 2008. Denmark is followed by Germany, with a percentage of 47.96 percent. Decreases can be observed in the case of the United Kingdom: 38.94 percent, Finland: 23.31 percent, Italy: 20.23 percent, Luxembourg: 12.5 percent, Spain: 5.44 percent and France: 2.74 percent. Norway registered the highest increase, where the number of enterprises grew by 725 percent throughout the years. In Sweden the increase had a rate of 118.59 percent. In Romania, the number of enterprises has seen a few small changes, but in 2007 there were 171 companies, just as in 2001.

**Number of enterprises between 1998-2008 - Manufacture of ceramic household and ornamental articles**

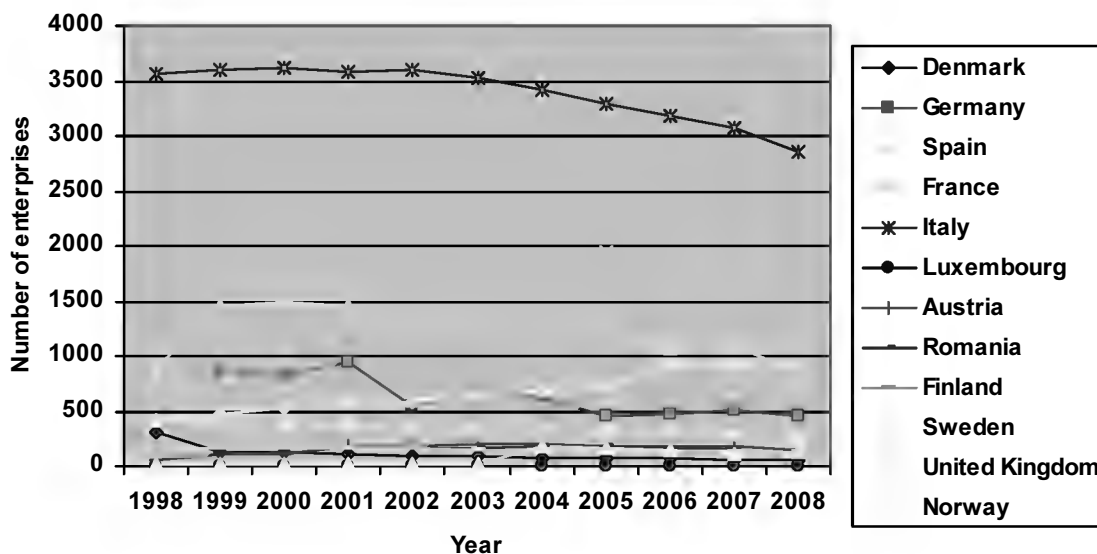


Figure 5. Number of enterprises - Manufacture of ceramic household and ornamental articles  
Source: Data processed by information obtained from Eurostat



In the 6<sup>th</sup> figure we can observe the evolution of the production value of the enterprises that are manufacturing ceramic household and ornamental articles.

The production value increased only in Norway, with 23.71 percent and in Romania with 2.26 percent. The rest of the enterprises from different countries registered larger or smaller decreases. In Finland, for example, the production value decreased by 68.96 percent, in the United Kingdom by 66.23 percent, and in Sweden by 63.45 percent.

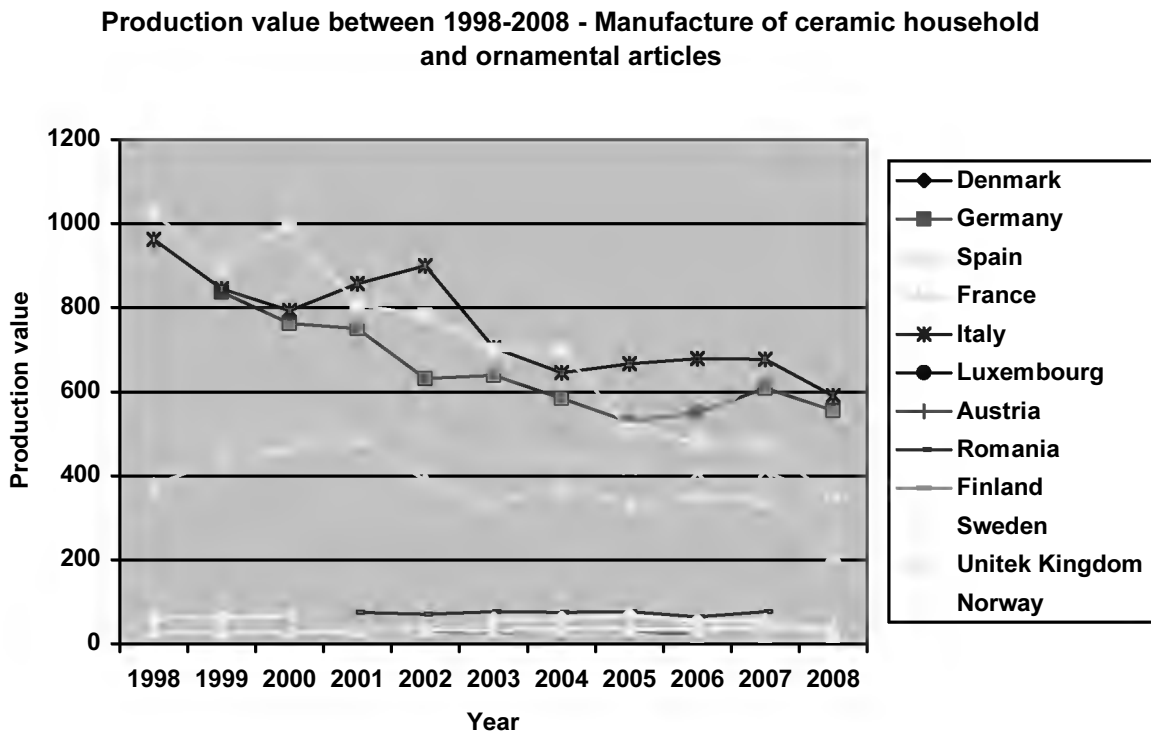


Figure 6. Production value - Manufacture of ceramic household and ornamental articles  
Source: Data processed by information obtained from Eurostat

The third indicator subjected to analysis is the number of employees. The figure below presents us how the number of employees has changed between 1998 and 2008. The common phenomenon that characterizes all the countries studied is decrease. In this domain of activity the number of employees decreased, if we compare the data from 1998 with the data from 2008. The highest decrease can be seen in Finland: 80.05 percent, which is followed by Sweden: 77.19 percent, the United Kingdom: 68.06 percent, Spain: 56.52 percent, Romania: 52.71 percent and Germany: 50.17 percent. The other countries registered decreases below 50 percent.

The leading country in gross investment in machinery and equipment is Spain. Comparing the investments made in 1998 with the ones made in 2007, we can see an increase by 205.15 percent. In fact, Spain is the only country that registered an increase. In other countries the investments decreased. The largest decline can be seen in the United Kingdom: 87.40 percent and in Italy: 81.35 percent. In Finland, the gross investment in machinery and equipment decreased by 75 percent, in Austria by 64.28 percent, and in Germany by 61.37 percent. Romania registers the smallest decrease, 5.66 percent.

**Number of employees between 1998-2008 - Manufacture of ceramic household and ornamental articles**

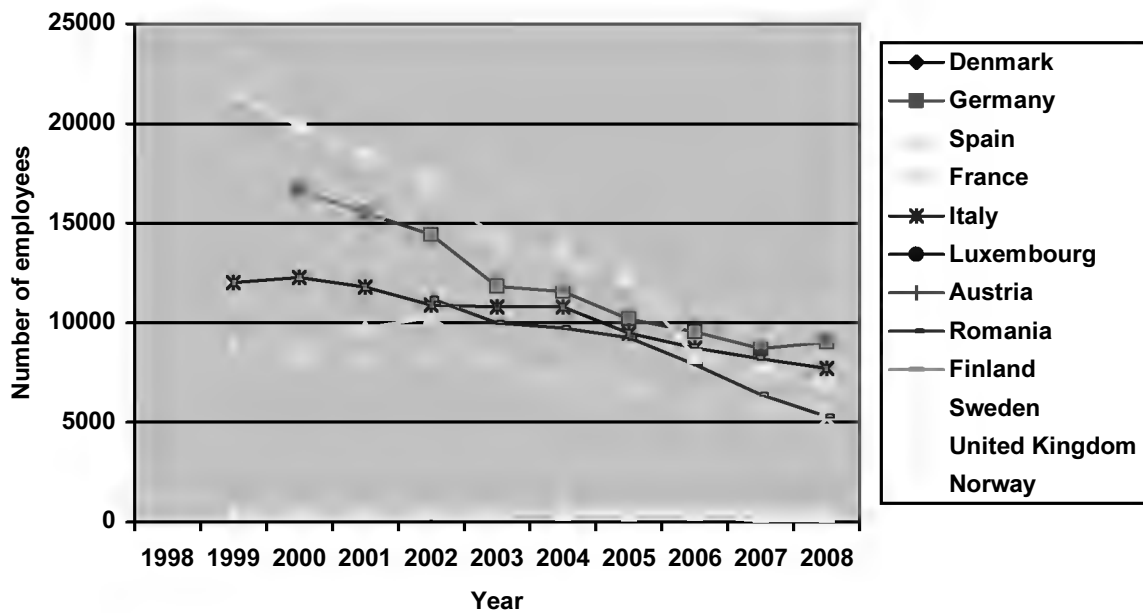


Figure 7. Number of employees - Manufacture of ceramic household and ornamental articles  
Source: Data processed by information obtained from Eurostat

**Manufacture of ceramic sanitary fixtures**

The third and last domain of activity being analyzed in this paper is the manufacture of ceramic sanitary fixtures.

If we look at the number of enterprises, comparing the numbers existing in 1998 with the ones in 2008, we can state the following: in most of the countries the number of enterprises grew. The highest increase can be seen in Norway: 300 percent, which is followed by Germany: 162.96 percent, Austria: 100 percent and Romania: 90 percent. Only two countries registered decreases: the United Kingdom: 80 percent and Finland: 66.66 percent. In Sweden the number of enterprises remained the same throughout the years. Luxembourg had no enterprises activating in this domain.

**Number of enterprises between 1998-2008 - Manufacture of ceramic sanitary fixtures**

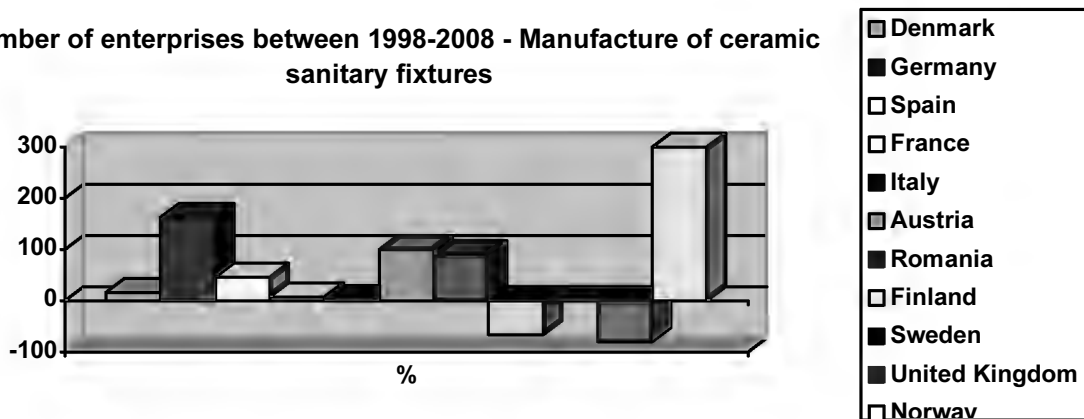


Figure 8. Number of enterprises - Manufacture of ceramic sanitary fixtures  
Source: Data processed by information obtained from Eurostat

The production value decreased only in three countries: in the United Kingdom by 25.53 percent, in Denmark by 8 percent and in Spain by 5.90 percent. In change, the highest increase can be observed in Romania, where production value grew with 466.05 percent. The second place is occupied by Norway, with an increase of 215.89 percent. Finland's production value grew by 95.15 percent and Italy's by 73 percent. While in Luxembourg there were no enterprises that manufactured ceramic sanitary fixtures, the production value is zero. Austria's data on production value was not available.

**Production value between 1998-2008 - Manufacturing of ceramic sanitary fixtures**

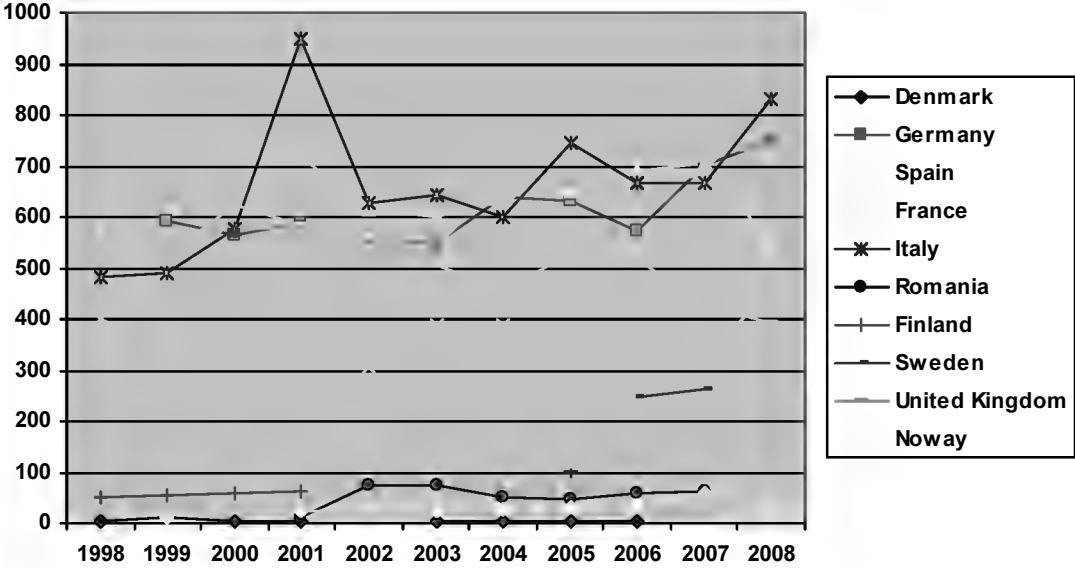


Figure 9. Production value - Manufacture of ceramic sanitary fixtures  
Source: Data processed by information obtained from Eurostat

When comparing the number of employees companies had in 1998 (or in the first year when data are available) with the ones from 2008, we can calculate the following: only two countries registered a growth in the number of employees, Romania: 72.46 percent and Sweden: 3.72 percent. In some countries the number of employees decreased significantly, for ex. in Denmark we could observe a decrease of 52.38 percent and in the United Kingdom a decrease of 56.87 percent.

**Number of employees between 1998-2008 - Manufacture of ceramic sanitary fixtures**

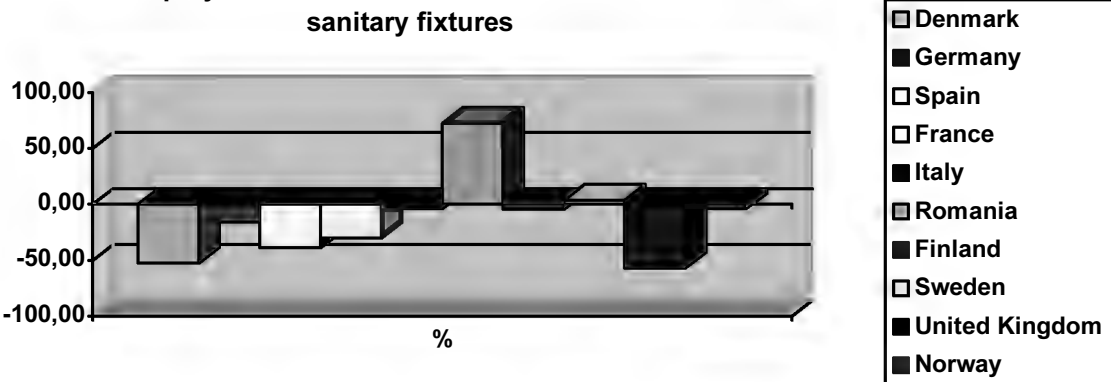


Figure10. Number of employees - Manufacture of ceramic sanitary fixtures  
Source: Data processed by information obtained from Eurostat

As we could see above, the fourth analyzed indicator consists in the gross investment in machinery and equipment. Romania is the leading country in investments in machinery and equipment, because it's investment increased by 6200 percent, when comparing the values from 2001 to the ones from 2007. Spain registered the second highest increase, having a percentage of 395.50 percent, and Denmark takes the third place, with an increase of 100 percent. Decreases can be observed in the United Kingdom: 65.25 percent, in Norway: 60 percent, in Finland: 58.82 percent and in Sweden: 45.10 percent.

**Gross investment in machinery and equipment between 1998-2008 -  
Manufacture of ceramic sanitary fixtures**

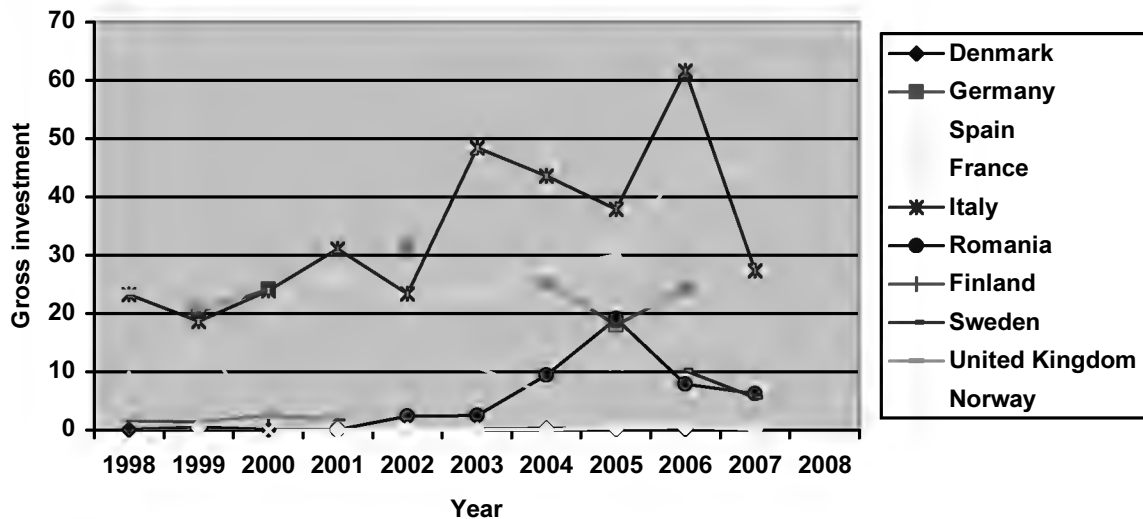


Figure 11. Gross investment in machinery and equipment - Manufacture of ceramic sanitary fixtures  
Source: Data processed by information obtained from Eurostat

### Conclusions

Throughout this article we analyzed three domains of activity: the manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory ceramic products, the manufacture of ceramic household and ornamental articles and the manufacture of ceramic sanitary fixtures. The analyzed indicators were the number of enterprises, the production value, the number of employees and the gross investment in machinery and equipment. All the results presented throughout this article are an outcome of a comparison between values recorded in 1998 (or the first year where data was available) and values recorded in 2008 (or the last year when data was available).

The first domain of activity analyzed in the present article was the manufacture of non-refractory ceramic goods other than for construction purposes, manufacture of refractory ceramic products. If we look at the number of enterprises, we can observe that countries recorded both increases and decreases. In Romania the number of enterprises grew by 16.59 percent. We can also observe that Romania throughout the years registered more companies in this field than Denmark, Luxembourg, Austria, Finland and Norway. Even though production value reached much higher values in Germany, Spain, Italy and France, the highest increase in production value can be seen in Romania, having a rate of 40.12 percent. In the number of employees we could observe a common phenomenon, this being the decrease of the employed persons. The highest increase in gross investment in machinery and equipment has been made by Romania, if we compare the investments made in 2000 with the investments made in 2008. Romania's investment in machinery and equipment increased with 280 percent.

The second domain of activity is represented by the manufacture of ceramic household and ornamental articles. In this domain of activity, the number of enterprises decreased in most of the countries. In Romania, the number of enterprises has seen a few small changes, but in 2007 there were 171 companies, just as in 2001. The production value increased only in Norway, with 23.71 percent and in Romania, with 2.26 percent. The rest of the enterprises from different countries registered larger or smaller decreases. When we look at the number of employees, we can see a decrease in all countries. The highest decrease can be seen in Finland: 80.05 percent, which is followed by Sweden: 77.19 percent, the United Kingdom: 68.06 percent, Spain: 56.52 percent, Romania: 52.71 percent and Germany: 50.17 percent. The only country that recorded an increase in investing in machinery and equipment is Spain, the others registered decreases. Romania recorded the smallest fall, having a rate of 5.66 percent.

The third and last domain of activity analyzed is the manufacture of ceramic sanitary fixtures. In most of the countries the number of enterprises grew. The highest increase can be seen in Norway: 300 percent, which is followed by Germany: 162.96 percent, Austria: 100 percent and Romania: 90 percent. Only two countries registered decreases. The production value decreased only in three countries: in the United Kingdom, in Denmark and in Spain. The highest increase can be observed in Romania, where production value grew with 466.05 percent. The number of employees increased only in two countries: in Romania with 72.46 percent and in Sweden with 3.72 percent. In some countries the number of employees decreased significantly, for ex. in Denmark with 52.38 percent, in the United Kingdom with 56.87 percent. Again, the highest investment in machinery and equipment has been made by Romania, because it's investment increased by 6200 percent, when comparing the values from 2001 to the ones from 2007.

Despite the fact that Romania is an Eastern country, it recorded high developments throughout the years. Its production value grew in all the three domains of activity mentioned above, and the number of enterprises also grew. Romania also registered in two domains of activity the highest investment in machinery and equipment. Of course, there is still room for improvement, because there in some cases are significant differences between the production value or the amount invested, when we compare Romania's data with some of the Western countries'. However, we can say that Romania has seen a very strong growth over the years, even when compared to the Western countries subjected to analysis, which is really gratifying.

## References

**Constantin, C.**

2006

"Sisteme informatice de marketing. Analiza și prelucrarea datelor de marketing. Aplicații în SPSS", Editura Infomarket, Brașov, ISBN (10) 973-8204-895, ISBN (13) 978-973-8204-89-8

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Politica industrială, Capitolul 15, Conferința Interguvernamentală pentru aderarea la Uniunea Europeană

**Eurostat**

<http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>

**Macquaid P.**

2001

"An overview of the Romanian and Bulgarian ceramic industry",

<http://cat.inist.fr/?aModele=afficheN&cpsidt=1088777>

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<http://www.international.ucla.edu/euro/countries/westeurope/index.asp>

# The Strength of Organizational Culture as a Key Organizational Performance Indicator

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## Abstract

**Purpose** – *The aim of this paper is to analyze a connection between the strength of organizational culture and the financial performance of organizations that are doing business in the Czech Republic and to analyze if there is a difference in the given connection between Czech-owned and foreign-owned organizations.*

**Methodology/approach** - *The research is based on structured data collection via questionnaire that was distributed to the representatives of selected organizations. The final research sample consists of 77 selected organizations based in the Czech Republic. The measurement of strength of organizational culture is based on the measurement of selected organizational culture features. The obtained data were analysed by standard methods of descriptive statistics.*

**Findings** – *The results of research carried out in the Czech corporate environment point out to the existence of significant relation between the strength of organizational culture and performance of organization. Furthermore, it appears that the strength of organizational culture is influenced mainly by the environment supporting mutual cooperation of organization members, by a suitable process of socialization, and by existence and knowledge of various stories from the organization's environment and specific language.*

**Research limitations/implications** – *The realized research can serve as a pilot verification of findings from abroad in the region of Central Europe (CEE), namely in the Czech corporate environment.*

**Practical implications** – *It is an academic research without concrete practical implications.*

**Originality/value** – *This research is based on specific and relatively simple method that is focused on basic but important features and characteristics of organizational culture. Also, it should be mentioned that such research is realized in the Czech Republic for the first time.*

**Key words:** *Strength of Organizational Culture, Content of Organizational Culture, Organizational Performance.*

## Introduction

The organizational culture has not played a significant role in controlling organizations under the conditions of planned economies of CEE countries. The prevailing command and control style represented a dominant way of controlling organizations. Only in connection with the performed transformation of CEE countries' economies and the adoption of market economy principles a phenomenon of organizational culture influencing the organization control began to emerge. After more than twenty years since the realized transformation of economy it is possible to evaluate its impact on management of organizations operating in the market environment. The extent to which the importance of organizational culture in post-transformation stage has increased is the subject of this paper. It can be assumed that building successful organizations operating in the

market environment is associated with building strong organizational culture which positively influences their performance and economic success.

The contemporary findings of management, sociology or psychology confirm that success of organization depends to a large extent on the capability to create such conditions that lead to the formation of individual and corporate attitudes and values focused on cooperation, reliance, loyalty and personal responsibility. In other words, the success of organization depends on its members and organizational culture. In this regard the organizational culture presents a significant competitive advantage of organization and one of the main subsystems of organization without which an organization would be very unstable. The appropriate organizational culture is the basis of efficient system of organization and of success of organization. Deal and Kennedy (1982: 4) stated that organizational culture has a powerful influence on organizational life and behaviour, in strong organizational culture "everyone knows the goals of the corporation, and they are working for them".

The aim of the paper is to find out, by means of analyzing a sample of organizations, whether a connection between the strength of organizational culture and the performance of organization exists. Taking into account the fact that the concept of the strength of organizational culture has not yet been clearly defined, we specify the strength of organizational culture by means of presence of key features which are characteristic for the organizational culture. It means that clearly defined shared values, rituals, specific language and stories occur in a strong organizational culture. Last but not least a process of socialization emerges in organization.

### **Theoretical background**

In connection with various features or characteristics of organizational culture the academic community pays attention also to the strength and content of organizational culture. Barnes et al. (Barnes, Jackson and Hutt, 2006: 255) defined strength of organizational culture "as a multidimensional phenomenon that includes the strength of the prevailing value system and the following cultural dimensions that communicate the underlying values of the organization to its employees - stories, heroes, rituals, ceremonies, and the cultural network". This specification results in the significance of features characterizing the organizational culture. The paper is focused only to certain features of organizational culture. For the purpose of our research only the features representing the Schein's levels of organizational culture (Schein, 2004) have been selected. The shared values and cultural artefacts as the process of socialization, rituals, practices, stories and the used language have been included into the selection. Thus the artefacts of non-material nature prevail in the selection since they are relatively well observable and interpretable and represent an external manifestation of lower levels of organizational culture. Nevertheless, the other levels cannot be completely neglected either. From this reason the selection consists also from such shared values representing a medium level of organizational level which have a key influence on decision-making, behaviour and acting of the organization members and thus on their performance. The deepest level of organizational culture in the form of basic assumptions has not been included into the selection owing to a very difficult identification and comprehension. The essence of these basic assumptions belongs rather to the area of psychology as it is related to such questions as the attitude to life, attitude to work, self-perception, etc.

Most of authors who investigate the connection between organizational culture and organizational performance or efficiency (Wilkins and Ouchi, 1983; Barney, 1986; Camerer and Vepsalainen, 1988; Saffold, 1988; Gordon and DiTomaso, 1992; Kotter and Heskett, 1992; Denison and Mishra, 1995; Sorensen, 2002; Sanders and Cooke, 2005; Weinzimmer, Franczak and Michel, 2008; etc.) think of the organizational culture and its strength as the key factors that influence success of organization. These authors have defined the strength of organizational culture as the degree of sharing organizational culture elements and the degree of belief in organizational values with minor differences. The consequences of strong organizational culture are in most cases thought to be positive and supporting economic objectives of organization. And the experience prove that strong organizational culture defined as "a function of some combination of the following: who and how many accept the dominant value set; how strongly, deeply or intensely the values are

held; and how long the values have been dominant” (Gordon and DiTomaso, 1992: 785) may have a dominance on organizational performance and functioning.

## **Methodology**

A quantitative research design was chosen to identify the effects and impacts of the strength of organizational culture on organizational performance. Assuming the influence of organizational culture on the organization performance the strength of organizational culture has been determined (utilizing the elements of organizational culture and their sharing), as well as the performance of organization (utilizing the elements of financial approach to the performance of organization and its key index - Return on Assets (ROA)). The next step of research was the data collection. In its framework the measurement of selected elements and strength of organizational culture has been carried out, together with quantification of the selected index ROA. Altogether 105 organizations based in the Czech Republic took part in this research. For our research a specific method has been used. Though it originates from a number of theoretical models and approaches to investigation of organizational culture it does not copy any of the methods applied till now. In order to collect data in selected organizations a relatively simple tool having the form of a semi-structured questionnaire has been designed. It is focused on key aspects of organizational culture as the contents - shared values and cultural artefacts – as well as the strength. This questionnaire was given to the representatives of selected organizations who operate mainly at medium and lower hierarchical level. Each of these representatives was thoroughly trained in filling up the questionnaire.

The filled up questionnaires were analysed and then transformed to category scale for the purpose of conducting quantitative analysis. Financial and other quantitative data were collected from available corporate documents. The quantitative data collected were then processed by means of MS Excel and submitted to a statistical data analysis utilizing software R (version 2.15.0). The qualitative data obtained through questionnaire helped to interpret the results.

With respect to the fact that the aim of research is to reveal presence or absence of selected elements and the extent of their sharing, purely qualitative research methods have not been used. Research has been focused more on quantitative indication of presence of certain selected characteristics of organizational culture determined beforehand. Consequently, only a reduced subset of all the characteristics of organizational culture has been submitted to the analysis. Therefore, respondents have not expressed their complex opinion on the organizational culture but restricted themselves to the characteristics contained in the questionnaire. This reduction was carried out with the aim of subsequent utilization of multidimensional methods of statistical analysis and comparison of individual analyzed subjects.

The first research question is whether there is a significant influence of the strength of organizational culture on organizational performance and whether there are differences in analyzed influence between Czech-owned and foreign-owned organizations. Our assumption is that Czech-owned organizations have stronger organizational culture because their owners – founders – are of the Czech origin and come from the Czech cultural environment. So that, we assume no conflicts between the cultures of owners – founders, cultural environment and the cultures of other members of organization. Possible cultural conflict could negatively influence acting, behaviour and performance of members and organization as a whole. The second research question is whether there is a significant relation between the content of organizational culture and the strength of organizational culture.

## **Results**

One hundred and five organizations based in the Czech Republic were chosen to take part in the survey but the data from 77 organizations were collected and classified as complete for the purpose of our survey. Twenty-eight organizations were excluded from the survey because the data were not complete. The most common reason of exclusion was linked to low transparency and unavailability of financial statements. The final sample covered organizations of different sizes, different ownership, different legal form and different sectors of economy. Fourteen organizations are small enterprises, 21 are medium enterprises and 42 are large enterprises. Forty-two organi-



zations are owned by Czech owners and 35 have foreign owners. Two main legal forms dominate the sample – joint stock company (38 in total) and limited liability company (37 in total). Only two organizations are running under cooperative. The largest number of organizations (28 in total) comes from manufacturing sector.

Seven ordinal variables have been monitored during research – three shared values, three cultural artefacts and the strength of organizational culture (see Table 1 in Appendices); in addition one quantitative variable – ROA (min=-15.6, max=29.0, mean=5.4, sd=8.1; the values are in percent). The first idea of dependence of ROA on the strength of organizational culture and the ownership of organization or the strength of organizational culture on the shared values and cultural artefacts is given by Figures 1 and 2 in Appendices.

The dependence of ROA on the strength of organizational culture and on the ownership of organization (two explanatory variables – Czech-owned or foreign-owned organization) is analyzed by means of the linear regression. More precisely, the model was specified by the formula:

$$EY = \beta_0 + \beta_1x_1 + \beta_2x_2$$

where EY denotes the mean value of ROA,  $x_1$  the strength of culture and  $x_2$  indicates whether it is a foreign-owned company or not, i.e.  $x_2=0$  for Czech-owned and  $x_2=1$  for foreign-owned organizations. Estimates of regression parameters  $\beta_1$  and  $\beta_2$  as well as the result of the test of their significance can be found in Table 2.

Table 2 ROA vs. Strength of organizational culture and ownership of organization

Explanatory Variable	Estimate	95% Confidence Interval	p-value
Strength of organizational culture	2.410	(0.820; 4.001)	0.003
Ownership of organization (foreign-owned vs. Czech-owned)	0.598	(-2.917; 4.112)	0.736

The model demonstrates a statistically significant dependence of ROA on the strength of organizational culture. In other words, with the increasing strength of organizational culture also ROA on average increases while we cannot reject that the slope of increase is equal at Czech-owned and foreign-owned organizations ( $p=0.950$  for possible interaction between the organizational culture and the ownership of organization). More precisely, if the strength of organizational culture increases by one evaluative degree, ROA increases on average by 2.4 percent. Though the average ROA at foreign-owned organizations is higher by 0.6 percent, this difference compared to Czech-owned organizations is not statistically significant ( $p=0.736$ ). Therefore, at five percent significance level the difference in dependence of ROA and the strength of organizational culture between Czech-owned and foreign-owned organizations cannot be proved.

The dependence of strength of organizational culture on chosen features of organizational culture (six explanatory variables – shared values: focus on performance or relationships between members, focus on rivalry or cooperation, focus on profit or general benefit; cultural artefacts: process of socialization, rituals and practices, stories and organizational language) is analyzed by means of the model of ordinal regression using cumulative logits and proportional odds. In particular, the model was specified by the formula:

$$\text{logit}[P(Y > j | x)] = \log \frac{P(Y > j | x)}{P(Y \leq j | x)} = \alpha_j + \beta_1x_1 + \beta_2x_2 + \dots + \beta_6x_6,$$

$$j = 1, \dots, 4$$

where  $Y$  represents the strength of culture and  $\frac{P(Y > j | x)}{P(Y \leq j | x)}$  are so called odds( $Y > j | x$ ), that the strength of culture attains a degree higher than  $j$ . Coefficients  $\alpha_1, \dots, \alpha_4$  and  $\beta_1, \beta_2, \dots, \beta_6$  denote unknown regression parameters and  $x_1, x_2, \dots, x_6$  explanatory variables. The results of regression analysis are presented in Table 3. It illustrates the point and interval estimates (with 95 percent confidence) of odds ratio constructed on the basis of ordinary regression. Moreover, the table illustrates the achieved level of the test whether the odds ratio is equal to one or different from one.

Table 3 Strength of culture vs. shared values (relations, cooperation, benefit) and artefacts (socialization, rituals, stories)

Explanatory Variable	Odds Ratio	Confidence Interval	p-value
Relationships	0.989	(0.601; 1.628)	0.966
Cooperation	2.369	(1.382; 4.063)	0.002
General benefit	0.791	(0.452; 1.384)	0.412
Socialization	1.936	(1.243; 3.016)	0.003
Rituals and Practices	1.325	(0.883; 1.989)	0.174
Stories and Language	1.685	(1.082; 2.625)	0.021

After adjustment for the influence of other five variables, the strength of organizational culture exhibits the statistically significant dependence on the following shared values: cooperation (the lesser competition and higher level of cooperation, the more prevailing are higher values of the strength of organizational culture compared to lower ones); and from the cultural artifacts then on socialization and stories (again, the higher is the level of socialization or the higher is sharing the language and stories, the higher is the chance of strong organizational culture). From the estimate of the odds ratio we can conclude that from the three specified variables the cooperation has the highest effect (increase of chance by 136.9 percent) and the lowest the stories (increase of chance by 68.5 percent) with a unit increase of given variable and fixed values of the other variables.

### Discussion and conclusions

The results of research carried out in the Czech corporate environment point out to the existence of significant relation between the strength of organizational culture and performance of organization that was expressed by means of ROA. This relation was investigated with respect to the type of ownership of organizations which formed the sample for research. Research has lead to the conclusion that performance (ROA) exhibits statistically significant dependence on the strength of organizational culture both at Czech-owned and foreign-owned organizations. Effect of ownership in the present relation has not been proved. Thus, the difference in dependence between the Czech-owned and foreign-owned organizations cannot be identified. Therefore, this result has not confirmed the assumption that in the case of Czech-owned organizations a closer dependence between the strength of organizational culture and performance exists due to accordance of the organizational culture and the culture of the owners and other members of organizations.

The second part of research has shown that the strength of organizational culture is influenced mainly by the environment supporting mutual cooperation of organization members, furthermore by a suitable process of socialization, i.e. the process of adopting the values, language, norms of behaviour etc., and existence and knowledge of various stories from the organization's environment and specific language. These our findings again confirm the already published conclusions of a number of authors (Boje, Fedor and Rowland, 1982; Deal and Kennedy, 1982; Mitroff and Kilmann, 1976; Andrews and Hirsch, 1983; etc.), as just these elements of organizational culture are most often cited in the definitions of organizational culture and when its content is specified.

We are certainly well aware of certain limitations of this research. First of all it concerns of expressing the organization performance by means of ROA. The case that international companies

transfer a part of their financial funds to their controlling company abroad is rather frequent one. In most cases the reason is to reduce the profit in the Czech Republic and taxation on the country of their origin. The second limitation can be found in a frequent discordance between the data about the organizational culture and the data about the organization performance. The data about the organizational culture were gathered in 2011, however, the data about performance (the value of assets and economic results) were gained mainly from annual reports for the year 2010. Nevertheless, there is no reason to assume that during that relatively short period a fundamental change in the organization performance or the organizational culture happened as change of organizational culture is a long-term process. Finally, though the results of research have confirmed the significance of influence of organizational culture on the organization performance also in the Czech environment, it will be necessary to verify these results in near future on a larger sample of organizations.

In any case, the results of research have brought some interesting findings about organizations from a post-transformation CEE country. From the perspective of the strength of organizational culture and its influence on the organization performance, the organizations based in the Czech Republic thus do not differ from those operating in well developed economies.

## References

**Andrews, J.A.Y., and P.M. Hirsch**

1983

"Ambushes, shootouts, and knights of the roundtable: The language of corporate take-overs." In L.R. Pondy et al., *Organizational Symbolism*. Greenwich: JAI Press.

**Barney, J.B.**

1986

"Organizational Culture: Can It Be a Source of Sustained Competitive Advantage?" *The Academy of Management Review*, 11 (3): 656-666. <http://www.jstor.org/stable/258317?origin=JSTOR-on-page>

**Barnes, W.J., W.D. Jackson, D.M. Hutt et al.**

2006

"The role of culture strength in shaping sales force outcomes." *Journal of Personal Selling & Sales Management*, 26 (3): 255 – 270.

**Boje, D.M., D.B. Fedor, and K.M. Rowland**

1982

"Myth Making: A Qualitative Step in OD Interventions." *The Journal of Applied Behavioral Science*, 18 (1) : 17-28.

**Camerer, C., and A. Vepsalainen**

1988

"The Economic Efficiency of Corporate Culture." *Strategic Management Journal*, 9 (Summer): 115-126. <http://www.jstor.org/stable/2486217?origin=JSTOR-on-page>

**Deal, T.E.; A.A. Kennedy**

1982

*Corporate cultures: The rites and rituals of corporate life*. Massachusetts: Addison-Wesley Pub. Co.

**Denison, D.R., and A.K. Mishra**

"Toward a Theory of Organizational Culture and Effectiveness." *Organization Science*, 6 (2): 204-223. <http://www.jstor.org/stable/10.2307/2635122>

**Gordon, G.G., and N. DiTomaso**

1992

"Predicting Corporate Performance from Organizational Culture." *Journal of Management Studies*, 29 (6): 783–798. [http://www.orbee.org/images/5cc-resource-files/1314693114\\_Gordon%20%26%20DiTomaso%20\(1992\).pdf](http://www.orbee.org/images/5cc-resource-files/1314693114_Gordon%20%26%20DiTomaso%20(1992).pdf).

**Kotter, J.P., and J.L. Heskett**

1992

*Corporate Culture and Performance*. New York: The Free Press.

**Mitroff, I.I., and R.H. Kilmann**

1976

"On organizational stories: An approach to the design and analysis of organizations through myths and stories." In Kilmann, R.H. et al., *The Management of Organization Design: Strategies and Implementation*: 189 - 207. New York: Elsevier-North Holland.

**Sanders, E.J., and R.A. Cooke**

2005

"Financial Returns from Organizational Culture Improvement: Translating Soft Changes into Hard Dollars." <http://www.humsyn.be/Financial%20Returns%20from%20Culture.pdf>.

**Schein, E.H.**

2004

*Organizational Culture and Leadership*. San Francisco: Jossey Bass

**Sorensen, J.B.**

2002

"The Strength of Corporate Culture and the Reliability of Firm Performance." *Administrative Science Quarterly*, 47 (1): 70–91. <http://www.jstor.org/stable/10.2307/3094891>.

**Weinzimmer, L.G., J.L. Franczak, and E.J. Michel**

2008

"Culture-performance research: challenges and future directions." *Journal of Academy of Business and Economics*, 8 (4): 152–162. <http://www.freepatentsonline.com/article/Journal-Academy-Business-Economics/192852612.html>.

**Wilkins, A.L., and W.G. Ouchi**

1983

"Efficient Cultures: Exploring the Relationship Between Culture and Organizational Performance." *Administrative Science Quarterly*, 28 (3): 468-481.

<http://www.jstor.org/stable/2392253?origin=JSTOR-on-page>

## Appendices

### Appendix I

Table 1 Frequency distribution of variables in view

Variable/Strength of organizational culture	Weak	Rather weak	Middle strong	Rather strong	Strong
Relationships	6 (7.8%)	34 (44.2%)	23 (29.9%)	13 (16.9%)	1 (1.3%)
Cooperation	0 (0%)	6 (7.8%)	17 (22.1%)	35 (45.5%)	19 (24.7%)
General benefit	20 (26%)	41 (53.2%)	14 (18.2%)	1 (1.3%)	1 (1.3%)
Socialization	8 (10.4%)	9 (11.7%)	19 (24.7%)	26 (33.8%)	15 (19.5%)
Rituals and Practices	15 (19.5%)	17 (22.1%)	13 (16.9%)	26 (33.8%)	6 (7.8%)
Stories and Language	7 (9.1%)	17 (22.1%)	19 (24.7%)	26 (33.8%)	8 (10.4%)
Organizational culture	4 (5.2%)	10 (13%)	20 (26%)	28 (36.4%)	15 (19.5%)

### Appendix II

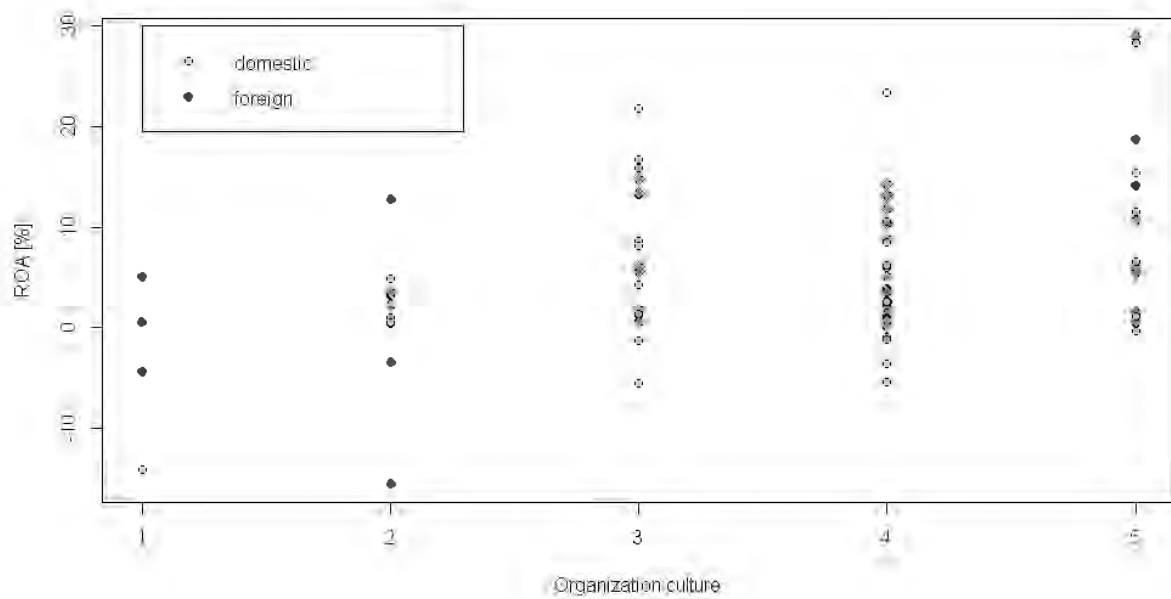


Figure 1 Scatterplot – ROA vs. Organizational culture

### Appendix III

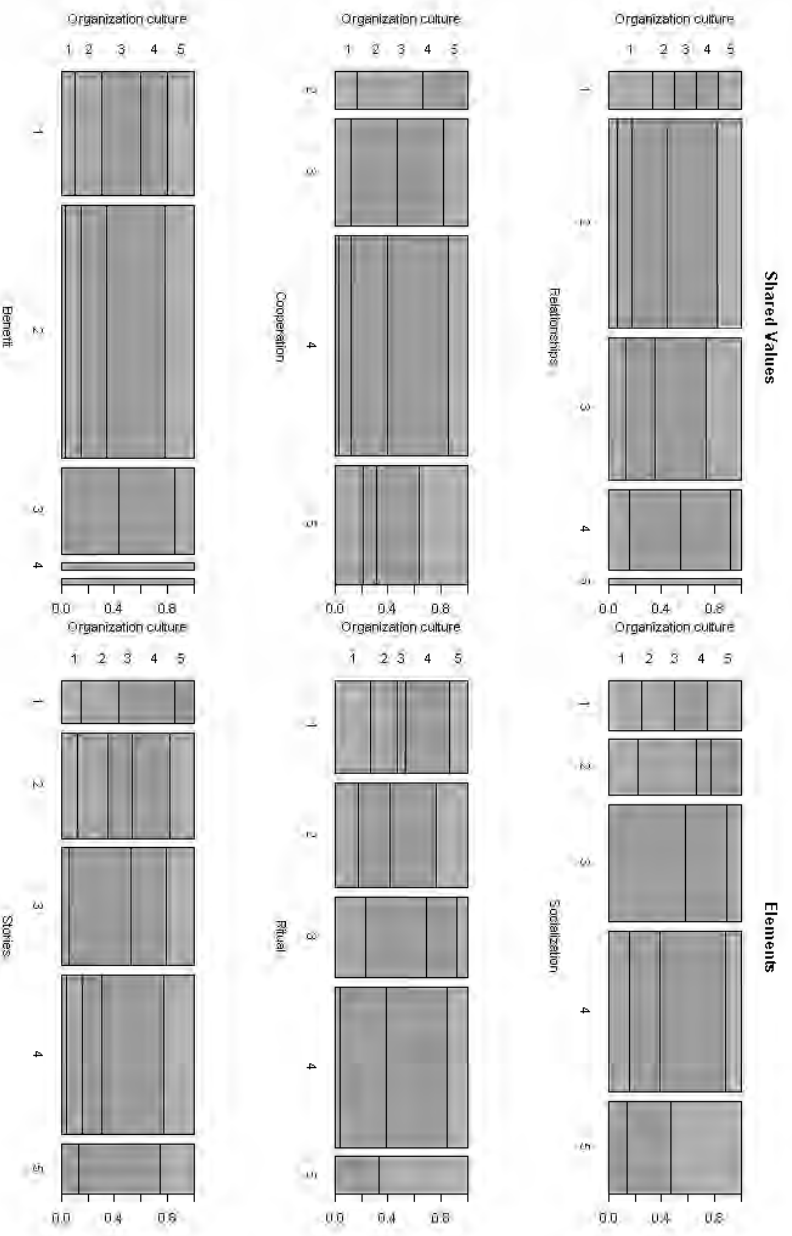


Figure 2 Cumulative Barplots – Organizational culture vs. shared values and cultural artefacts (The column width represents proportional frequency of variable visible on X axis)

# The competencies dilemma between east and west for economics engineering graduates

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## Abstract

*The purpose of this paper is a comparison between the skills acquired by graduates of a higher education in economic engineering specialization in Romania and those acquired by graduates of the same specialty in the EU 15 countries. Also, the paper aims to highlight the paradigm of "mass education" and its justification in the eastern EU countries and the involvement of employers in decisions about the curriculum in universities. The research methodology was based on comparative studies of official documents of the universities, the documentation provided by the relevant authority in the field of higher education, the Bologna Declaration, Regulation (ECTS) and at last but not the least, the author's own experience. The result of the investigations, shows that there is a general basis of knowledge provided by the universities to the graduates, which form certain common competences generally accepted. Except for Romania, the specific skills of the students acquired during the specialization of economic engineering, until the end of their studies, takes into account the demands of the employers for regional specific of labour market, the regional economic environment and the tradition of universities in teaching and research. Of course, documentary sources were limited to information - often not enough - offered by the authorities. This paper proposes a set of five indicators that can be used in practice, so that a creative curriculum can be realized in harmonization between countries in Western and Eastern EU, taking into account the specific needs of the local labor market and traditions. A synthetic scheme of the educational process, criteria for harmonization are the paper original elements that can be widely used in higher education across the EU.*

**Key words:** local labor market, curriculum.

## Introduction

After the meeting of education ministers in Bologna and Berlin, where they set future directions for higher education in European Union (EU) countries, between 14 to 16 October 2004, took place in Valladolid (Spain) the International Symposium on: "New Methods and Curricula in Engineering in the New Europe" and then "Icer-2011, 4<sup>th</sup> International Conference of Education, Research and Innovation" in Madrid. Hosting these scientific events by the Polytechnic School of the University of Valladolid and European University of Madrid was not accidental: Spain, the country relatively new entered in the EU, managed the reform in higher education faster and better than other states, states that founded of the European Union. Moreover, through the European University of Madrid, Spain has contributed greatly to the introduction, verification and validation of concepts, underlying modern methods and curricular reform in education, for an easier join between graduates' competencies and the demands of labour mobility under an EU constantly expanding, an increased complexity of equivalence problems and recognition of diplomas (initial training, master and doctoral), and the greater volume of knowledge in the field of technical information that has to be sent to the students [Zichil and Abrudan, 2005].

## The integration of education in Europe

From the time of the Bologna Declaration, EU countries are united in the effort to form a "European Higher Education Area". Thematic projects had developed networks formed between universities, faculties, departments, academic or professional associations, with a declared aim in order to define and develop a new European dimension, based on academic disciplines imposed or other measures of common interest. In addition, these projects (Thematic Network Projects - NPT) had to provide quality assessment and cooperation through curricular innovation, to promote new methods of improving education and to facilitate dialogue between academic institutions and industrial society. In other words, these projects have to determine compatibility between the different possibilities existing in Europe, to obtain the engineer diploma and to facilitate better integration and greater labour mobility (Socrates-Erasmus programs I and II are an integral part). Analysis of the results obtained by this project, demonstrates the contribution to: formation of academic networks, the use of ECTS credits, continuing education, evaluation of academic quality and safety system. These achievements should not be a final stage, but a solid basis for further development [Borri and Maffioli, 2004].

Unfortunately, the process was not completed in all EU countries, thus there are significant differences between prestigious universities in England, Germany or France, where engineering education, for example, was structured in cycles of five years, while in countries as Romania and Bulgaria is structured, in all universities in the country, by cycles of four years. Of course, there are universities in western European countries where engineering is structured also in four years (so called Fachhochschule in Germany, or IUT in France). It also begs questions regarding graduates' skills. In the 12<sup>th</sup> year of the new millennium, it is obvious that most engineers will work in an international environment. Furthermore, development of science and technology is so fast, as is difficult to pass to all students at the same time, all results obtained in basic sciences, as well as recent developments [Hansen, 2004]. Research has become more complicated and as an immediate result, most engineers works in interdisciplinary teams. No one is able to know and do alone everything in his / her activity.

History of globalization, can start in the Middle Ages, where universities were standard-bearer of global education: teachers were invited from different countries, students from remote areas with varied cultural baggage, the language of instruction was Latin or Greek language and all exams passed and the diploma were recognized throughout Europe. After the Second World War, multinational companies have gained a dominant position: today, 75% of industrial products in the world, are made of 100 large industrial corporations. Only this example reflects well enough new challenges to higher technical education [Szentirmai, 2004].

Basically, the learning process can be outlined as that in Figure 1. Based on skills and competences acquired in undergraduate education, through curricula structure, modules of study, the graduate will acquire skills in higher education and the ability to convey knowledge. If we refer only to engineering education, after 4 years of study, were the foundations of cognitive science were established, the following specialization will be done by master studies. Admission to the master education is conditioned by the number of credit points (240 ECTS), without conditioning the skills. Theoretically, a graduate in engineering studies, in 5 years cycle (300 ECTS) may enroll in university master in engineering (where min. 240 ECTS are required), or a graduate of medical education (360 ECTS) may also enroll masters studies in engineering because it's expertise conditioning is not relevant.

In EU countries, as in the U.S., universities, the faculties of engineering incorporated, have retained a specific local, regional or in accordance with the tradition of teaching and research. A sample curriculum for economic engineering education program, aiming only the arrangement of the fundamentals, given by the specific of the university, is presented in Table 1. "During the first year, work is divided between lectures in Engineering Science (about ten a week), Engineering Science practical classes (about five hours a week), and college tutorials (two a week). In the second and third years a similar pattern exists, but in this case courses in Management and



Economics are also followed and there is a corresponding increase in the number of tutorials. After the third year, students embark on a 24-week Management or Engineering project, at the end of which a major report is submitted for consideration as part of the examinations at the end of the fourth year" [[www.ox.ac.uk](http://www.ox.ac.uk)].

Or, if you look at the economic engineering education in Germany, a good example of competences acquired by graduates, it is the Hochschule Mittweida within University of Applied Sciences - Mittweida [[www.wv.hs-mittweida.de](http://www.wv.hs-mittweida.de)], which states: "The increasing complexity of operational processes, specialization in management and a rapid development in technology and business terms gave rise to the need for a new breed of managers who are able to integrate the many divergent effect of staff, technical and economic problems in a general review on and always look to keep the cost-benefit ratio in mind. In practice this means that the industrial engineering and its applications is preferred at the interface of technical and economic problem areas, such as planning, organization, efficiency, marketing, etc. Its main application is the socio-technical entity "operation". Therefore comes to the technical and economic subject areas as the third pillar of education in industrial engineering familiarization with the social context, questions as humanization of work, personnel management, etc. An important addition for the future leadership is in terms of the worldwide opening of markets to knowledge of foreign languages".

### **The relationship: academic competencies - employers**

There is a difference between the competencies offered in higher education and economic engineering employers' demands. A good example is the IG Metal, requiring flexibility and advanced research: "A medium-and long-term business planning and technology assessment, an individual must be possible, so that business can be further developed or newly developed. With more responsibility for local management, flexible, decentralized corporate structures would be created to implement the developments more quickly and bring to market. The development of key technologies in the enterprise must remain so in the company's technological expertise is not thinned and sustainability will be undermined. No offshoring for cost reasons, because this has a negative effect on the research and development results and the recruitment of junior staff from. R & D employees need greater freedom for scientific and technical solutions can not be generated by pressing a button. Reputable research indicates that every now and then progressing only gradually, and they shall be under the mistaken title" [[www.igmetall.de](http://www.igmetall.de)].

In Romania, the skills offered by economic engineering education and beyond, were set centrally by the Ministry of Education, Research, Youth and Sports, organized by consortia have been established competencies, abilities and transversal competencies. This set is presented in the **National Higher Education Qualifications Registry** [[www.ncis.ro](http://www.ncis.ro)], containing strictly:

#### **Professional competencies:**

- C1 Make calculations, demonstrations and applications to solve specific engineering and management tasks based on knowledge of basic science;
- C2 Develop and interpret economic and management technical documentation;
- C3 Fabrication, testing and commissioning of products, equipment and mechanical systems;
- C4 Exploitation of products, equipment and mechanical systems;
- C5 Design, implementation and improvement of management systems;
- C6 Management of the firm and resources management;

#### **Competencies:**

- C1.3 Application of basic principles and methods of basic science for making calculations, demonstrations, development of specific projects and identifying of the processes;
- C2.3 Using the principles and methods for designing mechanical components with defined input in terms of qualified assistance;

C3.3 Using the principles and methods of technological design and manufacturing of mechanical components with inputs defined in terms of qualified assistance;

C4.3 Using the principles and methods for evaluating the functionality and maintenance of mechanical components, structures, equipment in terms of qualified assistance;

C5.3 Application in terms of effectiveness and efficiency of legislation, standards and specific principles of management systems (quality - environment - operational security - corporate social responsibility);

C6.3 Application in terms of effectiveness and efficiency of law and basic principles in the management of material, human and financial resources;

### **Transversal competencies:**

CT1 Responsibly application, of the principles, norms and values of professional ethics in professional tasks and objectives to achieve identification of available resources, for the working stages, the duration of execution, the deadlines involved and the risks;

CT2 Identification of roles and responsibilities in a multidisciplinary team and applying effective techniques and working relationships within the team;

CT3 Identify training opportunities and efficient use for their own development, sources of information and communication resources and computer-based training (Internet portals, specialized software, databases, online courses, etc..) Both in Romanian language and a foreign language;

This uniformity - imperative titled – of the competencies offered by higher education across the country, eliminate the tradition in teaching and research of the local and regional universities, and disregard the requirements of employers', specific to each zone. Indirectly, requires to universities to work after an identical curricula - or very similar - if we consider that these competencies are provided by a discipline or group of disciplines. Moreover, the competencies provided by the university are coded centrally by the name "grid 1" and discipline or group of disciplines that provide them under the name of "grid 2" [see [www.rncis.ro](http://www.rncis.ro)]. The problem of the competencies conferred by a university or another, in one country or another, is not an abstract question. This concept to be analyzed in accordance with the study method proposed (see Figure 1), is quantified mainly by three statistical indicators: the absorption of graduates of academic institutions in the labor market, the degree of dissatisfaction of employers to a area who would like graduates to be trained and / or have technical knowledge, and the ability to solve the issues raised in the first six months of activity, in the workplace [Sanz, Garcia, Villalba de Benito, 2004].

All three indicators are closely linked to the employers. As a result, the employers requirements should be the based of a curriculum development. In EU countries, this was partly solved by attracting employers' representatives in councils of faculties and involving representative firm in local and regional community, in the direct financing of higher education.

The authors propose five summary indicators, presented in Table 2, by analyzing of which are several considerations about the degree of harmonization of higher education in Eastern EU (Romania is an Eastern country) and the West, or between EU 15 and EU 27.

### **Mass education paradigm**

Bologna curriculum integration model, had stated also the purpose to provide for eastern EU, a process of education that gives equal opportunities in training of all undergraduated people with the high school diploma for university graduates. In 2000, Romania's active population (15-64 years) include 10.5 million people, the share of university graduates is 9.5%. Until 2009, the share of those with higher education rises up to 16.4% [<http://businessday.ro>]. The increase is significant but, comparing the percentage values of the population with higher education in Western countries with those in Romania, shows that the number of graduates in higher education is very low. Thus in Canada the percentage of university graduates is 50%, in the U.S. is 41%, in Norway, Finland and the UK is 37% [[www.catchy.ro](http://www.catchy.ro)]. In the U.S., Canada and Japan, the percentage of university graduates was over 30% since 1997, while in Poland the same year

was only 10%. In 2009, the percentage increased to 20.1% in Poland. In absolute numbers, in Romania, the number of people with academic education, increased from 1 million in 2000 to 1.53 million in 2009 [<http://businessday.ro>].

Because of these discrepancies, in terms of free movement of EU citizens and the liberalization of access to employment in most western EU countries, the EU 15 countries prefer to educate, with specific skills, students from Eastern EU. There is an aggressive marketing action of Western universities in Eastern countries [<http://www.universities.ro>], due to the decreasing number of younger school education graduates in the West, following a negative demographic evolutions.

### **Discussion and conclusions**

In the „Social Contract” (1762), which begins with the memorable line, Man was born free, but he is everywhere in chains, J. J. Rousseau argues that a civil society based on a genuine social contract rather than a fraudulent one, would provide people with a better kind of freedom. He was inquired in particularly in problems concerning education [[www.answers.com](http://www.answers.com)].

On the other hand Albert Schweitzer outlined the idea that there are dual opinions within society: one regarding civilization as purely material and another regarding civilization as both ethical and material. He stated that the current world crisis was, then in 1923, due to a humanity having lost the ethical conception of civilization. In this same work, he defined civilization, saying that it "is the sum total of all progress made by man in every sphere of action and from every point of view in so far as the progress helps towards the spiritual perfecting of individuals as the progress of all progress [[www.answers.com](http://www.answers.com)].

Undoubtedly, harmonizing curricula between EU countries have the advantage of candidates to ensure equal academic institutions, can grant funds from various EU programs for research funding, programs involving students and teachers mobility for doctoral studies and last turn, creates the prerequisites of a market development jobs that offer the same conditions of higher technical education graduates through recognition of diplomas regardless of country of origin within the EU.

At the same time, if such harmonization is a rigid process, imposed at an entire country, regardless of traditions, particularities or regional interests, there is danger of regress instead of progress. Therefore, the harmonization of curricula should be done creatively, taking into account the interests of employers, who are indirect beneficiaries of the skills acquired by university graduates, not only to economic engineering.

### **References**

**Borri, C., Maffioli, F.**

2004

“Thematic Network Projects in Engineering Education: recent past and near future” in “Abstracts of the International Symposium on New Methods and Curricula in Engineering in a New Europe”, 14<sup>th</sup> – 16<sup>th</sup> October 2004, Valladolid, Spain.

**Hansen, J.**

2004

“International Engineering Students in Cross-Cultural, Interdisciplinary Teams” in “Abstracts of the International Symposium on New Methods and Curricula in Engineering in a New Europe”, 14<sup>th</sup> – 16<sup>th</sup> October 2004, Valladolid, Spain.

**Sanz, L., F., Garcia, M., J., Villalba de Benito, M.**

2004

“Analysis of Student and Graduates Profiles in Informatics Engineering Degrees As a Tool for Addressing Society, Employers and Learners Demands” in “Abstracts of the International Symposium on New Methods and Curricula in Engineering in a New Europe”, 14<sup>th</sup> – 16<sup>th</sup> October 2004, Valladolid, Spain.

**Szentirmai, L.**

2004

“New Teaching and Learning Technology in the Globalisation World” in “Abstracts of the International Symposium on New Methods and Curricula in Engineering in a New Europe”, 14<sup>th</sup> – 16<sup>th</sup> October 2004, Valladolid, Spain.

**Zichil, V., Abrudan, I**

2005

“Tendințe în evoluția învățământului tehnic superior din Europa” in Review of Management and Economic Engineering, Vol. 4, no.1 (13), page 15, ISSN 1583-624X.

**The web**

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[http://www.ox.ac.uk/admissions/undergraduate\\_courses/courses/engineering\\_economics\\_and\\_management/engineering\\_1.html](http://www.ox.ac.uk/admissions/undergraduate_courses/courses/engineering_economics_and_management/engineering_1.html)

<https://www.wv.hs-mittweida.de/index.php?id=211>

[http://www.igmetall.de/cps/rde/xchg/internet/style.xsl/wirtschaft-engineering-for\\_schulung-und-entwicklung-1004.htm](http://www.igmetall.de/cps/rde/xchg/internet/style.xsl/wirtschaft-engineering-for_schulung-und-entwicklung-1004.htm)

[http://www.rncis.ro/portal/page?\\_pageid=54,1&\\_dad=portal&\\_schema=PORTAL](http://www.rncis.ro/portal/page?_pageid=54,1&_dad=portal&_schema=PORTAL)

<http://businessday.ro/07/2011/cati-romani-au-studii-superioare-si-cum-stam-in-comparatie-cu-alte-tari/>

<http://www.catchy.ro/cele-mai-educate-popoare/25593>

<http://www.universities.ro/>

<http://www.answers.com/topic/jean-jacques-rousseau>

<http://www.answers.com/topic/civilization#ixzz220qNchxs>

## Appendices

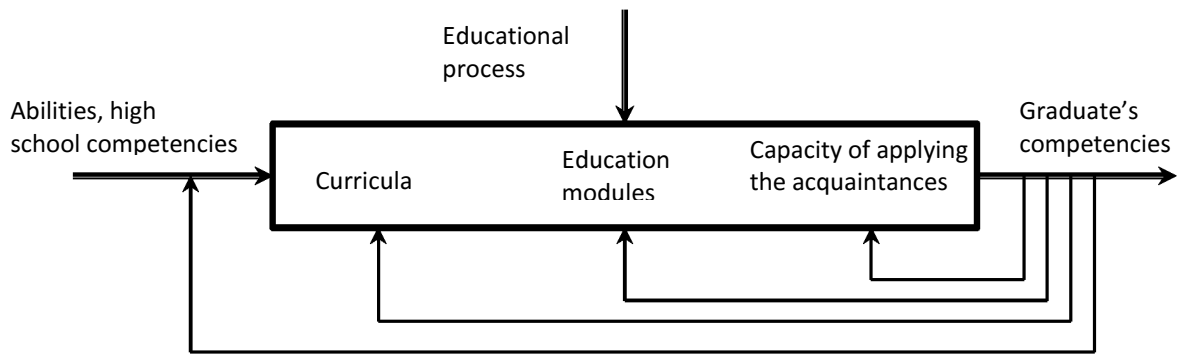


Figure 1

Table 1

<b>1st year</b>	
<p style="text-align: center;"><b>Courses</b></p> <ul style="list-style-type: none"> <li>• Mathematics</li> <li>• Electrical and information engineering                             <ul style="list-style-type: none"> <li>• Structures and mechanics</li> <li>• Energy and the environment</li> <li>• Engineering practical work</li> </ul> </li> </ul>	<p style="text-align: center;"><b>Assessment</b></p> <p style="text-align: center;">First University examinations Four written papers Assessment of Engineering Practical Work</p>
<b>2nd year</b>	
<p style="text-align: center;"><b>Courses</b></p> <ul style="list-style-type: none"> <li>• Mathematics</li> <li>• Two courses from:                             <ul style="list-style-type: none"> <li>Electrical and information engineering</li> <li>Structures and dynamics</li> <li>Energy systems</li> </ul> </li> <li>• Engineering practical work</li> <li>• Introduction to management</li> </ul>	<p style="text-align: center;"><b>Assessment</b></p> <p style="text-align: center;">Final University examinations, Part A Four written papers Assessment of Engineering practical Work</p>
<b>3rd year</b>	
<p style="text-align: center;"><b>Courses</b></p> <ul style="list-style-type: none"> <li>• Three optional Engineering courses                             <ul style="list-style-type: none"> <li>• Engineering in society</li> <li>• Engineering computation</li> <li>• Engineering practical work                                     <ul style="list-style-type: none"> <li>• Group design project</li> </ul> </li> <li>• Introductory economics</li> </ul> </li> <li>Six-month project/ placement</li> </ul>	<p style="text-align: center;"><b>Assessment</b></p> <p style="text-align: center;">Final University examinations, Part B Five written papers Assessment of Engineering practical work Project reports (Engineering computation and design project)</p>
<b>4th year</b>	
<p style="text-align: center;"><b>Research</b></p> <ul style="list-style-type: none"> <li>• Two specialist courses in Engineering chosen from within the areas of:                             <ul style="list-style-type: none"> <li>Biomedical engineering</li> <li>Chemical engineering</li> <li>Civil engineering</li> <li>Electrical engineering</li> <li>Engineering mathematics</li> <li>Information engineering</li> <li>Mechanical engineering</li> <li>Production engineering</li> </ul> </li> <li>• Two courses from a selection of Economics and Management options (and design project)</li> </ul>	<p style="text-align: center;"><b>Assessment</b></p> <p style="text-align: center;">Final University examinations, Part C Four written papers Project report</p>

Table 2

<b>Indicatory</b>	<b>Romania</b>	<b>EU</b>
Degree of implementation of the process Bologna as educational model	Totally	Partially
Level of competencies development	Centralized, unitary	Specific to each university
Concordance between the competencies acquired at the graduation of the economic engineering specialization and market requirements	Satisfactory, requiring the academic master courses and / or postgraduate courses	Very good, possibly followed by postgraduate courses
Level of education of total population	16.4%	Over 40%
Level of direct financial involvement of employers in higher education	Absent	Very large, decision-making on curriculum

# **Management tools**

# Continuous improvement of processes in cutting operations

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## Abstract

*This paper aims to provide efficient implementation of advanced operational management of the Lean Business Management System. This operational technique is one of the most important component in the production implemented in Lean Manufacturing, identified as the Value Stream Mapping. This technique consists a unfolding of series graphic manufacturing, respectively operational flow that can be done both manually and computer-assisted, using a special graphics software.*

**Key words:** lean, process improvement, value stream mapping.

## Introduction

Obtaining the material goods as a result of deployment industrial production process, constitutes the primary activity of industrial enterprises, which is the driving force behind of the European economy being vital economic growth and sustainable development of Europe, offering more than 30 million jobs, covering more than 25 different industries, most of which are dominated by SMEs, generating 1,500 billion annually from added value [20].

Increased competitiveness has also led to a significant increase in new production technology that has enabled a flexible production. Because of the flexible production has been converting traditional industry in an industry based on demand, reducing waste and energy consumption, which means reducing losses within the manufacturing process.

One of the most common operational management systems to help reduce these losses is Lean Manufacturing, which has developed within the Toyota Production System (Toyota Production System) [1], [8].

To transform a company based on a classical system in a Lean enterprise, must implement a set of advanced series operational management, and also necessary management commitment and involvement of all employees of the organization through the creation a structure to coordinate efforts for knowledge, analysis and synthesis of existing data to find and implement specific solutions to improve that actually means implementing a business system that organizes, manages and develops relationships with customers and suppliers [12], [16], [17].

The basic principles of Lean business system are focused on the following technical and economic aspects: customer satisfaction, continuous improvement (kaizen), eliminating waste (muda in Japanese) and achieve a continuous flow in production [2], [3], [10], [11].

The Lean focuses specifically on identifying and eliminating waste to increase profits, compared to the classic that focuses on identifying and increasing profit (those activities that create value), without taking into account the establishment of strategies to eliminate losses, dealing with the value-creating activities from within the operational flow [5].



Because of this classical system, often to increase profit increase stocks of raw materials, space, human resources and also the time, while Lean Management is to produce more with fewer or the same inputs [13], [14].

Using Lean techniques, is analyzed whole process step by step, identifying losses, then bring solutions to improve operations, increase efficiency and reduce costs [4], [6].

Losses are identified during a technological process (activities which create value) in general are found in 95%, only 5% being profit (value-creating activity - an activity for which the customer pays), which is based on operational flow analysis.

To identify these losses using one of the main tools used in Lean Management System, known as **Value Stream Mapping** (Map flow value) [7], [9].

Value stream mapping also is called the map of material and information flows, which proved to be an effective tool because of it example of flow through operational or manufacturing cycle, identifying both those losses and value creating activities [15]. Value stream mapping it was implemented in offices, in order to make new products or for submitting financial reports, sometimes to determine leadership, the behavior, beliefs or skills.

Value Stream Mapping (VSM) is an advanced technique operational management, which connects the information flow and material flow, aiming to identify existing losses in a business system based on Lean thinking [9], [19].

### **Continuous improvement for the workplace "guillotine"**

Putting it into practice Lean techniques will improve a work area called Guillotine G1 (figure 1), within the manufacturing cycle.

The G1 Guillotine (Figure 1) is used to cut rubber bales from 500 to 850 mm wide and 150-700 mm high. Thickness of cut manually adjustable între 100 mm and 350 mm.

For this action has made a statement showing:

- objectives;
- contribute to the improvement team;
- indicators;
- improve the starting date;
- initial state;
- resources necessary for the action.

### **Manufacturing cycle analysis**

The manufacturing cycle analysis were obtained according to operational time of each operation separately. Using Value stream mapping was graphically exemplified operational timing sequence of this manufacturing cycle.

In order to simplify the flow of the value stream mapping, have gathered all of the operational timing operation, because the production cycle is repeated a wide selection of similar surgery. The purpose of value stream mapping illustrate in this case is to emphasize the production cycle as a whole, which identified opportunities for improvement by reducing the operational timing of certain operations.

The total operational time are presents in table 1.

As presented in table as identified operations, they are structured in five categories, namely periods (primary, secondary, waiting, auxiliary and break), the first seven operations, which are included in the main category, which are operations that added the value of product. In the below diagram can identify the operational time of each operation, expressed in minutes (Figure 2).

According to the 21 operations listed in Table 1, the value stream map was built using the colors of each period, the respective operations. Total time of this cycle of production is of 485 minutes, from which time profitably (value creating activities) is 305 minutes, which represents 63% of full cycle, and 37% non-values representing activities (according to data presented in chart the percentage of structured operations five times before implementing VSM, figure 3), which are actually loss (*muda* in Japanese). Through continuous improvement (*kaizen* in Japanese) will search for solutions to eliminate those losses.

The graphical view the whole production cycle, implementing the value stream mapping (Figure 4), were also identified activities and non-values and possible improvements, which is done focused on eliminating waste (*muda*), by various advanced techniques operational management.

To increase the profit, Manufacturing Lean techniques focus on eliminating of as many losses in other words the dead time of the production cycle.

After analyzing the production cycle and especially the losses and made some improvements, reducing the operational time to the following operations:

- Waiting production cycle;
- Waiting stacker for evacuation;
- Waiting for supply Stacker;
- Supplied with foil and foil cut in pieces;
- Cleaning;
- Irregularity to G1 evacuation ;
- Micro fault at the sensor;
- Break for lunch;
- Break for 5 minutes.

In figure 5 we can see a growing percentage of the main period, due to the operational times of certain operations and even the complete elimination of auxiliary period by remedying the technical faults.

After made improvements to through elimination of losses mentioned above, it was built the current value stream map (Figure 6).

### **Discussion and conclusions**

After value stream map illustrated has identify value-creating activities, which are 63% from operational flow , represented 305 minutes from total of 485 minutes, and 37% are losses (*muda*), which represented 180 minutes.

After improvements, through implementation of advanced management techniques operational, value creating activities increased from 63% to 77%, an increase of 14% of the value creating activities, which represents a reduction of 14% of the losses.

## References

1. **Ajit Kumar Sahoo, N. K. Singh, Ravi Shankar, M. K. Tiwari**  
2008  
Lean philosophy: implementation in a forging company, *Int J Adv Manuf Technol* 36:451–462.
2. **Andrew C., Dan C**  
2005  
The Limits of Lean Management Thinking: Multiple Retailers and Food and Farming Supply Chains,  
*European Management Journal* Vol. 23, No. 6, pp. 648–662,.
3. **Anand G., Rambabu K.**  
2008  
A multi-criteria decision-making model for the justification of lean manufacturing systems, *International Journal of Management Science and Engineering Management*, Vol. 3 No. 2, pp. 100-118,.
4. **Bungău, C., Hegedus, J.A, Rosca, L.**  
2007  
5S introducing in PVC window systems production, *Proceedings, Annals of the Oradea University. Fascicle of Management and Technological Engineering*, ISSN 1583-0691, pp.212-215.
5. **Colin H., Paul M. Braiden**  
2006  
A methodology for developing sustainable quantifiable productivity improvement in manufacturing companies, *Int. J. Production Economics* 104, 143–153.
6. **Eric W. Dickson, Sabi S., Dickson S. C., Christopher C. Wyatt and Andrew S. Nugent**  
2009  
Application of Lean Manufacturing Techniques in the Emergency department, *The Journal of Emergency Medicine*, Vol. 37, No. 2, pp. 177–182, USA.
7. **Fawaz A. Abdulmalek, Jayant R.**  
2007  
Analyzing the benefits of lean manufacturing and value stream mapping via simulation: A process sector case study, *Int. J. Production Economics* 107 223–236.
8. **Gwen A. T, John H. Williams**  
2005  
The impact of an accelerated improvement workshop on ordering and receiving, *Library Collections, Acquisitions, & Technical Services* 29, 283–294.
9. **Ibon S. L., Carlos O. L., Rodolfo de C. V.**  
2008  
An evaluation of the value stream mapping tool, *Business Process Management, Journal* Vol. 14 No. 1, pp. 39-52,.
10. **Matthias H.**  
2007  
The genealogy of lean production, *Journal of Operations Management* 25, 420–437.
11. **Mahmoud H., Bizhan J.**  
2006  
An extended model of design process of lean production systems by means of process variables, *Robotics and Computer-Integrated Manufacturing* 22, 1–16.
12. **Richard J. Schonberger**  
2007  
Japanese production management: An evolution—With mixed success, *Journal of Operations Management*, Volume 25, Issue 2, Pages 403-419 SUA.
13. **Rachna S., Peter T. Ward**  
2007  
Defining and developing measures of lean production, *Journal of Operations Management* 25, 785–805.

14. **René J. Buesa**  
2009  
Adapting lean to histology laboratories, *Annals of Diagnostic Pathology* 13, 322–333.
15. **Stephen L. Woehrle, Louay Abou-Shady**  
2010  
Using Dynamic Value Stream Mapping and Lean Accounting Box Scores to Support Lean Implementation, EABR & ETLC Conference Proceedings Dublin, Ireland.
16. **T. Ohno**  
1988  
*Toyota Productivity System, Beyond Large-Scale Production*, Productivity Press, Cambridge, MA.
17. **Tyson R. Browning, Ralph D. Heath**  
2009  
Reconceptualizing the effects of lean on production costs with evidence from the F-22 program, *Journal of Operations Management* 27, 23–44.
18. **V. Ramesh, K.V. Sreenivasa P., T.R. Srinivas**  
2008  
Implementation of a Lean Model for Carrying out Value Stream Mapping in a Manufacturing Industry, *Journal of Industrial and Systems Engineering* Vol. 2, No. 3, pp 180-196.
19. \*\*\*[http://ec.europa.eu/research/industrial\\_technologies/fof-facts-and-figures\\_en.html](http://ec.europa.eu/research/industrial_technologies/fof-facts-and-figures_en.html).

## ANNEX



Figure 1. The G1 Guillotine

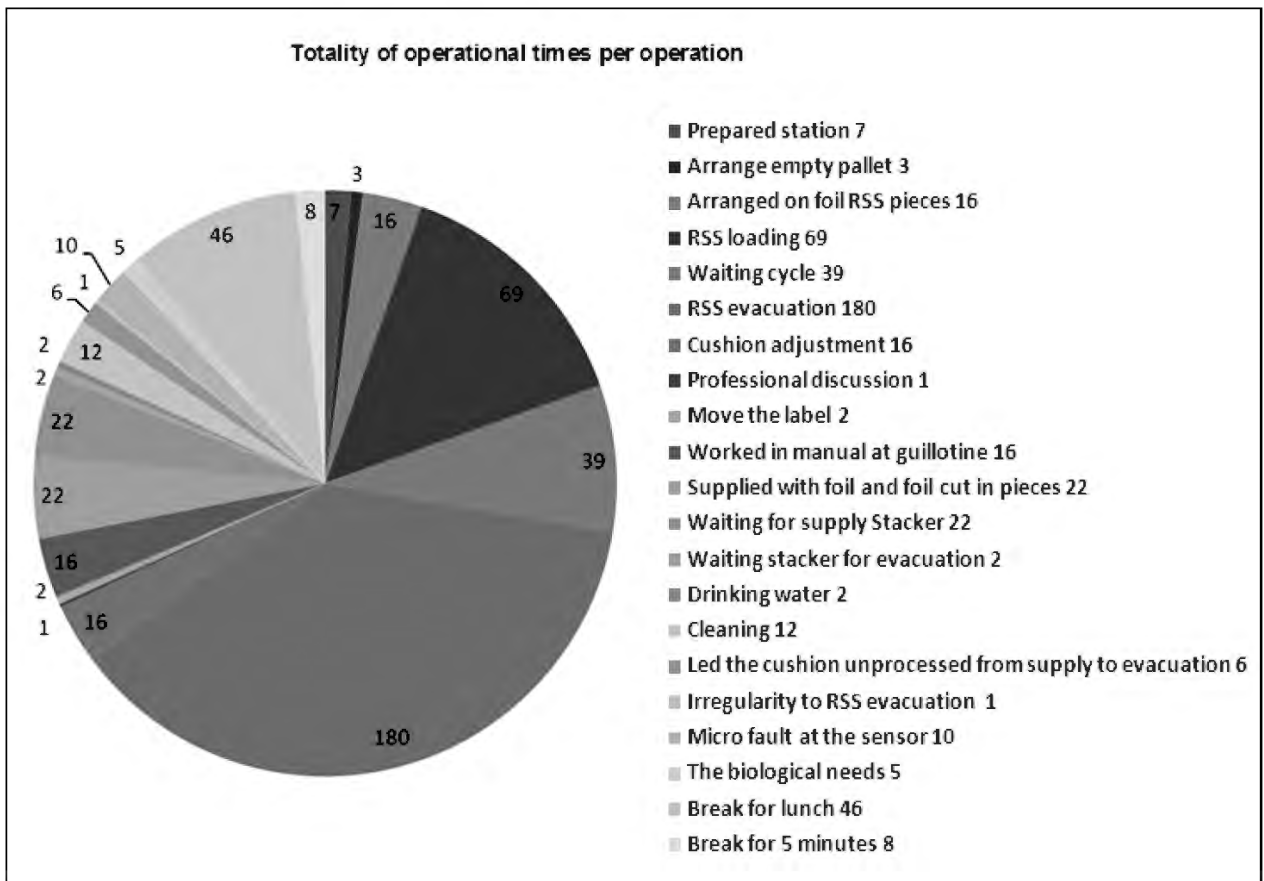


Figure 2. Diagram of operational times

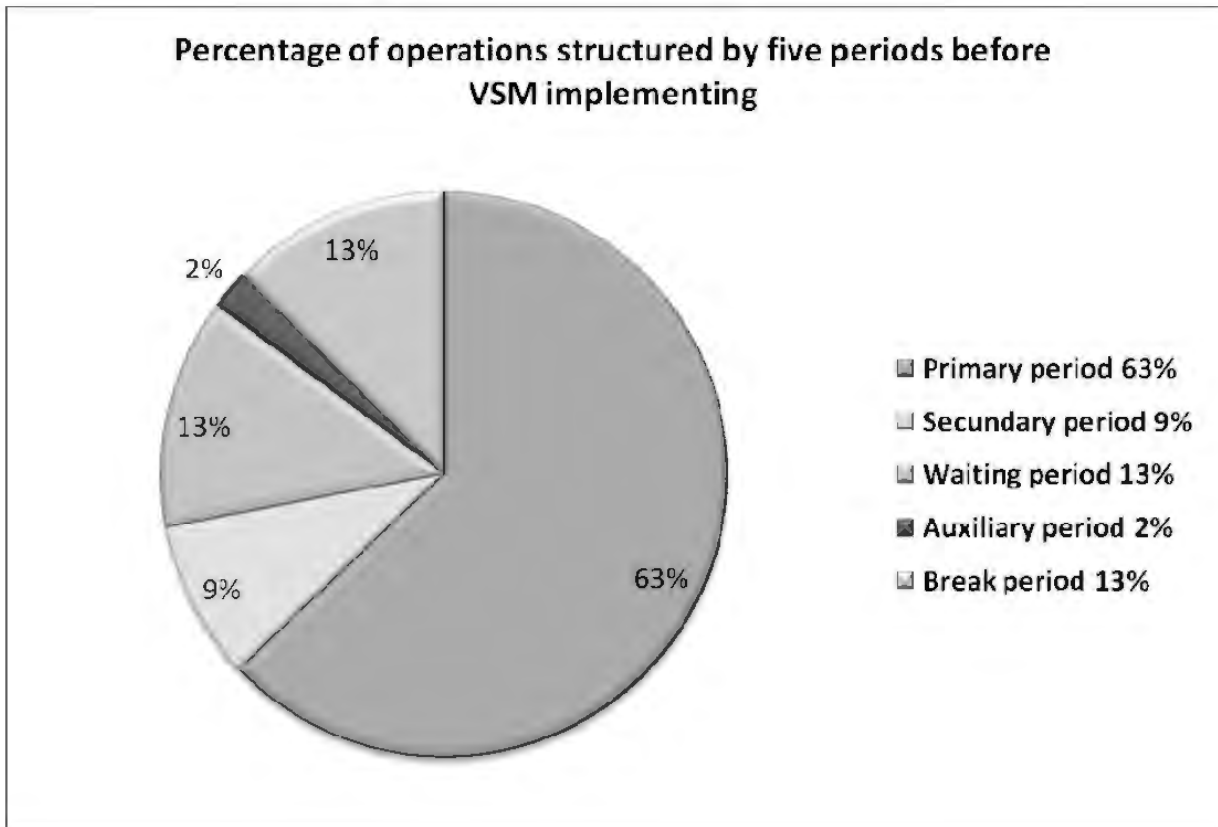


Figure 3. Diagram of operations structured on five periods before implementing VSM

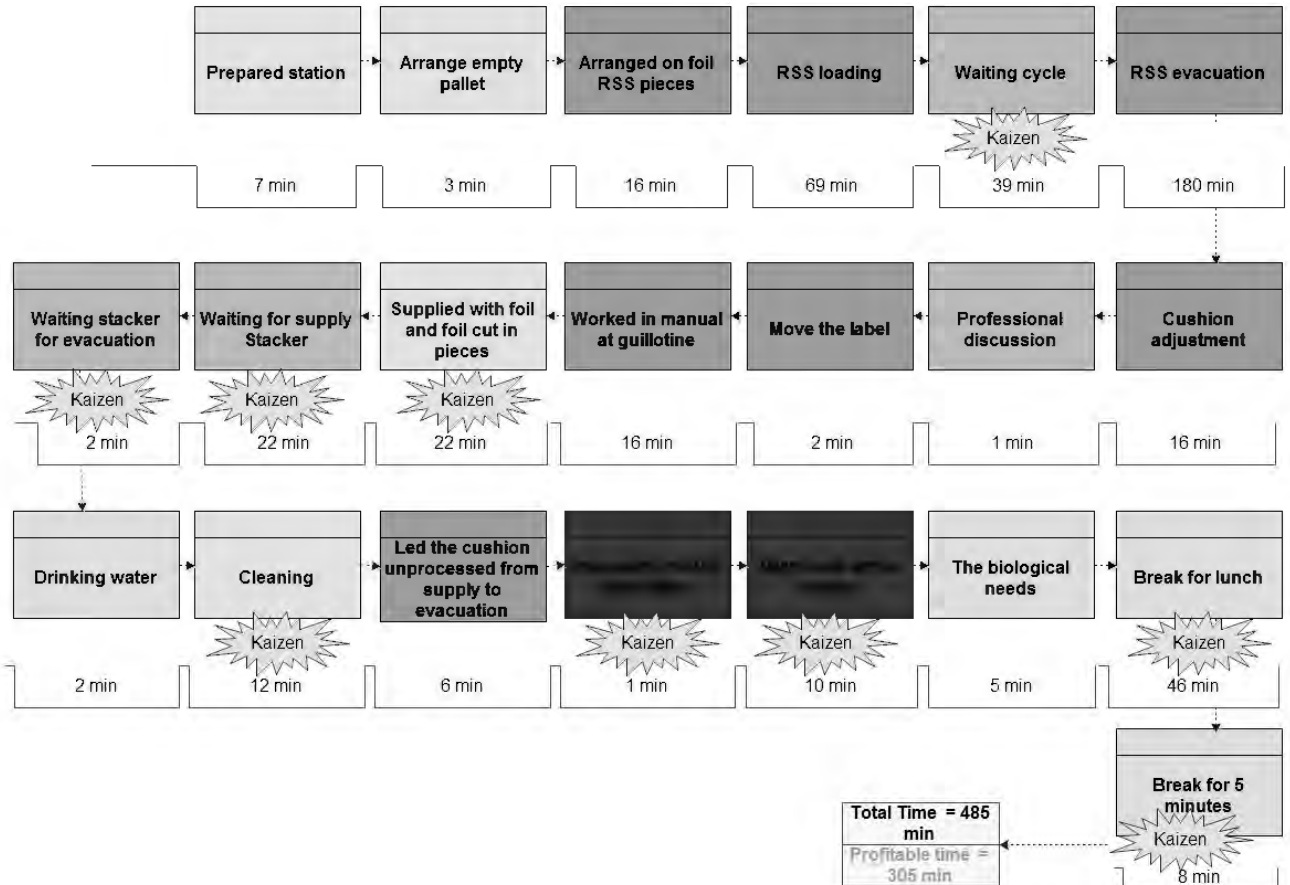


Figure 4. The present value stream mapping

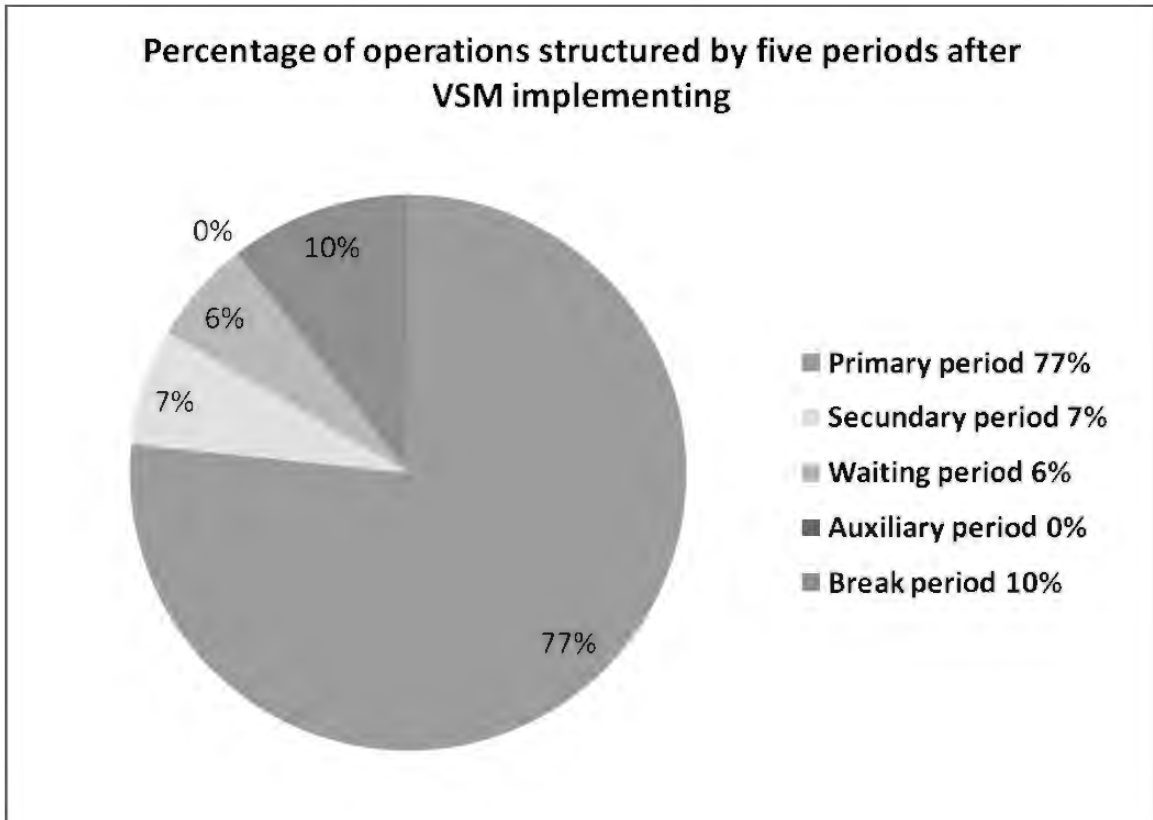


Figure 5. Diagram of operations structured on five periods after implementing VSM

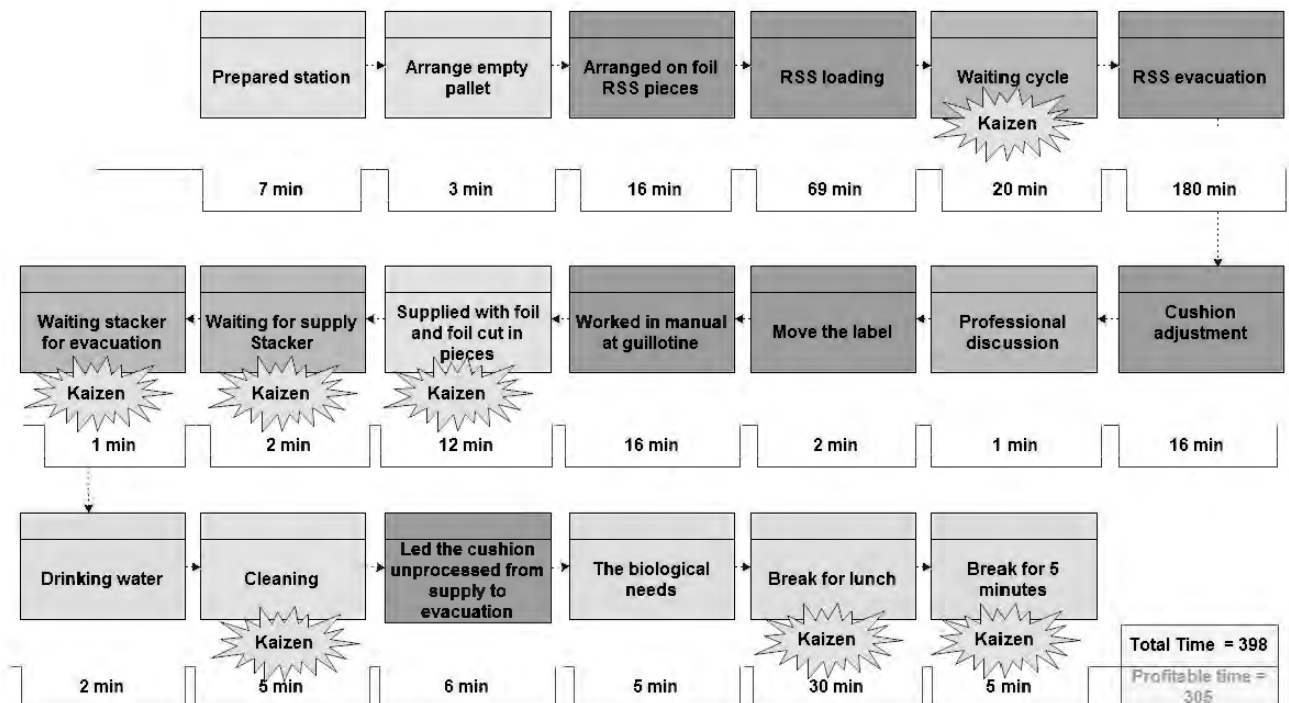


Figure 6. Current value stream mapping

Table 1. Totality of operational time

No.	Name of operation	Time/operation [min]	Period
1	Arranged on foil G1 pieces	16	Primary
2	G1 loading	69	
3	G1 evacuation	180	
4	Cushion adjustment	16	
5	Move the label	2	
6	Worked in manual at guillotine	16	
7	Led the cushion unprocessed from supply to evacuation	6	
8	Prepared station	7	Secondary
9	Arrange empty pallet	3	
10	Supplied with foil and foil cut in pieces	22	
11	Cleaning	12	Waiting
12	Waiting cycle	39	
13	Professional discussion	1	
14	Waiting for supply Stacker	22	
15	Waiting stacker for evacuation	2	Auxiliary
16	Irregularity to G1 evacuation	1	
17	Micro fault at the sensor	10	Break
18	Drinking water	2	
19	The biological needs	5	
20	Break for lunch	46	
21	Break for 5 minutes	8	
	<b>Total</b>	<b>485</b>	



# Research on the modelling of some discontinuities, triggered by innovative processes, using catastrophe theory

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## Abstract

*The purpose of this paper is to present an approach differing from that reductionist of some phenomena triggered by the innovative processes given that the technological change can sometimes have the form of discontinuities.*

*As methodology we started from the premise that the catastrophes theory, used for modeling discontinuities in areas such as physics, chemistry, biology, social sciences and economics could be also used for modeling of possible discontinuities triggered by the innovative processes.*

*Trying to emphasize the specific qualitative phenomena of similar catastrophe changes, we are limited, in a first step, to an intuitive approach. The implications of this are that, to make more accurate the models, it is necessary the support of statistical data which confirms the qualitative phenomena.*

*Even if these models remain in the stage presented in this paper, practical they can help to better understand of the described behaviors, given that the dependence of these behaviors by the variables that influence their is presented in a graphical form.*

*In addition to the proposal of some original models of catastrophe type for the analyzed situations, we have proposed names with wider meanings, such as the C(Chakravorti-Christensen) point, the performance demand and performance supply, for some important notions in the analyzed context.*

**Keywords:** *catastrophe theory, innovation, C point.*

## Introduction

Scientific approaches are generally limited to reductionist, cartesian approaches, specific to Western thinking, according to which complex systems can be reduced to simpler and simpler components whose interactions are governed by the laws of nature. The problem is that "within social sciences and management studies there are no vast areas of reductionist causality" (Cohen, 2008).

In the second half of the twentieth century new theories have emerged which consider the world as consisting of singular objects that obey their own laws instead of a set of material particles interacting with one another (Vişinoiu, 2001). These theories propose a holistic approach, specific to oriental philosophy. One of these is the catastrophe theory which describes the way in which small and continuous changes of independent variables which influence the state of a system can have unexpected, discontinuous effects upon the dependent variables. These discontinuous, jump-like changes are called phase transitions or catastrophes (Wagenmakers, Maas & Molenaar, 2005). The range of potential applications of catastrophe theory is extremely broad, being proposed as a method of modelling in various fields such as physics, chemistry, biology, social sciences and economics (Barunik & Vosvrda, 2009).

## Modelling with catastrophe theory

Modelling with catastrophe theory most commonly uses the simplest cusp type catastrophe, because it contains only one behaviour variable and two control variables: the normal or asymmetric variable  $\alpha$  and the bifurcation or separation variable  $\beta$  (Figure 1).

There are several methods that can be used in applying the catastrophe theory, namely analysis, modelling and catastrophe detection (Van der Maas & Molenaar, 1992).

1. catastrophe analysis requires knowledge of mathematical equations of the transition processes.

2. catastrophe modelling resides in the calibration of a cusp catastrophe parameterized in order to correspond with data.

3. catastrophe detection, evaluates if certain qualitative phenomena called catastrophe indicators occur within the system in question. Checking for the presence of these indicators is an important step in gathering evidence on the presence of cusp catastrophes within the examined system. Five of the catastrophe indicators, namely bimodality, inaccessibility, sudden jumps, hysteresis, and divergence (Figure 1), occur simultaneously when a system is in transition.

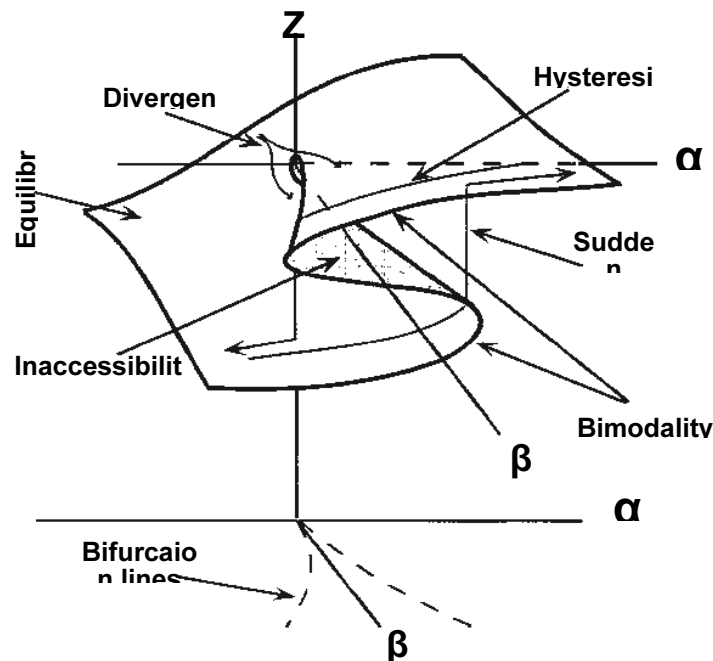


Figure 1 (Jansen & Van der Maas, 2001)

### Models proposed for some discontinuities triggered by innovative processes

According to Michael Porter (2001) "the pattern of technological evolution varies greatly between sectors, according to the nature of technological change: progressive or subject to discontinuity". Consequently, just as in other fields, there may be sudden changes, discontinuities and jumps in the behaviour of companies that need to be explained and understood in order to make the best decisions. In this paper we propose to identify some such changes except that, according to circumstances, they can sometimes have the appearance of sudden changes (discontinuities, jumps) can sometimes be evolving.

In the field of innovative processes, the cusp catastrophe model was used by Hicks (2004) in order to distinguish between continuous improvement and innovation (Figure 2). Likewise, the best known model of diffusing and adopting an innovation, the S curve, can be considered to be a simplified version of the cusp catastrophe (Herbig, 1991).

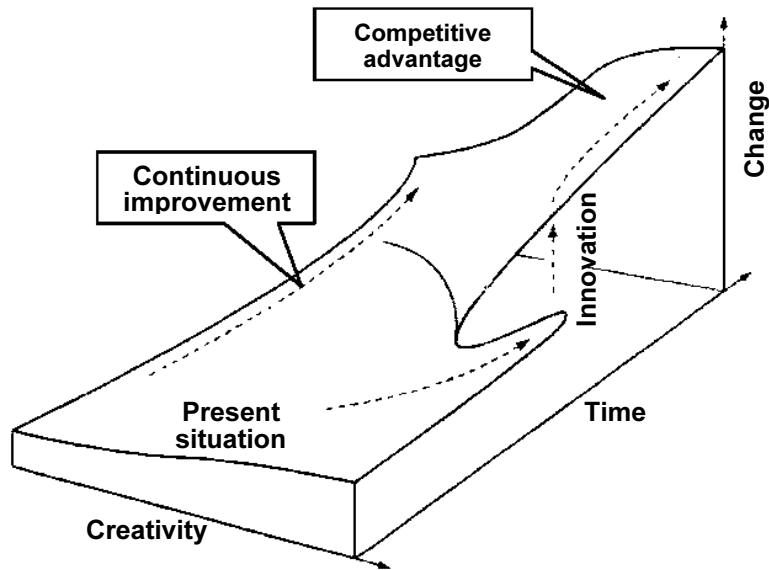


Figure 2 (Hicks, 2004)

### The emergence of innovation

"Innovation occurs when an idea is transformed into a product, a service, a business, an initiative or an action that will lead to the progress of society"(Gallo, 2011). In short, one can say that: Innovation = Idea(Invention) + Implementation(Commercialisation)(Brad, 2010). Based on these considerations, we suggest the following model for the emergence of innovation (Figure 3). We considered the research and development investment(the bifurcation parameter) and the market demands(the normal parameter) as independent variables, and firm behaviour as a dependent variable. The identification of catastrophe indicators is shown in Table 1.

Table 1

The indicator	Materialisation of the indicator
Bimodality	Two possible behaviors: implementation or abandoning of the idea(invention).
Divergence	As the bifurcation variable values „R & D investment” increase, depending on the normal variable values „market demand”, the company must decide which of the two behaviors is feasible.
Sudden jump	The decision of the company to pursue one or the other of the two behaviours.
Hysteresis	The sudden jump from to the bottom to the top and the emergence of innovation takes place in certain market demands(the normal parameter $\alpha$ ) and the jump from the top sheet to the bottom(abandoning the idea) takes place in other market demands.
Inaccessible area	If there are other behaviours, aside from the two mentioned, then: 1. if there is a small probability of their occurrence, they will be placed in the inaccessible area. 2. if there is a high probability of their occurrence, then we are not dealing with a bimodal distribution, therefore one cannot use the cusp catastrophe for modelling.

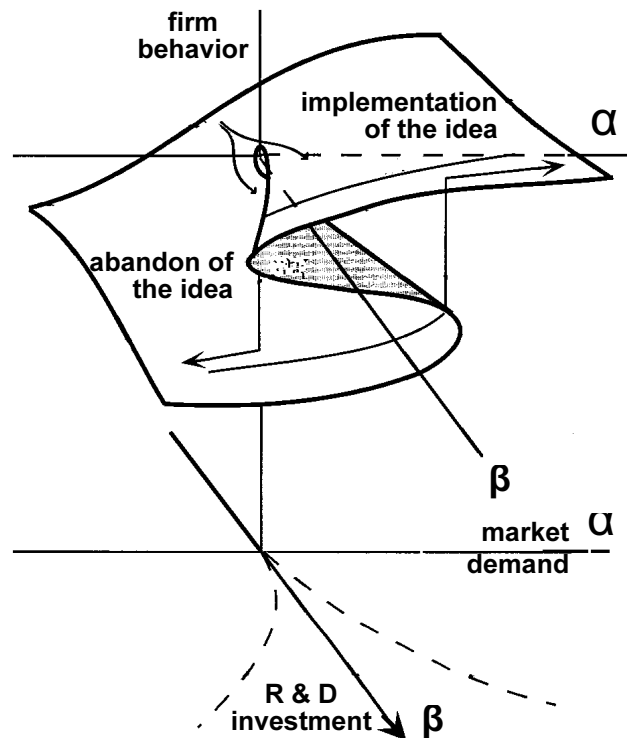


Figure 3

### The available performance exceeds customers' usage capacity

In any market two segments of customers can be broadly identified (Christensen, 2010):

1. the lower segment, less profitable, with customers who are less demanding, amateurs of weaker products with lower prices, customers who do not need the entire available performance, who are sensitive to price changes and are also the most difficult and least loyal. These customers are unattractive to established firms.
2. the upper segment, more profitable, with more demanding, exigent customers, who pay good prices for products with higher and higher performances. These customers are attractive to established companies.

Consumers belonging to a particular market segment have a certain potential to absorb product upgrades, represented in Figure 4 by the dotted line. The pace of technological progress almost always exceeds the capacity of all levels of customers to use it, as is shown by the continuous line with a greater slope in Figure 4. In terms of supply and demand consider that the absorption potential of enhancements to the products can be assimilated with the demand performance and the rate of technological progress with the performance supply.

Companies continuously strive to create better products, that they can sell for higher returns to the demanding customers, at the upper levels of the market. Examples(Christensen, 2010):

- car manufacturers provide engines that are constantly becoming more efficient, and that buyers cannot use to the fullest due to factors such as traffic congestion, speed limits and safety standards.

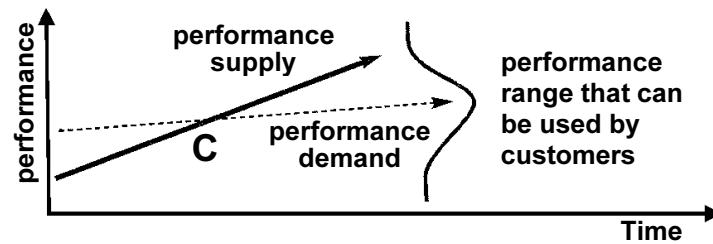


Figure 4 (Christensen, 2010)

- when personal computers started being used to process written documents, typists often had to stop to allow Intel 286 processors to keep up. Current processors provide a higher speed than most customers can use - although there are, within the upper segment of the market, customers who need even faster processors.
- The lines mentioned above intersect at a point that we have marked with C (for Chakravorti and Christensen, the authors who have addressed the significance of this point). Going past point C has the following consequences (Christensen, 2010; Kotler & Caslione, 2009):
- the company has to change its competitive behaviour. Before point C competition is based on functionality and reliability. When point C is exceeded, the competition will be based on capacity and speed of response.
- the market can be penetrated by a product of a disruptive innovation which, although less performant than the existing one, meets the demands of the lower segment at lower costs.
- once a disruptive product enters the lower segment of an existing market, it triggers a cycle of improvements until the disruptive innovation finally comes to meet the needs of the most profitable segment.

Very few innovations have an inherent disruptive or sustaining character. An idea that is disruptive to a certain business may be sustaining for another, their future effect being programmed within strategy when the managers outline the business plan. In this regard are possible four behaviors (Christensen, 2010):

1. To maximize the chances to win the big companies newcomers companies must develop disruptive innovations.
2. When competition required the development of better product than previously available, which can be sold at higher prices to exigent customers from the upper, we are dealing with the sustaining innovations and established companies almost always win.
3. There are situations when newcomers developing a sustaining innovation much faster than large firms. In this case only method to obtaining attractive profits is that the passing leaders in the field, business them to be sold.
4. Consolidated companies will benefit from increases caused by disruptive innovations must realize it through an autonomous organization, with a cost structure that allows subsequent migration to the upper levels.

The model in Figure 5 take into account as a normal parameter performance demand and as a bifurcation parameter performance supply. The identification of catastrophe indicators is shown in Table 2.

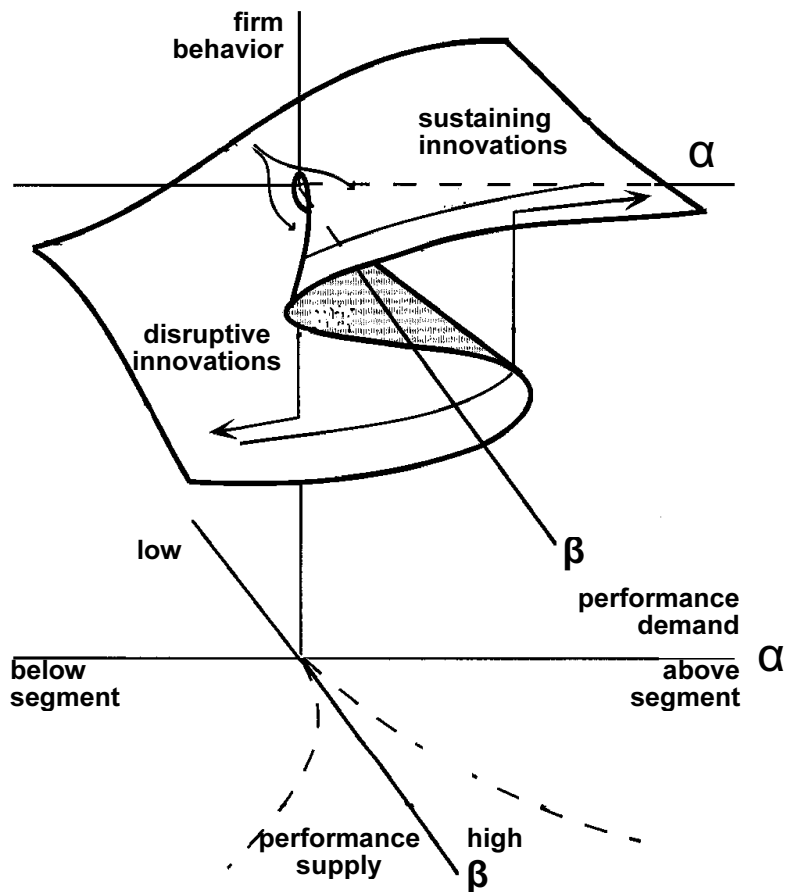


Figure 5

Table 2

The indicator	Indicator materializing
Bimodality	We have two main behaviors - 1 and 2 and two secondary - 3 and 4
Divergence	As the bifurcation variable values $\beta$ „performance supply” rise, depending on the normal variable values „performance demand” should be made the choice between the two main behaviors;
Sudden jump	An idea that is disruptive to a particular business can be sustaining for another. Their future effect is programmed in within the strategy.
Hysteresis	Established companies targeting the upper segment of the market and adopt strategies based on sustaining innovation. New coming companies must target the lower segment of the market and adopt strategies based on disruptive innovations.
Inaccessible area	Secondary behaviors 3 and 4 can be placed in inaccessible area because: 1. new entrants developing an sustaining innovative must sell the business to industry leaders 2. consolidated companies developing disruptive innovations must achieve this through an autonomous organization

## Keeping or abandoning a segment of the market

**Case study** (Christensen, 2010).

The undermining of large integrated steelworks by small mills, exemplify how leaders are easy to beat when a new product idea or a new business is shaped as a disruptive innovation.

Small steel mills have attacked in turn the steel sectors for concrete reinforcement, for the angles and thick bars, the profiles sector, and finally that of thin plates (Figure 6) in a cyclic process consisting of four phases:

1. small steel mills attack the least attractive the market sector owned by large steel companies.
2. integrated steel mills are not bothered about losing their most difficult and unprofitable customers and close their production lines in this sector related products or modify them in order to manufacture products with higher profit margins.
3. benefiting from 20 percent lower production costs, small steel mills obtain attractive profits in the competition against the companies already integrated within that sector.
4. once the last of the integrated steel mills leaves the the least attractive market for them, the small ones start to compete with each other, prices are falling, profits disappear and the cycle repeats.

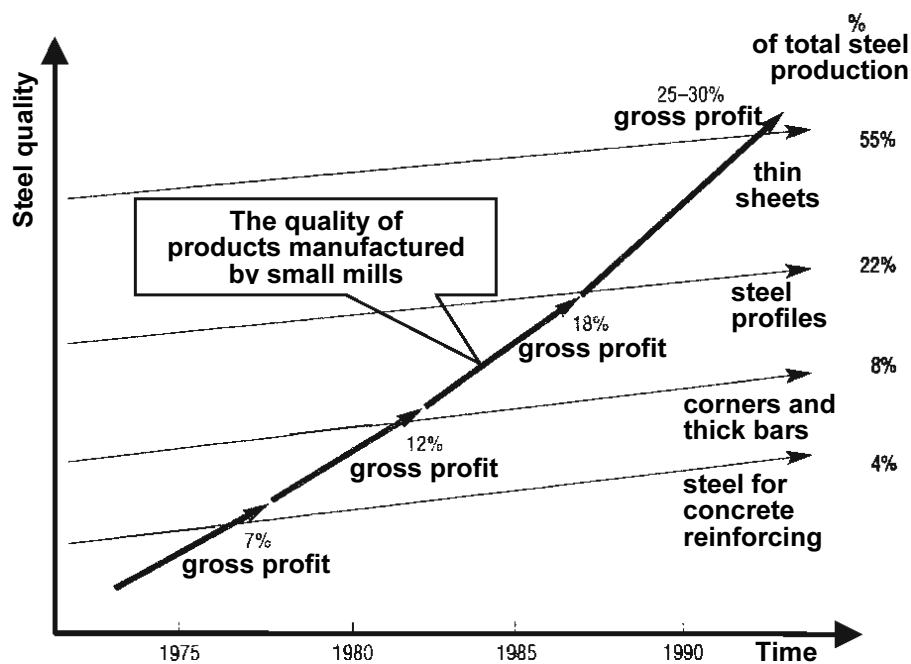


Figure 6 (Christensen, 2010)

Each restart of the process is marked by innovations that allowed the entry of the small steel plants in the sector of the market concerned. When the leader of small steel plants attacked the last sector, the market of thin steel sheets, the biggest of the was integrated steel mills was immediately affected and, later on, the second biggest went bankrupt.

Integrated steel mills did not lose the race because they had a poor management, but because they had to take these steps to increase profits.

The modelling of these aspects takes into consideration leader behaviour as dependent variable and as independent variables the threat of newcomers as bifurcation parameter and the

performance demand as normal parameter (Figure 7). The identification of catastrophe indicators is shown in Table 3.

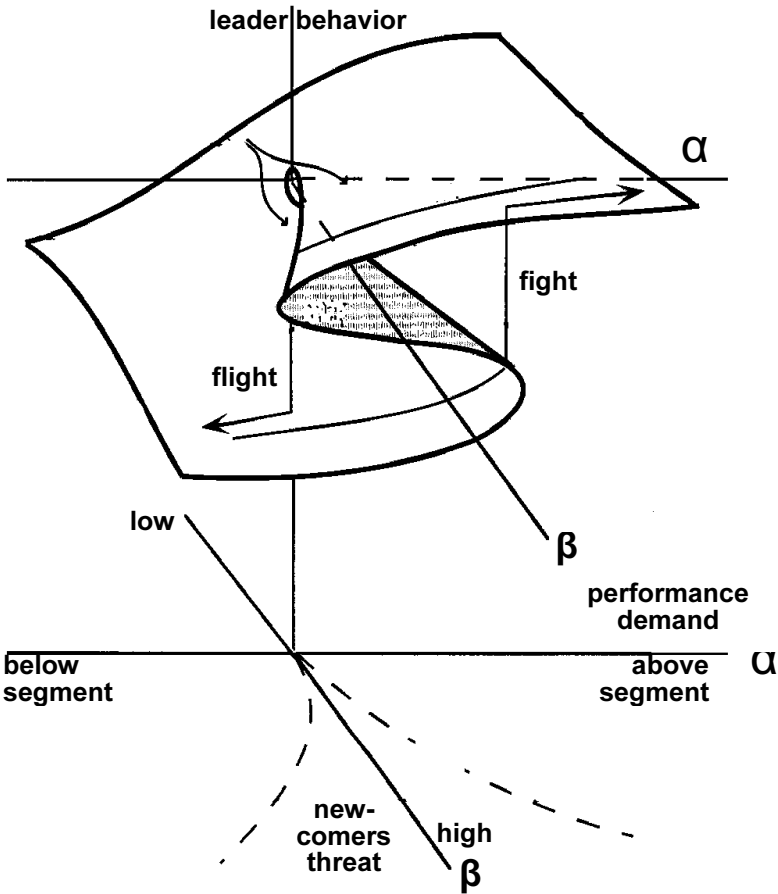


Figure 7

Table 3

The indicator	Materialisation of the indicator
Bimodality	There are two types of leader behavior: fight or flight
Divergence	As the bifurcation variable values „threat of newcomers” increase, the leader must decide which of two behaviors will be followed
Sudden jump	Leader's decision to pursue one or the other of the two behaviours.
Hysteresis	Sudden jump from the bottom sheet to the top(the decision to fight) takes place for a particular market segment(the normal parameter α), that segment up, and the jump from the top sheet to the bottom(decision to flight) envisages the lower segment
Inaccessibility area	Other behaviors, the extent that there are, have a little significance for the analyzed context.

**Integration or outsourcing**

Decisions concerning what has to be produced in-house and what has to be purchased from suppliers and partners have a strong impact on the chances of success of an enterprise. A theory often used to substantiate this decision is the one based on the categories of competencies.



Classification into core skills and secondary skills is problematic in that the status of these skills is not immutable, as will be seen from the case study presented below (Christensen, 2010).

**Case study** (Christensen, 2010; Crainer, 2002).

During the first years after the emergence of personal computers, Apple Computers, the most integrated company in the field, produced, according to its own design, the best PCs of that period. Eventually, when the functionality of personal computers went beyond the C point, IBM's open, modular design became dominant modular, open IBM. Apple's own design, which had a competitive advantage, became a disadvantage once beyond point C and Apple has become a marginal competitor in the field of personal computers.

In 1981, when IBM has established its PC division, has decided to outsource the two critical components of the product - microprocessors from Intel and Microsoft's operating system - in order to be able to focus on activities that it best achieved - design, assembly and commercialisation. Consumers were drawn to the IBM brand, which provided operational safety, reliability and quality. IBM made 70 percent of the profits of the computer industry worldwide while the components suppliers made profits to the limit of survival. As the PC industry has been growing explosively, new competitors entered the market. They realised that by using Intel microprocessors, the operating system from Microsoft and by having lower costs they were able to compete with IBM. Businesses and individual consumers have realised that the PCs of the new competitors were virtually identical to those from IBM, but cheaper. The gross profit margin of the IBM company dropped to 55 percent in 1990 and to 38 percent in 1993. In 2005 IBM sold its PC division to the Chinese company Lenovo. Delegating what did not seem to be within its main area of expertise, IBM has practically launched in business two companies (Intel and Microsoft) who subsequently gathered most of the profits in this industry.

The question is how could a company know which of the activities from the value chain are those that have to be managed internally? The answer varies according to position of the products in relation to point C.

The modularisation of design was not one of IBM's mistakes, because competition forced the company to take these steps in order to reduce development and production costs and to increase responsiveness. On the other hand, the unintegrated components suppliers, having lower costs, began to undermine IBM. The factors that have driven modularity and disintegration were neither the passage of time, nor the maturation of industry. The process takes place as follows (Christensen, 2010):

1. Before reaching the C point, companies build their products based on their own designs. These designs allow the increase in functionality and reliability at a time when there is a performance deficit in the market. These companies must be integrated to control the design and production of each key element of the product. Therefore, the race for performance is carried by the value chain of the entire product.
2. When point C is exceeded, the company has to change its behavior because the basics of the competition change. Since customers are less and less willing to reward improved performance (saturation), suppliers that react the quickest will benefit.
3. As competitive forces pressure companies to react as quickly as possible, they solve the problem by transforming their own structures into modular structures. A modular structure defines the place and function of all elements so precisely that it no longer matters who manufactures the components, as long as the latter meet the specifications.
4. Modularisation brings the disintegration of the corresponding industry. Unintegrated competitors undermine the integrated leader relying on low costs: they already possess the new technology and being newcomers, should not amortize a previous technology. While their own designs involve the full production of the essential elements of a system, in the case of modular structures profit can be made by purchasing or supplying components. When this happens the company can assemble components from the best

suppliers and race for performance is taken over by the value chain of components. Value chain that takes the stroke for performance is important because its activities are most profitable and their outsourcing lead to the leader undermining. In this case, for modeling, can be considered, as normal parameter, the product strategy - integration or outsourcing and as bifurcation parameter the technological progress (Figure 8). The identification of catastrophe indicators is shown in Table 4.

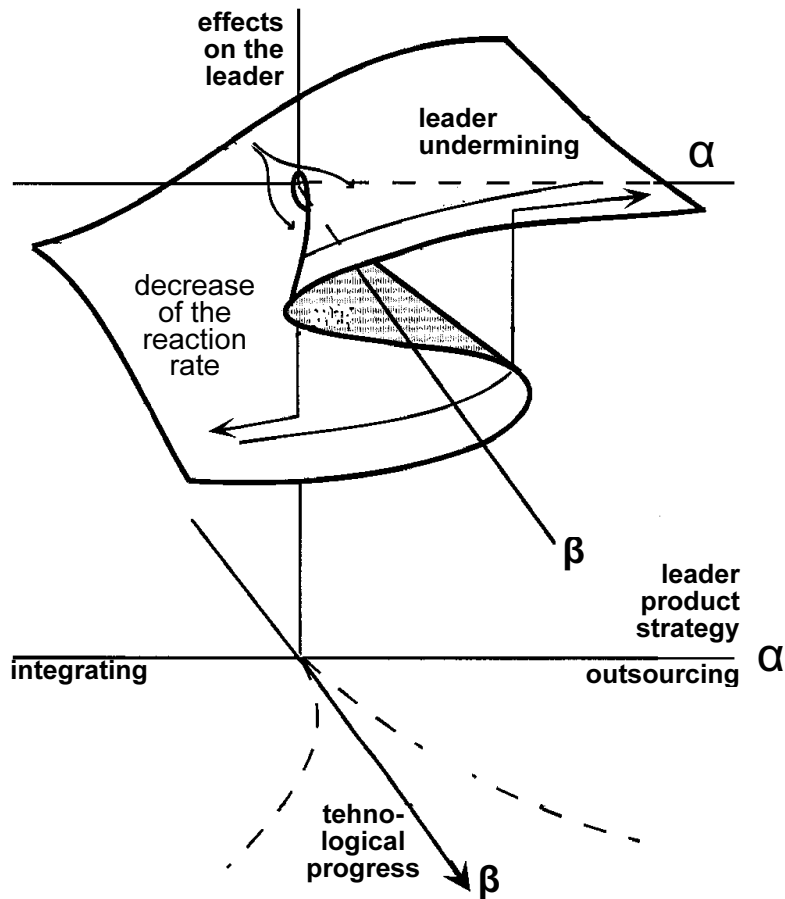


Figure 8

Table 4

The indicator	Indicator materializing
Bimodality	Two effects: 1) leader undermining; 2) decrease of the reaction rate of the leader
Divergence	As the bifurcation variable values $\beta$ „technological progress” rise, and make the choice between the two product strategy(normal variable $\alpha$ ) appear one or other of the two effects
Sudden jump	If the effects occurs suddenly case an integrated part in the context of.
Hysteresis	Sudden jump from the bottom sheet to the top occurs when the normal variable $\alpha$ is set to “outsourcing”, and the jump from the top sheet to the bottom occurs when normal variable $\alpha$ is set to "integrating".
Inaccessible area	Other effects, to the extent that there are, have a little significance for the analyzed context.

## Product commoditization

Commoditization<sup>1</sup> translates by the almost total lack of significant differentiation of end products. Commoditised products have low profit margins and are sold based on price, not on differentiation. The technology is standardised, cheap and accessible for more and more competitors and leads to further price drops (Businessdictionary).

So we are dealing with a triple uniformisation that envisages the product, the technology and the price. From another point of view, commoditisation marks the transition from a monopoly type of competition to the perfect one (Wikipedia).

The commoditisation process takes place in six stages, each being the result of the previous one (Christensen, 2010):

1. an integrated company develops a product according to its own design.
2. a race of improvements starts that will overcome the need of consumers from the lower segment of the market for functionality and reliability.
3. the basics of competition change for this segment
4. the product evolves toward modular structures.
5. the corresponding industry disintegrates.
6. competitors have access to the same components and standard parts, thus the differentiation of the products' performance, costs and profit is difficult to make.

This trend appears in the lower segments of the market, where the need of functionality is first exceeded, and then will affect the upper segments.

As bifurcation parameter we considered the technological progress and as normal parameter the value chain segments that carry on the mission of improving performance (Figure 9). The identification of catastrophe indicators is shown in Table 5.

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<sup>1</sup> The English words commodity - commoditization have the equivalent in French *marchandise - banalisation*, in German *Ware-Kommoditisierung* and in Italian *merce - mercificazione*. When commoditization occurs in an area of the value chain, an each other process of decommoditization take place in another area, so an antonym term is necessary.

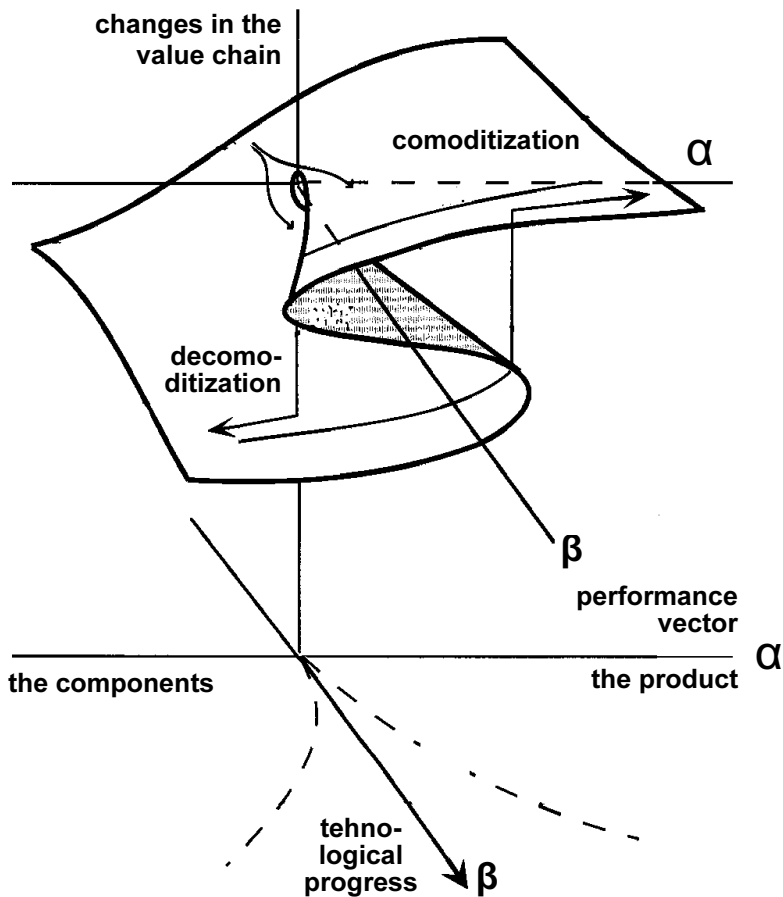


Figure 9

Table 5

The indicator	Indicator materializing
Bimodality	The product value chain have been two changes: 1) comoditization; 2) decomoditization
Divergence	As the bifurcation variable values $\beta$ „technological progress” rise, normal variable $\alpha$ can be set to two values: 1) if the product strategy is integrated the vector of performance is the product and product comoditization appear; 2) if the product strategy is modular the vector of performance are the components and in the value chain decomoditization appear
Sudden jump	If the changes occurs suddenly case an integrated part in the context of.
Hysteresis	Sudden jump from the bottom sheet to the top occurs when the normal variable $\alpha$ “performance vector” is set to “product”, and the jump from the top sheet to the bottom occurs when normal variable $\alpha$ is set to “components”.
Inaccessible area	Other changes, to the extent that there are, have a little significance for the analyzed context.

## References

**Barunik, J., and M. Vosvrda**

2009

Can a stochastic cusp catastrophe model explain stock market crashes?, *Journal of Economic Dynamics & Control* 33(2009), 1824–1836

**Brad, Stelian, et al.**

2010

Ingineria și managementul inovației, Editura Economică, București

**Businessdictionary**

„Commoditization”, <http://www.businessdictionary.com/definition/commoditization.html>

**Christensen, C. M., and M. E. Raynor**

2010

Inovația ca soluție de succes în afaceri, Editura Curtea Veche, București

**Cohen, J., and I. Stewart**

2008

Năruirea haosului, Editura Pergament, București

**Crainer, S.**

2002

75 dintre cele mai bune decizii manageriale luate vreodată ...și 21 dintre cele mai proaste, Editura Teora, București

**Herbig, P. A.**

1991

A Cusp Catastrophe Model of the Adoption of an Industrial Innovation, *Journal of Product Innovation Management*, Volume: 8, Issue: 2, Pages: 127-137

**Hicks, M. J.**

2004

Problem Solving and Decision Making: Hard, Soft and Creative Approaches, Cengage Learning EMEA

**Jansen, Brenda R. J., and Han L. J. Van der Maas**

2001

Evidence for the Phase Transition from Rule I to Rule II on the Balance Scale Task

*Developmental Review* 21, 450–494,

accessed April 03, 2012 from

<http://psych.stanford.edu/~jlm/pdfs/JansenvanderMaas01Hysteresis.pdf>

**Kotler, Philip., and John A. Caslione**

2009

Chaotics, Editura Publica, București

**Porter, Michael E.**

2001

Avantajul concurențial, Editura Teora, București

**Van der Maas Han L. J., and Peter C. M. Molenaar**

1992

Stagewise Cognitive Development: An Application of Catastrophe Theory, *Psychological Review*, Vol. 99, No. 3, 395-417, accessed April 25 2012 from <http://dare.uva.nl/document/3092>

**Vișinoiu, N.,**

2001

Statistica formelor economice : teoria catastrofelor, fractalilor si haosului, Editura Lumina Lex, București

**Wagenmakers, E., J. H. L. J. van der Maas, and P. C. M. Molenaar**

2005

Fitting the Cusp Catastrophe Model, accessed May 15 2012 from

<http://www.ejwagenmakers.com/2005/Encyclopediacatastrophe.pdf>

**Wikipedia**

„Commoditization”, <http://en.wikipedia.org/wiki/Commoditization>

# Measuring organizational performance, in service organizations, by taking account of the field of activity

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## Abstract

**Purpose** – The purpose of the paper is to show that data resulted from the process of measuring organizational performance, can be more meaningful by taking account of the field of activity of a company.

**Methodology/approach** – In order to achieve the goal, there has been formulated a hypothesis, that has been demonstrated using instruments and techniques as Analytical Hierarchy Process, Delphi method of structured communication and interviews, appraisal and case study. Results are presented analytically and graphically.

**Findings** – By adapting a standard for organizational performance measurement for service organizations to the type of service, the results are more meaningful to the company, to the branch of a certain service and to the whole service branch.

**Research limitations/implications** – The 20 processes of the Capability Maturity Model (CMM) approach to organizational improvement used in the research reflect only three of the five maturity levels defined in CMM, because of time limitations and the complexity of research approach.

**Practical implications** – In practical terms, the model has been applied in a case study on a recycling service company in parallel with the standard appraisal method of the Capability Maturity Model, resulting different data. The model can be used successfully by any service company for its own management and extended at a certain service branch level for better, meaningful and comparable results.

**Originality/value** – Measuring organizational performance by taking account of the field of activity adds value on three levels : first to the company , as it can be appraised according to the hierarchy of process importance of its service branch and by knowing that the resource allocation will not affect the performance appraisal, second to the whole service branch , as results can be comparable by quantifying them with importance coefficients for each service branch, resulting a better benchmarking process and thirdly to society, by having a better certainty of a company's performance level.

**Key words:** organizational performance measurement

## Introduction

Measuring organizational performance is critical to any type of company, as the results of this process gives valuable information to the management of a company, information that can be used in the continuous improvement process. Today, around the world, there are various types of models that measure organizational performance, some used worldwide and others in specific geographical regions, each model having its own criteria, methodology and supporters. As always the east and the west have different approaches on this matter, each approach measuring organizational performance from a different perspective and claiming to be the best. This research can be considered as a bridge between different approaches on the matter of organizational performance measurement.

## Measuring organizational performance

Even if all the models of organizational performance measurement aim in the same direction, because they are different in the approach used, the results are different as well. This situation makes the process of comparison between companies that differ by factors such as size, field of activity, type of activity, economical context etc, almost impossible, because these factors interfere with any company's performance. Starting from this point, we conducted a bibliographical research on seven models of organizational performance measurement, listed below:

- The Organizational Performance Pyramid (Lynch, Cross, 1995);
- The Balanced Scorecard (Kaplan, Norton, 1992);
- Deming Model for Excellence (Deming, 2012)
- Malcolm Baldrige Excellence Model (NIST, 2012)
- The Benchmarking model([www.apqc.org](http://www.apqc.org) )
- EFQM model for Excellence(EFQM, 2012)
- Capability Maturity Model Integration(Forrester, Buteau, Shrum, 2011 )

After the bibliographical research we have drawn these conclusions:

1. Most of the models investigated require the existence of a performance or quality culture within the evaluated organizations;
2. The criteria used by all the models do not take account of the factors that differentiate organizations;
3. Appraisals results are very unlikely to be comparable between organizations from different classes;
4. The relevance of good practice examples applies only to organizations that have the same performance and/or quality management approach.

These conclusions show that if a company uses a certain model for performance measurement the results do not offer certainty if a comparison to a different company is made or if the approach used is the best. Even if performance appraisal is needed for a healthy management, this situation generates high costs for small benefits.

## Research objectives

In the context presented before, we decided to conduct a research by having the following objectives:

1. Develop a theoretical model for organizational performance measurement that can offer true comparison between organizations that are defined by the same characteristics.
2. Select a field of activity and a type of organizations in order to apply the theoretical model developed on one organization.
3. Compare the results of the appraisal conducted according to the newly developed model to the results of a traditional<sup>1</sup> model approach.

## Classification of companies in Romania

In Romania, organizations are being differentiated by many factors, such as the form of property, activity field, industrial class, working time during the years, financial results size etc. (Olaru) . All these criteria are being divided by secondary and tertiary criteria and another type of differentiation is the type of activity, according to the Classification of Activities in the National Economy, CAEN codes. In order to be able to compare the result of organizational performance measurements between two or more companies we considered that it would be needed that the companies to have that same CAEN code and to be part of the same class of organizations, this way the comparison will be more meaningful.

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<sup>1</sup> It refers to the standard model of organizational performance measurement used in the application of the theoretical model developed

## Theoretical model for organizational performance measurement by taking account of the factors that differentiate companies

The proposed theoretical model (figure 1) implies adapting an existent model of organizational performance measurement to the characteristics that define a certain class of companies that have the same CAEN code, that need to be appraised. The adaptation needs to be done in two stages, each stage having more steps that need to be covered.

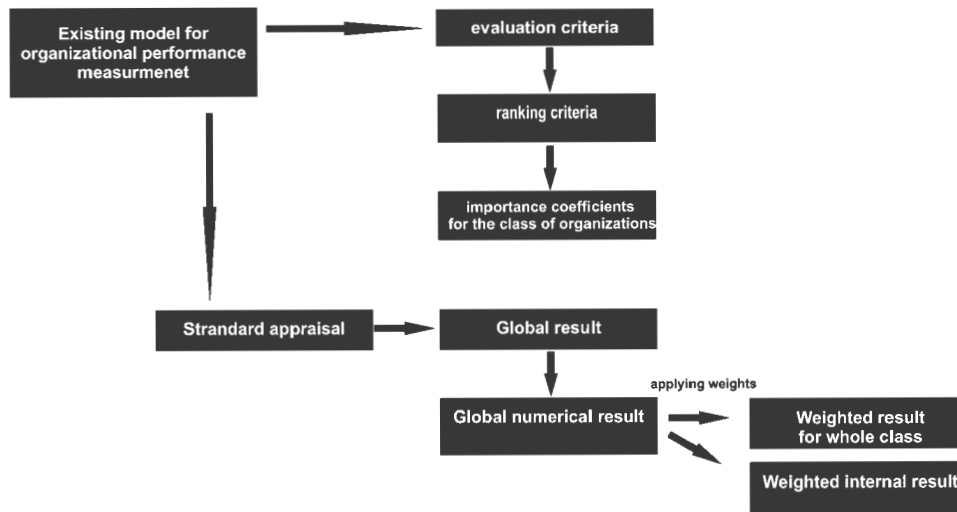


Figure 1 Proposed theoretical model for organizational performance measurement

After an existing model for organizational performance measurement has been chosen, the adaptation shall be realized as follows:

- a. Stage 1 – Hierarchizing the criteria in accordance with their importance to the class of organizations that will be evaluated:
  - Identify the appraisal criteria used by the chosen model;
  - Obtain the hierarchy of identified criteria by using the Analytical Hierarchy Process (Saaty, 1980) after conducting a series of interviews with at least one expert in the activity field of each of the companies that will be evaluated, resulting two types of importance coefficients:
    - o One type with relevance to the whole class of companies by using the Delphi method (Linstone, Murray, 1975) for bringing the experts opinions to a *common denominator*
    - o One type with relevance to each company that had an expert that participated to the interview.
- b. Stage 2 – organizational appraisal
  - Conduct the evaluation according to the appraisal method of the chosen model in order to obtain standard results. If the original appraisal method doesn't have a numerical scoring system, one needs to be developed in order to present quantitative results on the level of conformity to each criterion.
  - The standard numerical results obtained for each criterion evaluated will be quantified by the calculated importance coefficients, obtaining two types of results:
    - o One result with relevance to each company evaluated
    - o One result with relevance to the whole class of organizations, that can offer a true comparison between organizations

### Practical application of the theoretical model proposed

In order to meet all the objectives set on the research we decided to apply the proposed model on a class of organizations. We decided to apply the theoretical model on companies that meet all the criteria as follows:



- are part of the category of small and medium companies defined according to the law (Table 1), because this type of companies represented more than 99 percent of the total number of companies in Romania in 2009(National Institute of Statistics);
- are service companies, because they represented 55 percent of the total number of companies in Romania in 2009(National Institute of Statistics); ;
- are working the whole year;
- their capital is fully private;
- they are having 3811 CAEN code, "Hazardous waste collection";
- they operate in the north-vest development region, being formed by 6 counties (Bihor, Satu-Mare, Maramures, Bistrita Nasaud, Cluj, Salaj).

Table 1 The classification of small and medium companies in Romania

Company category	Medium number of employees	Turnover	Total actives
Medium	<250	≤50 mil €	≤43 mil €
Small	<50	≤10 mil €	≤43 mil €
Micro	<10	≤ 2 mil €	≤22 mil €

After consulting the list of companies in Romania ([www.listafirme.ro](http://www.listafirme.ro)) that match the set criteria, the results couldn't satisfy our needs, as it resulted a number of 62 small and medium companies, from which 35 where micro companies and 0 small and medium. Because a micro company usually doesn't have an approach towards performance management, we decided to extend the criterion that refers to the turnover of small and medium companies (Table 2). This result still doesn't fully satisfy our needs, but it can be considered a starting point, as it returned a number of 3 companies. Furthermore, we extended the turnover criterion again and it provided a number of 8<sup>2</sup> companies.

Table 2 Number of companies used in the applied research

Medium number of employees ( $N_{em}$ )	Turnover (T)	Total actives( $A_t$ )	Number of companies
$50 \leq N_{em} < 250$	$2 \text{ mil } \text{€} \leq T < 50 \text{ mil } \text{€}$	≤43 mil €	3
$50 \leq N_{em} < 250$	$1 \text{ mil } \text{€} \leq T < 50 \text{ mil } \text{€}$	≤43 mil €	8

The existing model of organizational performance measurement used in the application is the Capability Maturity Model Integration for Services (Forrester, Buteau, Shrum, 2011), a model that measures organizational performance through two dimensions: organizational maturity and process capability. The model defines 5 maturity and 4 capability levels, which differ by the fact that the capability levels are being used to improve some processes within the organization and the maturity levels are being used to improve a set of processes.

Due to the fact that all the companies used in the research have an ISO 9001 certificate, that according to an existing research satisfy the requirements for the first 3 levels of capability, we decided to conduct the research only on the maturity dimension. Furthermore, because every maturity level is being defined by a certain number of key processes and every process is being defined by a number of specific objectives and every specific objective is being defined by a number of specific practices and that we were required to evaluate a company at the level of specific practices, we decided to conduct the research only for the second and third levels of maturity, that totals a number of 154 specific practices, 45 specific objectives an 20 key processes.

The 20 key processes evaluated in the research are:

<sup>2</sup> At the time that this article has been written and sent, the application of the model on the 8 companies identified hasn't been finished yet.

- |  |  |
|--|--|
| 1. Requirements management               | 11. Organizational training              |
| 2. Work planning                         | 12. Integrated work management           |
| 3. Work monitoring and control           | 13. Risk management                      |
| 4. Supplier agreement management         | 14. Decision analysis and resolution     |
| 5. Measurement and analysis              | 15. Capacity and availability management |
| 6. Process and product quality assurance | 16. Incident resolution and prevention   |
| 7. Configuration management              | 17. Service continuity                   |
| 8. Service delivery                      | 18. Service system development           |
| 9. Organizational process focus          | 19. Service system transition            |
| 10. Organizational process definition    | 20. Strategic service management         |

For the evaluation, we used the Standard CMMI Appraisal Method for Process Improvement (SEI, 2011), at a class A level of documentation that uses five grades to show the level of conformity of a specific practice with the requirements and a binary scoring system to show the conformity of an objective and a key process. In addition to this scoring system we used another two systems: one numerical that attributes a value to the level of conformity of each item appraised (Popescu, Țifrea 2011) and a weighted scoring system (Table 4) in accordance with the importance coefficients calculated after the interviews with the experts, the result being a numerical value weighted by its importance for the evaluated class of organizations (Table 3)

Table 3 Numerical and binary scoring systems used in the research

No.	Grade of conformity defined in SCAMPI appraisal method	Numerical value	Binary scoring system according to SCAMPI method
1.	Not yet	0	Doesn't meet the requirements
2.	Not implemented	1	
3.	Partially implemented	2	
4.	Largely implemented	3	Meets the requirements
5.	Fully implemented	4	

Table 4 Example of weighted scoring for key processes

Key process	Numerical value	Internal weighted score	Class weighted score	Internal numerical value	Class numerical value
1	3	8%	4%	4,8	2,5
2	2	3%	6%	1,2	2,5

In the first stage, after choosing the based model for evaluation and the class of companies and one organizations that will be evaluated, we conducted interviews with one expert from each of the three companies. The results after calculus and the difference between the standard importance of each criterion and the importance resulted after the interviews and the AHP and Delphi process, both for the whole class and the evaluated organization can be observed in Figure 2

After the second stage of the evaluation, we observed a difference between the standard result for the standard scoring system and the other scoring systems used (Figure 3, Figure 4), from which we can draw the conclusion that even by adapting a model for organizational performance measurement that has been developed for service organizations there still are factors that interfere with an organizations performance that are specific to its type and field of activity and in order to be able to realize a benchmarking process there is need to have calculated some coefficients that will bring two or more entities on the same level.

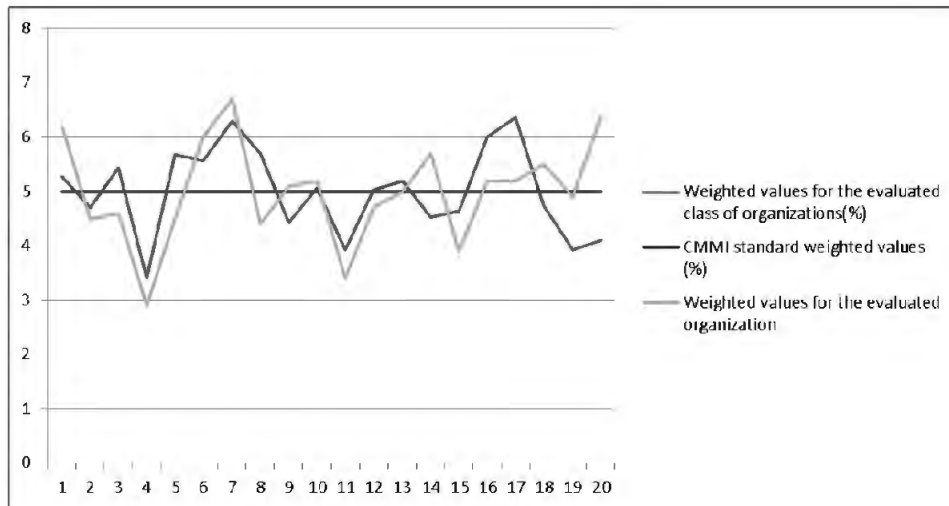


Figure 2. Weighted values for the standard model chosen and for the class and organization evaluated

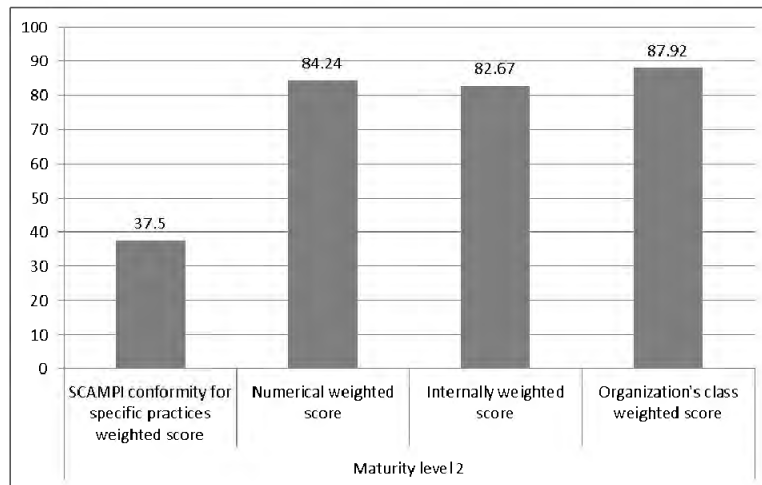


Figure 3. Maturity level 2 weighted scores for the evaluated organization

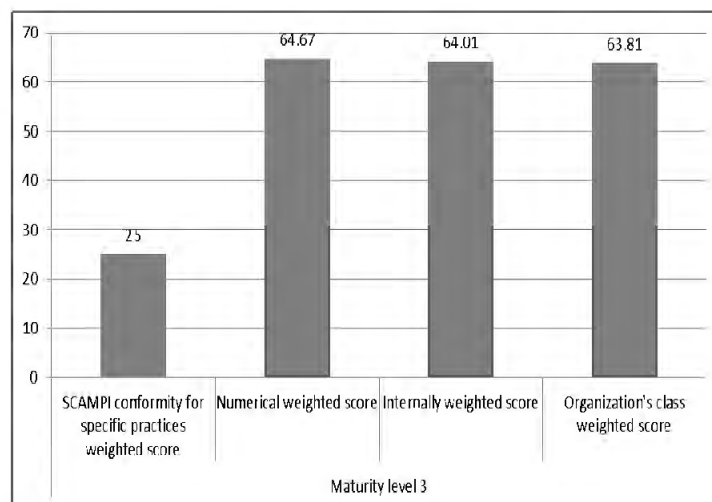


Figure 4. Maturity level 3 weighted scores for the evaluated organization

## Discussion and conclusions

As resulted after the application of the theoretical proposed model, even if we used as a base a model that has been developed for service organizations, there still are some differences between the standard approach and the one proposed, because every field of activity has its own specific needs and characteristics that offer more or less importance to a criterion and these differences are meaningful for the management of a company (Figure 2).

As presented in figures 3 and 4, the results of an actual appraisal of an organization from the chosen class show clearly the differences between the scoring systems used in the evaluation. Therefore, even if on one hand according to the standard model unmodified the organization hasn't achieved any of the maturity levels, on the other hand, by taking account of the field of activity of the company and the class that its being part of, the results are very different, as the organization meets more than 80 percent of the requirements of the second level and more than 60 percent of the requirements of the third one. Plus, it can be positioned correctly within its class of organizations by quantifying the internal results with the importance coefficients of the class of organizations and the result will show how the management approach towards performance is, compared to the medium trend, in the field.

The theoretical proposed model can be used in practice on a any class of organizations, simplifying the process of measuring organizational performance once the importance coefficients have been calculated and offering the possibility to make more meaningful comparisons between companies that are part of the same class. Furthermore, because the model is based on an existing model, and because it uses importance coefficients in order to adapt to a certain class, after the evaluation process, the results can be used to compare organizations from different fields and types of activity by bringing them to the same level of comparison. With other words, the same measurement process offers results with value for a company's internal management, for the entire class of organizations that the company is being part of and for the whole number of companies that are being evaluated according to the same model, standard or adapted to their specific needs.

Looking from another point of view, once the hierarchy of criteria has been made for a class of companies, after an internal evaluation of organizational performance conducted according to a standard appraisal method the results can be used to position the company on the specific and national markets, this way having a method to measure organizational performance with a better report between costs and benefits.

As a future direction of research, the whole process can be transformed in a software product that can offer better accessibility and will ease the process. Another direction would be to apply the model on a different class of companies and to validate the comparison of results between organizations with different fields and types of activity.

## References

### **American Productivity & Quality Center**

www.apqc.org accessed in 2012

### **Deming Institute**

www.deming.org accessed in 2012

### **European Foundation for Quality and Management(EFQM)**

www.efqm.org accessed in 2012

### **Forrester, E.C., Buteau, B. L., Shrum, S.**

2011

"CMMI for Services Guidelines for Superior Service", Addison-Wesley, Boston

### **Kaplan, R. S., Norton,D. P.**

1992

"The Balanced Scorecard – Measures that drive performance" , Harvard Business Review

### **Linstone, H. A., Murray, T.**

1975

"The Delphi Method: Techniques and Applications", Addison-Wesley

**Lynch, R. L., Cross, K. F.**

1995

"Measure up! : yardsticks for continuous improvement", Cambridge Ed. Blackwell Publishers

**National Institute of Standards and Technology**

www.nist.gov accessed in 2012

**National Institute of Statistics**

[http://www.insse.ro/cms/files/Anuar%20statistic/15/15%20Activitatea%20intreprinderii\\_ro.pdf](http://www.insse.ro/cms/files/Anuar%20statistic/15/15%20Activitatea%20intreprinderii_ro.pdf) ,

paragraph 15.1

**Olaru, S.**

2012

<http://www.biblioteca-digitala.ase.ro/biblioteca/pagina2.asp?id=cap2>

**Popescu, S. , Țifrea, D. I.**

2011

"Quality management system's maturity, a measure of the ISO 9001 implementation process "

Calitatea- Acces la Succes, Bucharest

**Saaty, T.L.**

1980

" The Analytic Hierarchy Process: Planning, Priority Setting, Resource Allocation", Mcgraw-Hill

**Software Engineering Institute (SEI)**

2011

Standard CMMI Appraisal Method for Process Improvement (SCAMPI) A, Version 1.3: Method

Definition Document, <http://www.sei.cmu.edu/reports/11hb001.pdf>

[www.listafirme.ro](http://www.listafirme.ro)

# Can success be predicted and influenced prior to effecting change in a manufacturing system?

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## Abstract

**Purpose** – In the current socio-economic context, where change and uncertainty prevail, the focus is on developing and adapting approaches proper for this dynamic environment. Given the continuously changing environment an important issue is whether and how success in implementing change can be predicted and assured? The research reported in this paper aims at proposing a methodology for the assessment of the prospects for success in manufacturing change processes and developing a practical approach to increasing the chances of success.

**Methodology/approach** – Currently, we know much less about how to build an ex ante assessment of success in a change process than how to derive an ex post evaluation of the outcome of change.

In this research we have considered and adapted several evaluation methods: (1) DICE Assessment (Determination, Integrity, Commitment, Effort) (Sirkin, Keenan & Jackson 2005); (2) performance measurement; (3) balanced score card.

The paper is oriented toward practical solutions that would bring creative answers to operational problems.

The research presented in the paper is part of a larger project that will lead to a doctoral thesis with the topic “Developing of a methodology for the ex ante and ex post assessment of success in change processes in manufacturing”.

**Findings** – The central research question is: How can the prospects of success in a manufacturing system be assessed, such as to provide guidance to obtaining higher performance outcomes of a planned change project?

An example of analysis is provided in Figure 1, which include a probability assessment of the chances for success.

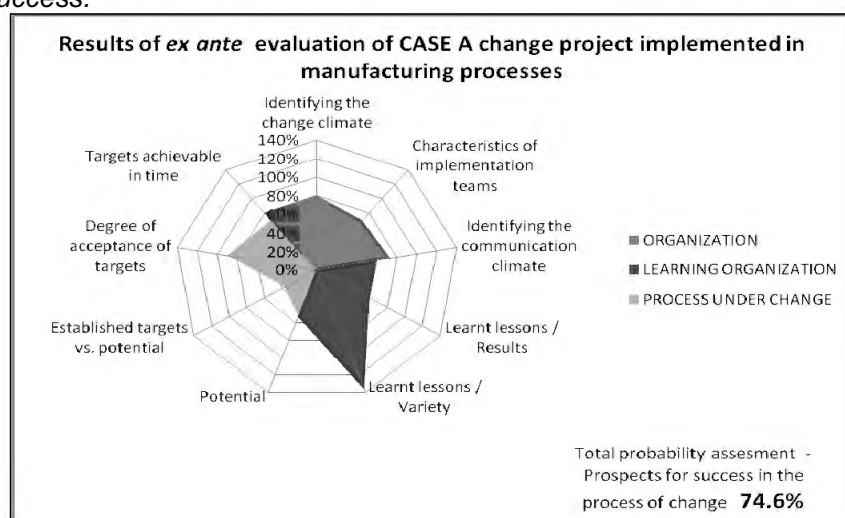


Figure 1. Organization and Change – assessment of prior evaluation of chances for success for a manufacturing change project for Case A

**Research limitations/implications** – The ex ante evaluation instrument was tested in five different manufacturing change projects, implemented in several automotive companies from Bistrița –

Năsăud County. As the sample of implementations is still small the results cannot be generalized, further testing being required.

**Practical implications** – The instrument of ex ante evaluation offers along with the organizational diagnosis recommendations for a developmental plan to correct weaknesses and capitalize on opportunities.

**Originality/value** – Our results extend current knowledge on managing change processes by contributing tools for issuing warnings prior to execution and offering advice for an appropriate course of action to improve the odds for success.

**Key words:** change management, success of change projects, ex ante assessment

## Introduction

The aim of this research is developing an evaluation methodology of ex ante and ex post success of change within the production function.

This methodology is intended to be presented as a useful tool, applicable in practice, regardless of the activity. By its use, it will be ensured in time the development of an adapted manner of change management, particularly by raising awareness of the effects of actions. However, the key-elements specific to change dimensions will be known and adjusted to best meet the goal.

Each manager acts pursuing the direction offered by the set strategy. The improvement process is not completed just by implementing change. In addition, these actions are more than an implementation plan, be it rigorously and thoroughly done. The systems variables are multiple, and in time it is possible to eliminate some of them or reduce their effects. For this there must be an awareness regarding the specific and real action environment, and a plan to support in the future the continuous improvement process.

The research presented in this paper was designed exactly for these reasons.

## Developing the EEASS tool

The ex ante assessment tool of success chances of a change in the production process (EEASS) aims at assessing the chances of success in these conditions, but was designed to be able to provide a “diagnosis” view on the dimensions identified as relevant in this respect.

The steps followed to build this tool are shown in Figure 2.

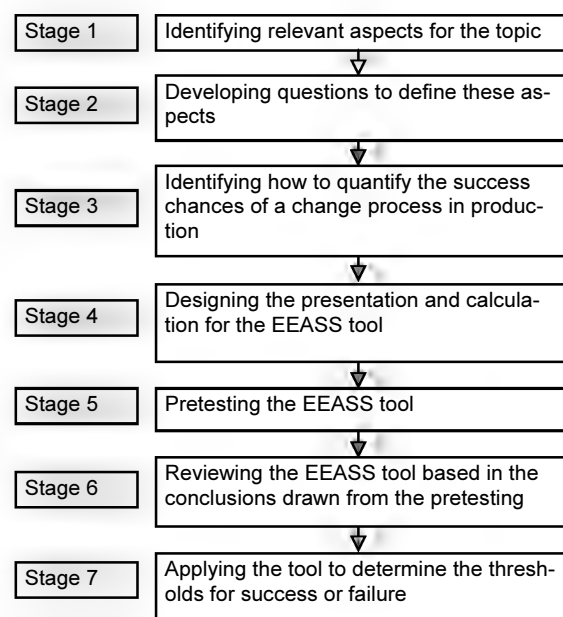


Figure 2. Steps taken to build the EEASS tool

## Identifying relevant aspects of ex ante assessment

“Defining an operational improvement project is to identify processes that are employed to achieve performance” (Upton, 1996, p.8)

With the first steps in the research, we structured the dimensions so to facilitate diagnosis of the relevant aspects of change management.

In the following sections we present the three dimensions chosen to help solve the research issues.

### The organization, framework of change implementation

Table 1 summarizes the coordinates of the dimension “The organization, framework of change implementation”. The coordinates found in the table help develop the tool and they were built by taking the initials of the words describing the situation.

Table 1. Description of defining coordinates for the organization that represents the framework for change implementation

Change implementation framework dimensions		Coordinate description
<b>ORGANIZATION</b>	D1. Identify the change climate	Assessing the need of implementation of the change project;
		Resources assurance level for the change project implementation;
		Trust level given by management to the implementation team;
		The vision suggested through the change project must be aligned with the employees expectations for the future;
	D2. The implementation teams features	Deliberate employees involvement in the change implementation project;
		Existence of required knowledge level;
		Trust level given to the change implementation project team;
		The awareness of the implementation team’s members roles;
		Setting the objectives by the team members;
		Communicating the objectives to the involved levels;
		Methods for solving conflicts;
	Support from management;	
	D3. Description of the communication process	Communicating the intermediate progress during the change implementation;
		Existence of communication channels and their functioning;
		Know and use the communication medias available in the company;
		Verifying the reception of the message;
		The rapidity of information transmission;
		Checking for information validity;
Ensuring timely availability of information.		

### Learning within the organization

In the same manner as in the previous section, the coordinates composing the dimension “Learning within the organization” are presented in Table 2. The coordinates are seen as helping elements in building EEASS.



Table 2. Description of coordinates defining the “learning within the organization” dimension

Change implementation framework dimensions		Coordinate description
<b>LEARNIN WITHIN THE ORGANIZA- TION</b>	D4. Lessons learnt - Results	Degree of achieved results;
	D5. Lessons learnt - Issues	Identifying the situation when deadlines have been exceeded during the last improvement implementation project;
		The problems from past change implementation projects have been anticipated;
		Identifying lack of effectiveness in coordinating activities;
		Quantifying the conflicting activities implemented;
		Assessment of the insufficient skills level held by the participants of the last change implementation project;
		The situation where the employees training level was not enough;
Identifying how do external factors influence the improvement project.		

### The changing process

Table 3 captures the structure of characterization approach of the process to be changed.

Table 3. Characterisation of the process to be improved

Change implementation framework dimensions		Coordinate description
<b>THE CHANG- ING PRO- CESS</b>	D6. Potential	Synchronizing the process timing and the clients timing; The process current level of productivity; Obtained products assured quality level ;
	D7. Proposed objectives vs. identified opportunities	Setting timing as objective;
		Identifying the opportunity to increase productivity; Identifying the opportunity to increase products quality;
	D8. The objectives acceptance degree	Identifying the employees with the set objectives;
	D9. Time achievable goals	The belief to succeed in the set deadlines.

### Data collection and processing

In order to provide the elements to understand the reasoning upon which the value of the index EEASS was determined, we present the calculation scheme using the working steps (Figure 3).

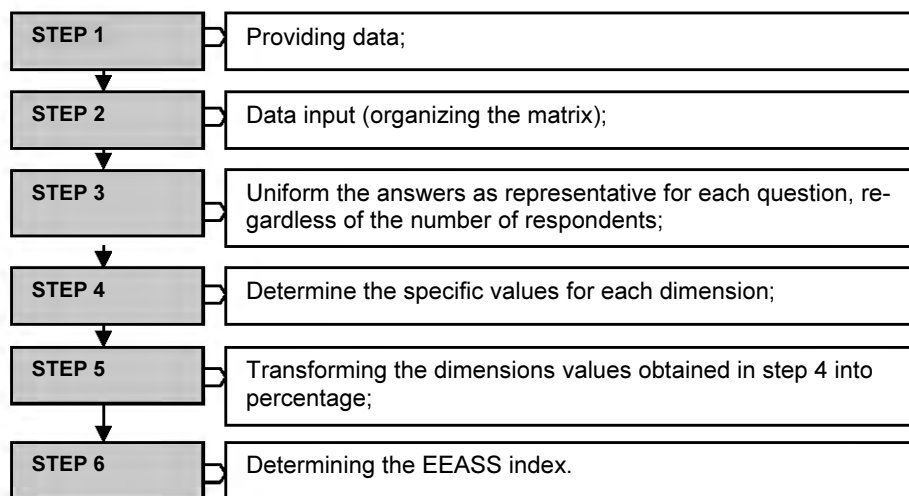


Figure 3. EEASS index calculation steps

The developed questionnaire can be applied to all team members to implement the change. The questionnaire consists of 9 sections and a total of 35 questions.

STEP 1: The questions can be answered by marking 1, 2, 3, 4 or 5 options, representing strong disagreement, disagreement, neutral, agreement or total agreement (Likert scale). There are also some questions that require specific answers, available and indicated by the same granting response system.

STEP 2: By collecting the answers and representing them as a matrix (1) we fulfill the answers processing step.

In this respect it is considered:

i= question's answer,  
m= number of respondents,  
n= question's number.

$$\begin{pmatrix} i_{11} & i_{12} & \dots & i_{1m} \\ i_{21} & i_{22} & \dots & i_{2m} \\ \dots & \dots & \dots & \dots \\ i_{(n-1)1} & i_{(n-1)2} & \dots & i_{(n-1)m} \\ i_{n1} & i_{n2} & \dots & i_{nm} \end{pmatrix} \quad (1)$$

The above matrix presents the answers (i) given for the n questions by the m respondents involved in the change process assessment.

STEP 3: We calculate the specific value of each characteristic  $\bar{x}_n$ , using formula (2), resulting in uniform answers for each question, regardless of number of respondents.

$$\bar{x}_n = \frac{\sum_{i=1}^m i}{m} \quad (2)$$

STEP 4: To each evaluated dimension corresponds certain questions, according to table 4.

Table 4. Distribution of questions allocated to each dimension

D1	D2	D3	D4	D5	D6	D7	D8	D9
Q.1	-	Q.5 -	Q.20	Q.21 -	Q.28 -	Q.31 -	Q.34	Q.35
Q.4	Q.12	Q.19		Q.27	Q.30	Q.33		

The specific values D1, D2, D3, D4, D5, D6, D7, D8, D9 are determined by using again formula 2, for every single case.

STEP 5: Considering the equal proportion of each dimension and value 5 as the maximum value to be assigned to a section, the values D1 – D9 transform in percentage values.

STEP 6: Using the total probabilities formula for our case (3) we can calculate the value of success emergence during the change activity (Devadas & Lehman, 2005).

$$P(A) = P(D1) * P(A/D1) + P(D2) * P(A/D2) + P(D3) * P(A/D3) + P(D4) * P(A/D4) + P(D5) * P(A/D5) + P(D6) * P(A/D6) + P(D7) * P(A/D7) + P(D8) * P(A/D8) + P(D9) * P(A/D9) \quad (3)$$

where A represents the event "change success".

To facilitate the data processing, we created a model file<sup>1</sup> used to fill in and compile the data.

<sup>1</sup> To create the file we used the Excel (Microsoft Office)

The entry data and calculation formulas were filled in the file as presented in the following figures 4, 5, 6, 7.

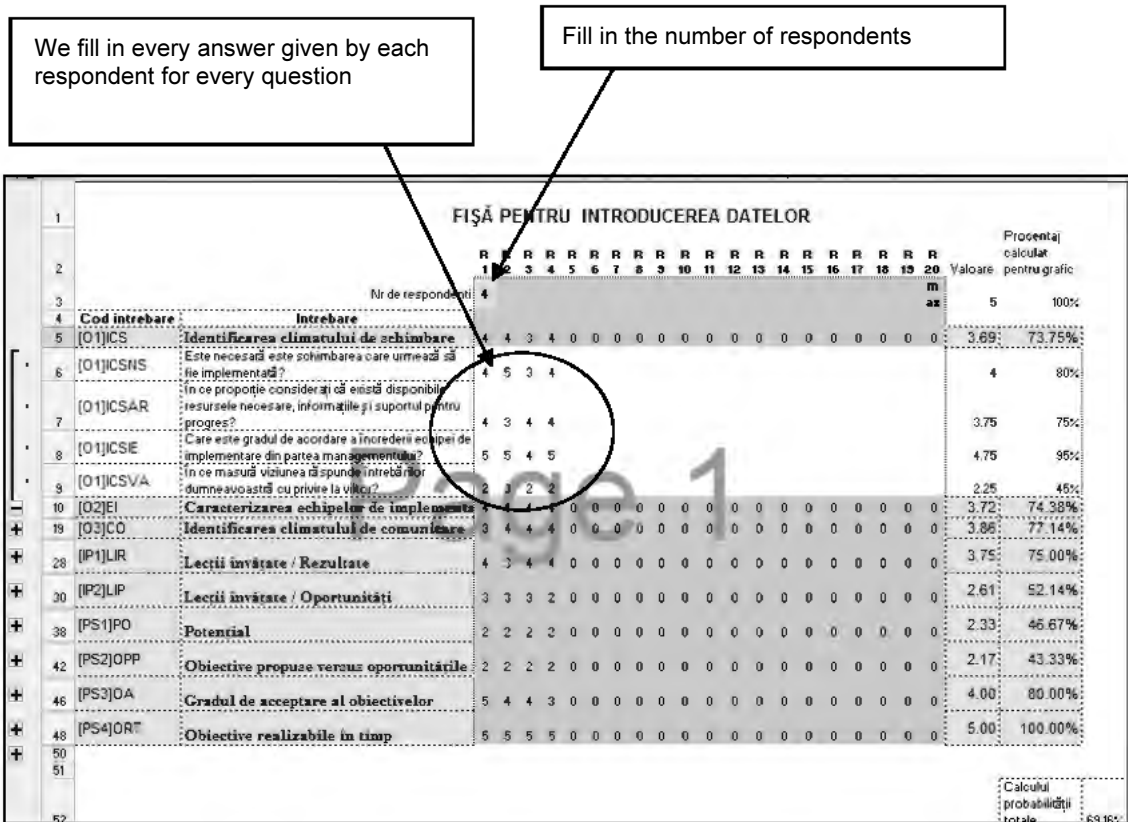


Figure 4. Inserting the data input into EEASS

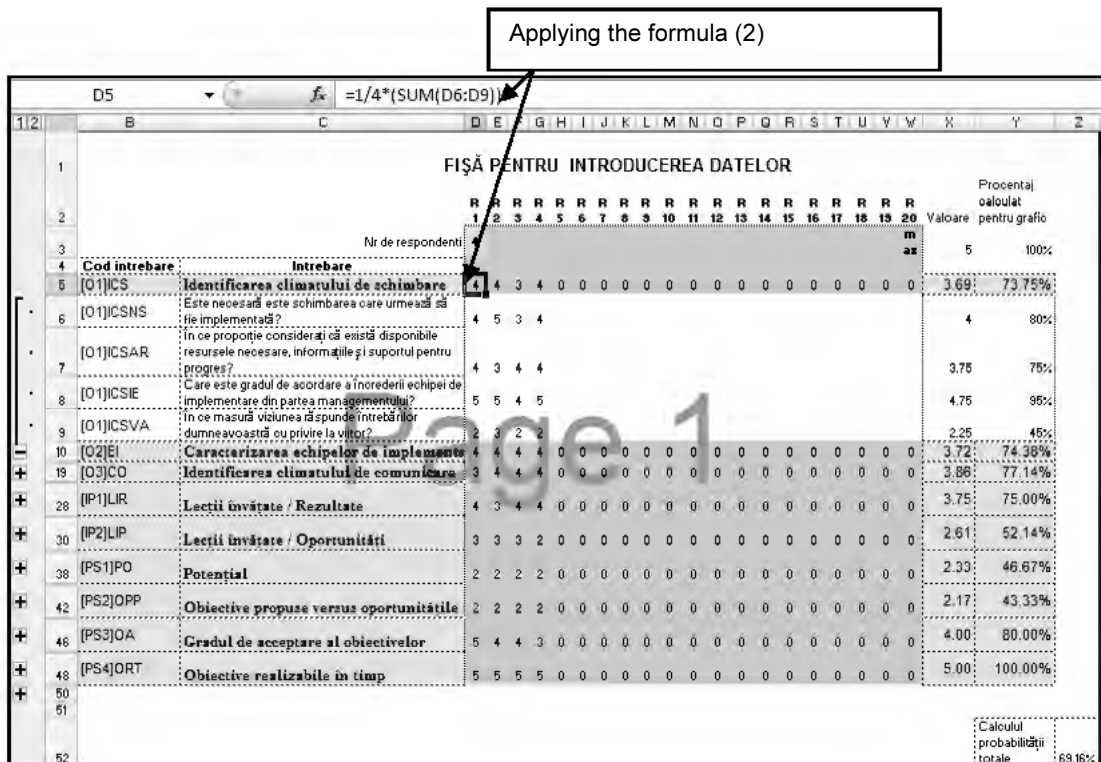


Figure 5. Calculation of the specific value of each characteristic for every respondent



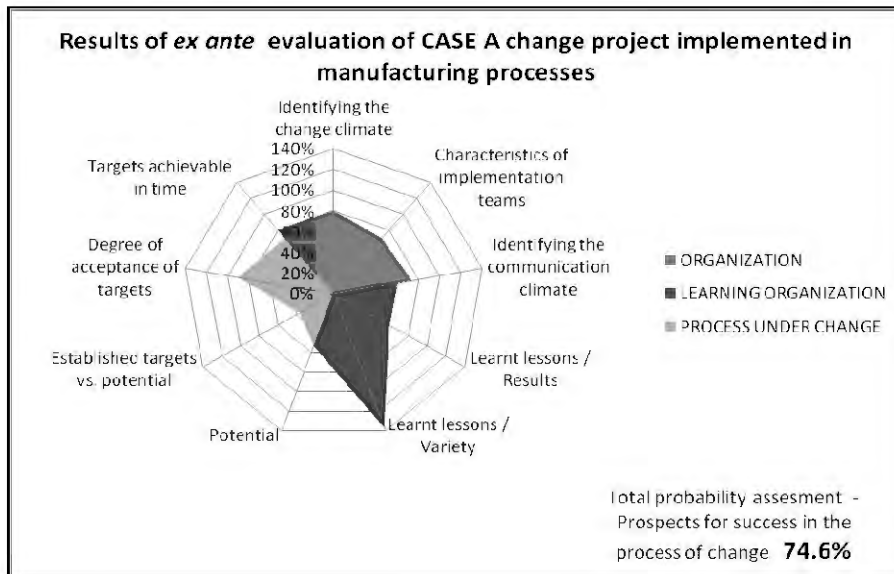


Figure 8. Graphic representation of EEASS

For each of the nine dimensions, the ideal value is considered at the level of 100%. Depending on the representation of each of the dimensions, we perform a diagnosis type interpretation. To facilitate the interpretation of the specific data for each of the three sections (the organization, learning within the organization and the changing process) we represented using different colors as follows: the three dimensions that define the organization are represented using blue, the assessment of the section “learning within the organization” is represented using red, and the process is represented using green.

For each situation this tool will be applied, the diagnosis will be made and presented in detail.

The percentage resulted from the calculation of the total probability of success occurrence in business change represents the assignment of success, or conversely, of failure, accordingly with the area where it is situated. The intervals describing the success, failure, or neutral zone, have been defined after using the tool in the analyzed change projects.

### The development and pretesting of the EEPSS tool

To ensure an assessment model applicable to changes in production, based on the conducted research, the following dimensions were considered to be justified for this purpose.

- I. Cost / effort
- II. Deadlines compliance
- III. Level of objectives fulfillment
- IV. Process characteristics acquired after change project implementation

The first aspect under assessment, costs and efforts, had as basis the following assessment criteria: (1) the difference between the budget and the expenditure (cost specific); (2) overtime hours performed by employees compared to the overall activity; (3) additional resources involved compared to the whole activity. The second and third criteria are specific for assessment of effort used to realize the implemented project.

To determine these characteristics specific for the assessment of a change implementation, we set some formulas to achieve the results required for this purpose.

The second aspect, deadlines compliance, had as assessment basis the criterion time difference.

Determining the level of specific objectives fulfillment, predetermined, is done by assessing four distinct aspects, namely: (1) process timing, (2) labor productivity, (3) assured quality level in the improved process, (4) inventory between processes.

Next, we will present these aspects assessment manner.

The process timing is assessed using the criterion of difference between the planned and actual levels, measured within the functional process, at the end of the change implementation, in the evaluation period.

The other three aspects are determined in the same way: labor productivity, assured quality level in the improved process, inventory between processes, obtained from implementing change, as the difference between the projected and obtained levels.

The evaluation of the obtained characteristics of the modified process is based on the on-site observations, and the assessment is based on observed "reality", without any other exceptions or explanations. The reality caught at a specific time indicates how a process works. Based on these observations we can assess the success or failure to acquire the process characteristics initially set.

The PRE\_A project assessment, using these assessment aspects, is shown in table 5.

**Table 5. Assessing a change projects results (Exemple)**

Evaluated aspect	Cost	Overtime hours	Additional resources used	Deadline compliance
Assessment method	$DB(\%) = (CR - VB) * 100$	$OH(\%) = (OH - TL) * 100$	$ER = OEF * Co + Cs + Cps$ $ERP(\%) = (RS - B) * 100$	$ET(\%) = DT - TR * 100$
PRE_A assessment	0%	0,17%	0%	0%
Evaluated aspect	Process timing	Labor productivity	Quality level	Inventory between processes
Assessment method	Difference between the planned and actual level	Difference between the planned and actual level	Difference between the planned and actual level	Difference between the planned and actual level
PRE_A assessment	0%	+0,3%	0%	-12%
Evaluated aspect	Process characteristics	Number of designed characteristics	Number of assured characteristics	Diference
PRE_A assessment		2	2	0

**Legend**

	Criterion positively assessed
	Criterion neutrally assessed
	Criterion negatively assessed

This table shows the determined and assessed values for each criterion. For the cases assessed as positive, the relevant cells are marked with green, and with red for the cases assessed as negative. For the cases assessed as neutral the cells are not marked with any color.

**Experimenting the EEASS and EEPSS tools**

To fulfill this stage of the research plan, we identified six different change projects. These were analyzed using the EEASS and EEPSS tools. We first applied the EEASS tool to "diagnose" the environment in which the change is going to be implemented and to determine its chances. Based on the questionnaire, one or more members of the team to implement the change, depending on their availability, provided the answers.

Then the results were evaluated using the EEPSS tool and, for each case, the company's representatives appreciated its success or failure. The evaluation was conducted together with the researcher, so there was the opportunity to clarify certain aspects that received a subjective interpretation from the evaluator.

The end of this research stage presents the determined intervals in which the obtained results from using the EEASS tools indicate the likely outcome of change.

The EEASS graphic representation indicated the opportunities for improvement. Applied consistently, this methodology is the starting point in increasing the chances of obtaining results.

EEASS index offers the predictability characteristics in the analyzed context. But for now, the intervals indicating the success zone are determined by testing the tool in the six change situations. Therefore, these intervals are specific to these situations, and their limits can be considered as "guidance".

To close the cycle of change implementation and to provide the basis for its assessment, we built the EEPSS evaluation form that includes specific aspects of this stage. Evaluating change is considered to be an important stage in the change implementation process, and supports the success, or the contrary, the failure of the initiative.

Table 6 summarizes the projects assessment data.

The predictability limits of EEASS, to generalize the findings, are small, given that it was applied in just six change projects. This approach is a necessary direction for future research.

Table 6. A, B, C, D, E, F projects assessment

PROJECT	Costs	Overtime hours	Additional resources	Deadlines compliance	Process timing	Productivity level	Quality level	Inventory between processes	Process characteristics		
									Number of projected characteristics	Number of assured characteristics	Diference
A	0%	0%	+7%	0%	N/A	+2%	0%	-30%	3	3	0
B	-15%	0%	0%	0%	N/A	Assessed after 3 months	Assessed after 3 months	N/A	1	1	0
C	0%	+15%	+15%	+25%	-20%	+10%	+3%	-10%	1	1	0
D	+15%	+7%	+0.7%	-2%	0%	0%	-2%	0%	2	2	0
E	0%	3%	0%	30%	+15%	+1.3%	0%	0%	1	0	-1
F	-12%	0%	13.5%	+60%	+15%	+6.5%	0%	-15%	0	2	0

### Legend

	Successful project
	Neutral project (not declared successful nor failed)
	Failed project

### In practice

This section presents both the EEPSS and EEASS tools methodology and recommendations to increase the chances of successful implementation of changes in production processes.

#### Directions to increase the chances of successful change projects

An assessment, regardless of the context in which it is done, aims to describe a current situation that can be considered a basis for the improvement. Thus, a situation, a specific action framework assessment must be followed by measures that will influence it positively.

For this, each dimension is addressed particularly, presenting the identified improvement directions.

Table 7. Directions to improve the climate favorable for change

Directions to improve the climate favorable for change	Actions for supporting the improvement directions
How do employees perceive change	Explaining the rationale for the change;
	Regular presentation of progress and future directions;
	Recognition of involvement in the progress;
	Involving more people in determining and allocating resources;
	Assuring the change implementation team of the management confidence in their capabilities;
Creating a safe environment where the employees can act with confidence and determination	If managements confidence has not a fundamental basis discrepancies must be identified and analyzed, solutions can be adopted to improve the situation (e.g. hiring a team of needed specialists);
	Identifying benefits for employees (answer the question "what is in it for me?") and presenting them;
	Presenting the plan to implement change;
	Regular and consistent presentations of the status and progress of the change implementation plan;
	In crisis situations, involving some employees (process users) in the process of solving the issues;
Empowering employees by providing simple tasks that bring benefits in creating a climate of cooperation and feedback on how to institutionalize the change.	

Table 8. Directions for developing teams to implement changes in production processes

Directions for developing implementing teams	Actions to support improvement directions
Understanding the change process	Develop a methodology to address change (there are examples of methodologies used by Toyota);
	Familiarize employees with the change issues;
	Granting the importance needed for the assessment session that will include the assessment of the actions.
Motivation to get involved in the change	Each new change project can be considered a framework for employees development;
	There must be a progress evaluation and assessment section;
	If success, reward systems can be applied.
Needed knowledge assurance	Identifying the needed knowledge within the team;
	Selecting members based on their skills and their potential for developing skills and knowledge.
Roles and responsibilities within the team	Provide 360 degree feedback;
	Establishing clear responsibilities and roles within the team;
	Verifying the assumption of responsibilities.
Assuring the environment for solving the issues	Providing training programs on problem solving techniques;
	Integrating problem solving techniques in daily activities;
	Encouraging presenting problems in perioding specific meetings where can also be presented solutions for them;
	Familiarizing the management with the problems the implementation teams are facing;
	Setting regular "Steering committee" meetings for the major change projects with all departments managers.



Table 9. Directions for developing the communication climate within the company

Directions for developing the communication climate	Actions to support improvement directions
Progress transparency of the change implementation plan	Schedule frequent meetings to present and assess the intermediary stages of a change implementation plan;
	Daily review of the state in which the actions are compared with the set deadlines;
	Facilitating access to information for all levels involved in the process;
Providing communication channels between the implementation team and the management (both ways)	Schedule regular meetings to discuss company's results and new challenges;
	A short information meeting can be set daily, to participate management members/from other departments;
	Management members may conduct regular visits to the production area so as to provide the opportunity of obtaining information, as well as to transmit it;
Verifying the message reception	In written notices, the perception of the message can be verified by the way the target receiver perceives at first sight;
	If the situation requires, verifying the perception of the message can be checked simply by reformulating the message by the receiver;
Ensuring the accuracy of the information	Launch the information when it is certain;
	If the transmitted message can be changed, this should be specified;
	Verify how the higher levels spread the received information.

Table 10. Directions for developing the learning culture within the organization

Directions for developing the learning culture within the organization	Actions to support improvement directions
Creating a learning favorable environment	The assessment sessions should end with a list of "learned lessons" and reactionary ways deemed appropriate;
	Regular meetings to present "best practices" developed in the production area or other departments;
	When a work visit, the obtained information regarding the progress must be submitted in the form of a visit report or presentation meetings;
	Support by providing additional training facilities for the employees engaged in various training forms;
	Creating a reward system based on the job evaluation system, or acquired knowledge and how they are applied;
Satisfying the need for knowledge	Creating a personalized development plan for each employee, based on the periodical professional assessment;
	Internal training sessions, where the specialists can transfer the "know how" to employees;
	In the change implementation methodologies, approaches can be adopted for the purpose of testing ideas and the way they can be implemented.

Table 11. Directions to ensure the objectives were set correctly

Directions to ensure the objectives were set correctly	Actions to support improvement directions
Objectives aligned to the process potential	Identify real opportunities to improve business processes compared to its needs; Avoid setting undervalued objectives due to fear of failure; Objective assessment of the “current state” of the process parameters subject to change, by direct observation and without considering “explanations” like: “now we have a problem....and that is why....”; Capturing the reality by verifying shows an objective current situation;
Understanding the set objectives	Detailing the objectives by characteristics through which the objectives can be achieved; Identification of crucial components that influence the set indicators;
Commitment of the change involved employees towards the set objectives	Ensure that the employees have agreed with the set objectives; Understanding why employees are reluctant to accept the objectives; Providing management support; Presenting successful cases of specific objectives achievement.

### Methodology for assessment and increase chances of successful implementation of changes in productions processes – Planning for managers

The logical thread involves further presenting the methodology of implementation of these instruments, so, firstly, to be able to estimate the success chance of change project implementation, and, secondly, to support the increase of these chances.

To provide a structured presentation, this methodology is shown in Figure 9 and is classified using Kotters (1995) change stages.

The application methodology of these tools requires the involvement of all team members managing the change, to provide a clear picture regarding the implementation framework of the change.

EEASS tool can be repeatedly applied, if corrective actions were implemented, designed to increase the chances of a successful implementation.

### Conclusion

The affirmative answer for the question from the title of the paper is supported by the way the methodologies were presented, as well as by the results obtained from applying these methodologies in the analyzed change projects.

These methodologies provide the diagnostic for the nine dimensions appreciated to be relevant in the implementation process of change specific for production activities. Furthermore, these results are considered to be a starting point in developing aspects that positively influence the levels of objectives fulfillment set for a change project implementation in the production process.

The identified opportunities to further research these issues are: (1) using the assessment methodology of ex ante and ex post successful change implementation chances in the company's production process, over a period of at least one year, to determine the extent to which these opportunities can be increased and the evolution of company's development using the three major evaluated categories; (2) statistical validation of the EEASS tool and implicitly of the proposed predictability intervals.

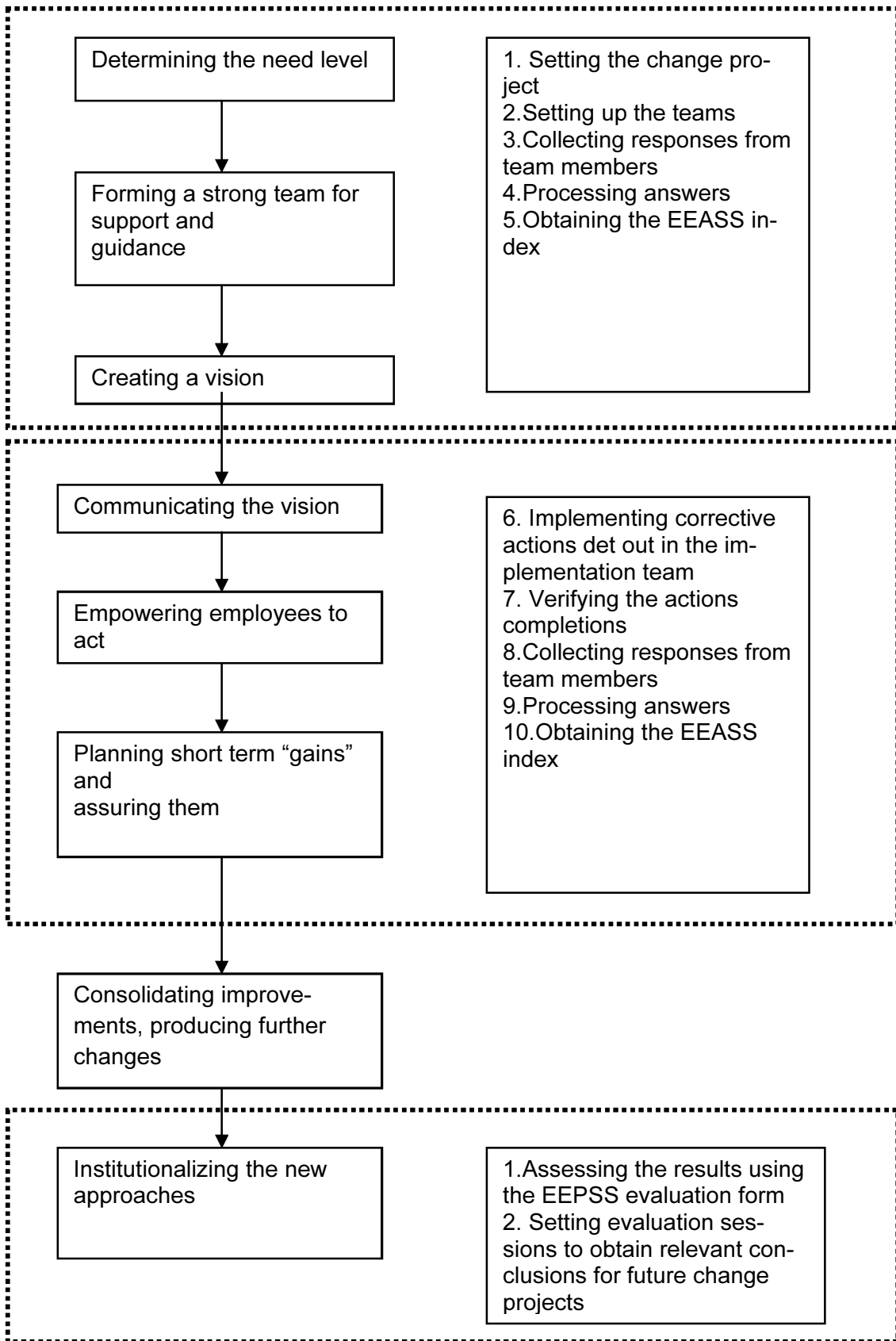


Figure 9. Implementation methodology of EEASS and EEPSS

## References

**Hauser, J.R., Katz, G.M.**

1998

"Metrics: You Are What You Measure!". *European Management Journal*, 16 (5): 517-528.

**Kaplan, R.S.**

1990

Measures for Manufacturing Excellence. Harvard Business Schools Series in Accounting and Control.

[http://books.google.ro/books?id=eFvbS8iJtQ0C&pg=PA11&lpg=PA11&dq=kaplan+measures+for+manufacturing+excellence&source=bl&ots=dSUJCi0K8U&sig=VI2MhYY7hvmQgHbS1Q-wD89Xt9s&hl=ro&sa=X&ei=TMttT\\_i-KqPU4QTM35C\\_Ag&ved=0CC0Q6AEwAQ#v=onepage&q=kaplan%20measures%20for%20manufacturing%20excellence&f=false](http://books.google.ro/books?id=eFvbS8iJtQ0C&pg=PA11&lpg=PA11&dq=kaplan+measures+for+manufacturing+excellence&source=bl&ots=dSUJCi0K8U&sig=VI2MhYY7hvmQgHbS1Q-wD89Xt9s&hl=ro&sa=X&ei=TMttT_i-KqPU4QTM35C_Ag&ved=0CC0Q6AEwAQ#v=onepage&q=kaplan%20measures%20for%20manufacturing%20excellence&f=false).

**Neely, A.**

1999

"The Performance Measurement Revolution: Why now and What Next?". *International Journal of Operation & Production Management*, 19 (2): 205-228.

**Sirkin, H.L., Keenan, P. & Jakson, A.**

2005

"The Hard Side of Change Management", *Harvard Business Review*, vol. 83, October 10: 108-118.

**Upton, D.M.**

1996

Mechanism for building and sustaining operations improvement. *European Management Journal*, 14 (3): 215-228.

# Managerial Decision through an e-Government Service in Romanian Public Administration

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## Abstract

**Purpose** – The study set sights on Romanian public administrations which have implemented an e-Government service, and were collected in 2012 year. In the virtue of the questionnaire we achieved the results.

**Methodology/approach** - The instrument used for collecting data is a quantitative questionnaire.

**Findings** – The questionnaire sets the current stage of the level of implementation of information and management systems in the 2012 Romanian local public administration.

**Research limitations/implications** – The practical study is oriented towards Romanian public administration.

**Practical implications** – In the area of e-Government Romania is lagging behind, especially in take-up, being at the lowest place in the EU for both citizens (at 8%) and businesses (at 50%). Data obtained through this questionnaire will be used in writing an application for funding a project on structural funds focused on the Romanian e-Government strategy.

**Originality/value** – The research has revealed the global IT and specific ERP, GIS and QMS implementing level, as advanced management methods in public administrations, in 2012 Romanian organizations, and has a high level of originality.

**Key words:** e-Government, Public Administration, Information Systems

## 1. Theoretical Framework of an eGovernment Service in Romanian Public Administration

The word eGovernment translates literally as "electronic government". However, the term eGovernment has established itself worldwide as meaning "the administration of government by means of electronic technology". In general, it means the simplification of work routines and processes through the application of information and communication technologies (ICT) in the areas of information, communication and transaction within and between state institutions as well as between the government and citizens or businesses. eGovernment is the set of all available to everyone in the country. It is also a synonym for a modern and innovative land, in which quality, trust and quickness play a central role. Public authorities use technologies such as the Internet or mobile services to get into contact with citizens and businesses. They also use these technologies to carry out internal work processes. eGovernment has an impact on every citizen, business and public authority. [<http://www.digitales.oesterreich.gv.at/site/6506/default.aspx>]

### 1.1. eGovernment Service in EU. A Digital Agenda for Europe

The overall aim of the Digital Agenda is to deliver sustainable economic and social benefits from a digital single market based on fast and ultra fast internet and interoperable applications. The crisis has wiped out years of economic and social progress and exposed structural weaknesses in Europe's economy. Europe's primary goal today must be to get Europe back on track. To

achieve a sustainable future, it must already look beyond the short term. Faced with demographic ageing and global competition we have three options: work harder, work longer or work smarter. We will probably have to do all three, but the third option is the only way to guarantee increasing standards of life for Europeans. To achieve this, the Digital Agenda makes proposals for actions that need to be taken urgently to get Europe on track for smart, sustainable and inclusive growth. Its proposals will set the scene for the longer-term transformations that the increasingly digital economy and society will bring about. [<http://eur-lex.europa.eu/>]

We will present the eGovernment concept from the Digital Agenda. eGovernment services offer a cost-effective route to better service for every citizen and business and participatory open and transparent government. eGovernment services can reduce costs and save time for public administrations, citizens and businesses. They can also help mitigate the risks of climate change, natural and man-made hazards by including the sharing of environmental data and environment-related information. Today, despite a high level of availability of eGovernment services in Europe, differences still exist amongst Member States and the take-up of eGovernment services by citizens is low. In 2009, only 38% of EU citizens used the internet for accessing eGovernment services, compared to 72% of businesses. General internet take up will be lifted if the usage and quality and accessibility of public online services rises.

European governments are committed to making user-centric, personalised, multi-platform eGovernment services a widespread reality by 2015. To that end governments should take steps to avoid any unnecessary technical requirements, for example applications that only work in specific technical environments or with specific devices. The Commission will lead by example in implementing smart eGovernment. These services will support streamlined administrative processes, facilitate information sharing and simplify interaction with the Commission, thereby empowering users and improving the efficiency, effectiveness and transparency of the Commission.

Most public online services do not work across borders to the detriment of the mobility of businesses and citizens. Public authorities have so far focused on national needs and have not sufficiently taken into account the single market dimension of eGovernment. Yet several single market initiatives and legal instruments (such as the Services Directive or the eProcurement Action Plan) rely on the possibility for businesses to interact and do business with public administrations by electronic means and across borders.

Therefore Europe needs better administrative cooperation to develop and deploy cross-border public online services. This includes the implementation of seamless eProcurement as well as practical e-identification and e-authentication cross border services (including mutual recognition of security levels for authentication).

**Key Performance Targets Public services.** These indicators are mainly drawn from the Benchmarking framework 2011-2015 endorsed by the EU Member States in November 2009. eGovernment by 2015: 50% of citizens using eGovernment, with more than half of them returning filled in forms. (Baseline: In 2009, 38% of individuals aged 16-74 had used eGovernment services in the last 12 months, and 47% of them used eGovernment services for sending filled forms.) Cross-border public services: by 2015 online availability of all the key cross-border public services contained in the list to be agreed by Member States by 2011. (No baseline)

## **1.2. eGovernment Factsheet Romania - eServices for Citizens**

This capitol is based on the common list of 20 basic public services contained in the annual report "Digitizing Public Services in Europe: Putting ambition into action - 9<sup>th</sup> Benchmark Measurement" prepared for the European Commission, Directorate General for Information Society and Media, December 2010. [<http://www.epractice.eu/en/document/288410>]

Information Society Indicators	Romania	EU-27
Overall ICT expenditure (as a % of GDP)	1,1	2,4
% households with broadband connection	23	61
% of enterprises with broadband	52	86
eGovernment usage by individuals (%)	8	41
eGovernment usage by enterprises (%)	50	75

Figure 1. Romanian Information Society Indicators  
(Source: Capgemini et al., 2010, p. 207)

Positioning International Benchmarks	2010 (2009)	out of
UN e-Government Development Index	47 <sup>th</sup>	/184
EIU Digital Economy	47th (48th)	/70
EIU Digital Economy score	5.04 (5.07)	/10

Figure 2. Romania Position  
(Source: Capgemini et al., 2010, p. 207)

The 12 Romanian services for citizens are as follows:

*Income taxes: declaration, notification of assessment.* Forms may be signed electronically according to the legislation in force and sent to the relevant agencies through electronic means that guarantee delivery. Payment of local taxes via the Internet is currently used in 50% of Romanian municipalities. Eight of our respondents are city halls or county councils. What is important to note, is that based on a national initiative, local public administrations have responded individually. For example, in the Jiu Valley, have been accessed funds from World Bank and through this funds were implemented at each city hall (Petritla, Petrosani, Vulcan, Lupeni) management tools to local taxes. The result was the ability to obtain interoperability.

*The Job search services by labour offices.* online job search operates under the National Agency for Occupation and Labour (ANOFM).

*Social security benefits.* Online information and forms to download on unemployment insurance and benefits procedures. Online information and forms. A project for a 'Computerised System for Health Insurance' (SIUI) is expected to raise the level of service when in operation. [ <http://www.cnas.ro/despre-noi/proiect-prescriptia-electronica>] The Electronic Prescription IT System (SIPE), is a National Health Insurance House project financed from non-repayable European funds, and is implemented from 1<sup>st</sup> of July 2012. SIVCO Romania, Romanian software company leader, will bring to this project the expertise gained from complex e-Health projects developed already. This project is a very complex one, and is one of the government's major objective, meaning to increase quality in health care. The result is targeted to effectively control flows of the health system, and ultimately to obtain a higher health care for the taxpayer.

*Personal documents: passport and driver's licence.* Online information and forms to begin the process of obtaining, or renewing a passport. This service is to become part of the currently developed National Person Identity System. Online service available for driving licences on a pilot basis. This service is scheduled to become part of the future National Person Identity System.

*Car registration (new, used, imported cars).* Information on procedures and on required documents. This service is scheduled to become part of the future National Person Identity System.

*Application for building permission.* Building permits are issued by the local Public Administration; however, they lack a full Internet presence. Before a building permit is issued, there is a set of other certifications that are required, such as the 'Certificate of Urbanism' obtained by other administrations. Some Local Councils have developed the 'Sole-Central Permit', a one-stop service for issuing all certificates.

*Declaration to the police (e.g. in case of theft)*

*Public libraries (availability of catalogues, search tools.* Online catalogue search and reservation facilities are not offered by public libraries such as the National Library. Libraries, such as the Polytechnic University of Timisoara, offer a full list of eServices.

*Certificates (birth and marriage): request and delivery.* At present, there is no online service. It is expected, as part of the 'Knowledge-Based Economy' project, that the recently initiated Civil Information System - itself a part of the National Person Identity System - will allow for the issuance and renewal of civil information and documents for Romanian citizens (birth, marriage and death certificates).

*Enrolment in higher education/university.* Major universities offer the possibility to enrol online.

*Announcement of moving (change of address).* Information online is available, but no online registration facility to date. The 'e-address' project implemented by the Ministry of Communication and Information Society aims to make the service fully available online.

*Health related services (interactive advice on the availability of services in different hospitals; appointments for hospitals)*

Other 8 services are available for the business sector.

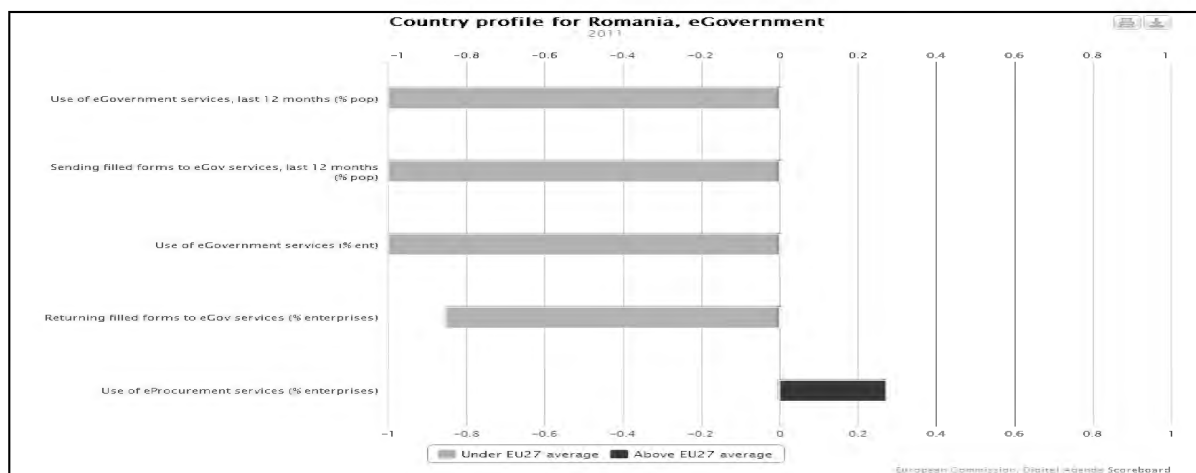


Figure 3. Digital Agenda for Europe – Romania  
(source [http://ec.europa.eu/information\\_society/digital-agenda/scoreboard/countries/ro/index\\_en.htm](http://ec.europa.eu/information_society/digital-agenda/scoreboard/countries/ro/index_en.htm))

The Indicator values belongs to: basic public services for citizens, which are fully available online, basic public services for enterprises, which are fully available online, population interacting online with public authorities, last 12 months, population sending filled forms to public authorities, over the internet, last 12 months, enterprises interacting online with public authorities, enterprises returning filled in forms to public authorities, over the internet.

The top 5 eGovernment strategic priorities proposed in the annual report - 9<sup>th</sup> Benchmark Measurement are: [Capgemini et al., 2010, p. 207]

1. Setting up e-Romania including its e-Government strategic component.
2. Modernizing public administration.
3. Large scale adoption of IT in relation to the business environment, citizens and public administrations.
4. Improving the competitiveness of ICT, R&D and Innovation sectors.



## 5. Implementing EU directives relating to public electronic services.

The best practices in Romania identified in the annual report - 9<sup>th</sup> Benchmark Measurement are considered: [Cag Gemini et al., 2010, p. 207]

Romania's National Electronic System	<a href="http://www.e-guvernare.ro/">http://www.e-guvernare.ro/</a>
VPO electronic payment platform	<a href="http://www.ghiseul.ro/">http://www.ghiseul.ro/</a>
SEI -Romanian IT-based Educational System	<a href="http://www.portal.edu.ro/">http://www.portal.edu.ro/</a>
Secure Electronic Invoicing Service	<a href="http://selis.unipi.gr/selis/main/index.html">http://selis.unipi.gr/selis/main/index.html</a>

### 1.3. eGovernment in Romania is eRomania

The Romanian National strategy on eGovernment, eRomania aims at leading the entire public sector to the information and knowledge-based society. The eGovernment website serves as a unique access point to services and information of the central and local public administration, the development of this portal marks the beginning of the "desk reform", a program by which the Romanian Government propose itself to promote transparency, increase the administration efficiency by reducing costs and bureaucracy, to ensure a large permanent accessibility to public information and services, to prevent and fight corruption by electronic means.

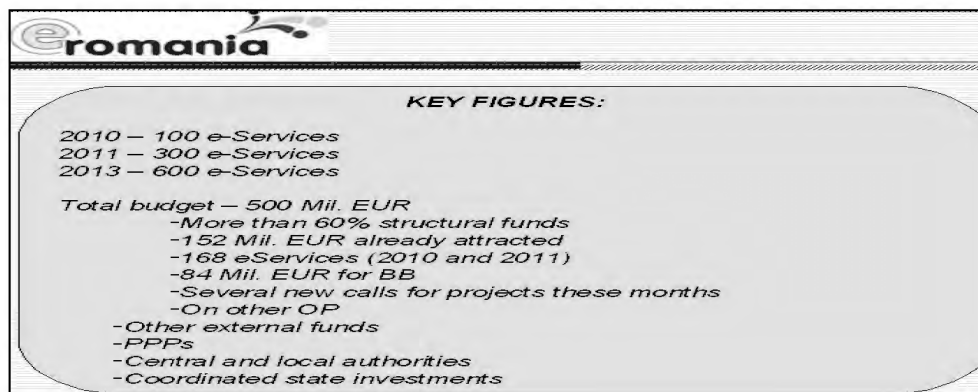


Figure 4. eRomania

Cohesion Funds are the main source of public projects in most countries in the south east Europe region. The funds obtained is huge and the impact over the IT markets is also important. European funds have ensured in 2011 the main source required for Romanian public administration, affected by the 2008-2011 prolonged economic crisis. The authorities have invested these money in online applications ranging from travel portals to online petitions or planned marriages. Through e-Romania strategy, the authorities estimate that it will be allocated over 500 billion euro in the period 2010-2013, for the connection of all systems of public administration and for offering over 600 electronic services by 2013.

## 2. An explanatory investigation of the Romanian Public Administration Information and Management Systems

Based on the declared intention of the Romanian government and on the very few achievements, we have decided to fulfill a study that would allow us to make the connection between government intentions and reality. Further, we intend that the results of this approach, to be used in another project for identifying reasons why the eGovernment is less that would be necessary for Romania. The present study set sights on Romanian organizations which implemented an e-Government service, more specific the basement for an eGovernment service (ERP, GIS and QMS) and were collected in 2012 year.

## **2.1. Methodology**

The instruments used for collecting data is a quantitative questionnaire. The research based on the quantitative questionnaire was structured on 55 questions focused on hardware and software (5 questions), implementation of the ERP business software for five business function such as manufacturing, SCM, financial, HRM and CRM (16 questions), other 12 questions were dedicated to Geographic Information Systems GIS implementation, other 10 to Quality Management Systems QMS and the last 12 questions were dedicated to connections between ERP, GIS and QMS.

The collecting method was an online survey called CheckMarket (a Belgian company specialized in survey solutions). Its core product is a web-based survey tool that after 10 years of development offers extensive functionality, security and stability. CheckMarket is not only a survey tool and what really sets it apart are the wide range of services it offers: scanning, panels, analysis, design, programming and consulting by their market research experts. CheckMarket's platform is used by many government agencies, large corporations, small business and individuals all over the world for everything from customer satisfaction and employee climate surveys to event registration and course evaluations. CheckMaket offers 19 question types.

## **2.2. Respondents**

In the virtue of the questionnaire we achieved the results and we were able to formulate and validate hypothesis. We have analyzed the data using SPSS 17.0, and the respective response rates, excluding the unusable questionnaires received. There are, according to the territorial administrative organization of Romania 104 municipalities having over 40,000 inhabitants and 320 cities having over 10,000 inhabitants. We chose a sample of 45 local public administration that represent 10% of the total number of cities and municipalities. The number is greater than 30 for which it is accepted that the distribution is normal. Also for descriptive research a total of 20% of the population is sufficiently investigated, and in our case from 424 local governments of cities and towns only half have a form of e-Government, so 45 respondents represent a sample of 20%. Currently the study is based on 10 organizations.

Through e-Romania strategy, the authorities estimate that it will be allocated over 500 billion euro in the period 2010-2013, for the connection of all systems of public administration and for offering over 600 electronic services by 2013. In future besides the 424 cities and towns, some villages will be computerized. The first computerized local governments in rural areas of Romania are Ciugud and Berghin. Citizens of these two cities can afford to pay taxes online, starting from the second half of 2011.

## **2.3. Results**

The 10 public organizations selected for the moment are: Timisoara City Hall, Brasov County Council, Arad City Hall, Petrila City Hall, Emergency County Hospital Resita, Hunedoara County Council, Veterinary and Food Safety Service of Buzau County and Vulcan City Hall, Bucuresti City Hall District 4, Fagaras City Hall.

We have selected 2 relevant questions from the questionnaire and the responses regarding ERP implementation, to reveal the level of ERP implementation in 8 fields and the ERP implementation effect.

Table 1. Question 10. ERP Module Implementation?

	ERP Accounting	ERP Budgets	SCM, CRM - Supply and Sales	HRM - Human Resources	ERP Manufacturing	Maintenance	Document Management	Business Intelligence
Timisoara City Hall	1	1	0	1	0	0	1	0
Brasov County Council	1	1	0	1	0	1	1	1
Arad City Hall	1	1	0	0	0	0	1	0
Petritia City Hall	1	0	0	0	0	0	1	0
County Emergency Hospital Resita	1	0	0	1	0	0	0	0
Hunedoara County Council	1	1	0	1	0	0	1	0
VFS Service of Buzau County	0	0	0	0	0	0	0	0
Vulcan City Hall	1	0	0	0	0	0	0	0
Bucuresti City Hall District 4	0	0	0	0	0	0	0	0
Fagaras City Hall	0	0	0	0	0	0	0	0

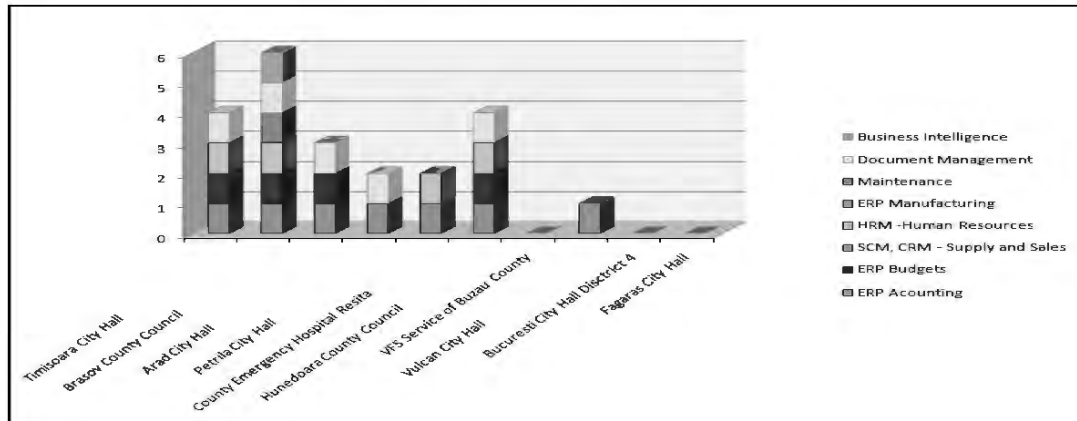


Figure 5. Question 10. ERP Module Implementation?

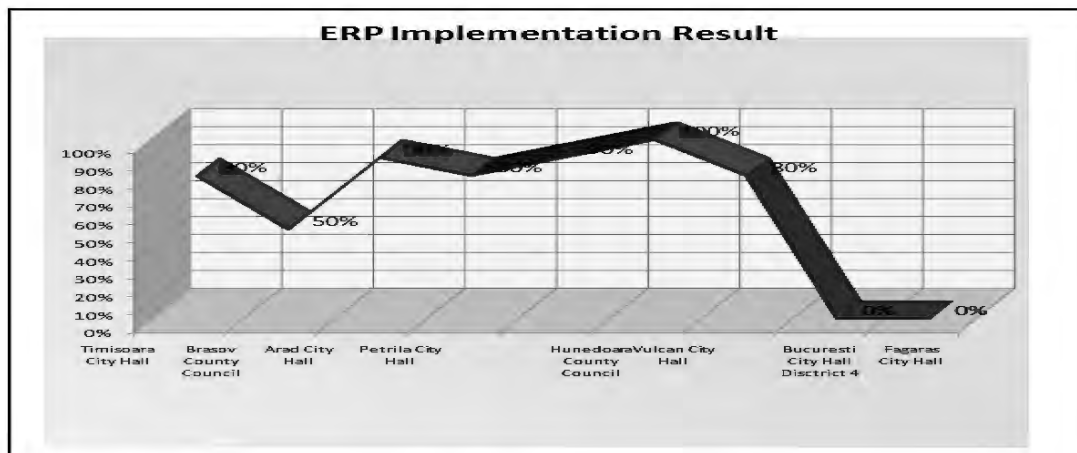


Figure 6. Question 19. ERP implementation measured through the level of improvement of organization activity

We have also selected 3 relevant questions from the questionnaire and the responses regarding QMS implementation.

Table 2. Question 38. What was the reason of QMS implementation? (Each respondent could choose only ONE of the following responses.)

Response	Total	% of responses	%
1 the desire of top management for the efficiency of company	6	<div style="width: 67%;"></div>	67%
2 the need of improving the company image	0	<div style="width: 0%;"></div>	0%
3 external reasons (eg. demand of one or more partners / customers to have a QMS)	3	<div style="width: 33%;"></div>	33%
4 other	0	<div style="width: 0%;"></div>	0%
<b>Total respondents: 9</b>			
<b>Skipped question: 1</b>		<div style="display: flex; justify-content: space-between; width: 100%;"> <span>0%</span> <span>20%</span> <span>40%</span> <span>60%</span> <span>80%</span> </div>	

Table 3. Question 43.3. Give a rating for these issues in the context of QMS implementation:  
Employee perception regarding the benefits of implementing  
(Each respondent could choose only ONE response per sub-question.)

Response	Total	% of responses	%
1 Unsatisfactory	0		0 %
2 Satisfactory	4	<div style="width: 50%;"></div>	50 %
3 Good	4	<div style="width: 50%;"></div>	50 %
4 Excellent	0		0 %
<b>Total respondents: 8</b>		0% 20% 40% 60% 80%	
<b>Skipped question: 2</b>			

Table 4. Question 43.5. Give a rating for these issues in the context of QMS implementation:  
Top management involvement in implementation  
(Each respondent could choose only ONE response per sub-question.)

Response	Total	% of responses	%
1 Unsatisfactory	0		0 %
2 Satisfactory	1	<div style="width: 13%;"></div>	13 %
3 Good	6	<div style="width: 74%;"></div>	74 %
4 Excellent	1	<div style="width: 13%;"></div>	13 %
<b>Total respondents: 8</b>		0% 20% 40% 60% 80%	
<b>Skipped question: 2</b>			

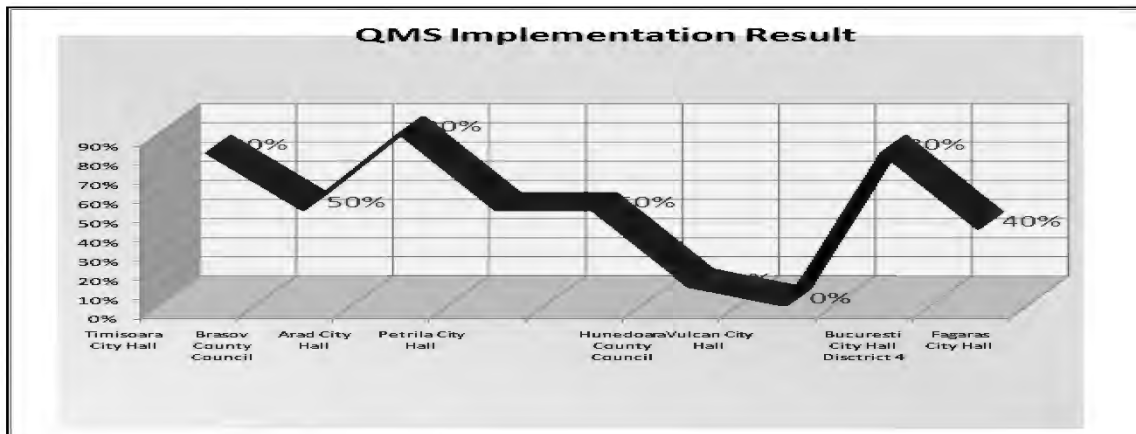


Figure 7. Question 42. QMS implementation measured through the level of improvement of organization activity  
We have conducted a regression analysis to determine the link between the level of use of IT hardware by the employee.

Table 5. Data collected through the questionnaire

	Employee	Computers	ERP Users	ERP Computers
Timisoara City Hall	500	400	400	250
Brasov County Council	190	150	150	150
Arad City Hall	531	531	80	80
Petrila City Hall	135	50	70	70
County Emergency Hospital Resit	1000	250	800	250
Hunedoara County Council	133	95	0	0
VFS Service of Buzau County	120	81	0	0
Vulcan City Hall	251	79	15	15
Bucuresti City Hall District 4	135	112	0	0
Fagaras City Hall	110	80	0	0

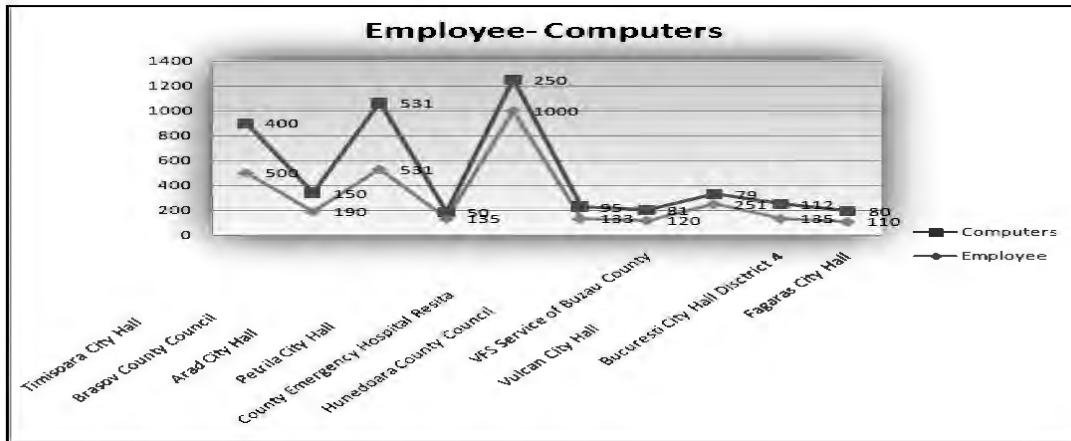


Figure 8. Employee – Computers dependency

Table 6. Linear regression analysis between an independent variable called Employee and a dependent variable called Computers

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,633 <sup>a</sup>	,400	,325	133,054

a. Predictors: (Constant), Employee

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94445,949	1	94445,949	5,335	,050 <sup>a</sup>
	Residual	141627,651	8	17703,456		
	Total	236073,600	9			

a. Predictors: (Constant), Employee

b. Dependent Variable: Computers

We noticed that there is a good link (with a significance of correlation  $R = 0.633 = 0.63$  for 9 degrees of freedom). F-test also has a high enough value (5.335), and the Sig. corresponding F statistics is 0.05 (0.05) which gives significant linear relationship between two variables. Because both F that has a high level, and significance Sig. is reduced, can be concluded that the results are not coincidental. The regression coefficient  $R=0,633$  shows a good link between the variable Computers given to the level of IT, and the independent variable employee showing the size of the organization. The model explains only 40,0% from the total variation of the variable Employee ( $R^2= 0,400$ ). The rest of 60,0% is influenced by other residual factors not included in the model.

**Discussion and conclusions**

Today's local government organizations are turning to on-line service in order to improve access and reduce costs. Web-based services can make interactions with public agencies smoother, easier, and more efficient. Web-based applications provide the opportunity to allow government services to be organized in a way that fit the needs of citizens and eliminates "dead moments" in bureaucratic processes.

According to the 7<sup>th</sup> Measurement of Online Service in EU, Romania is the last out of 27 members in terms of sophistication of services and online availability of services to citizens. This clearly indicates that there is an urgent need for public management reform in what regards governments' role as service providers towards clients.

Cohesion Funds are the main source of public projects in most countries in the south east Europe region. The authorities have invested these money in online applications ranging from travel portals to online petitions or planned marriages. Through e-Romania strategy, the authorities estimate that it will be allocated over 500 billion euro in the period 2010-2013, for the connection of all systems of public administration and for offering over 600 electronic services by 2013.

The research performed within this paper aimed to investigate the Romanian society public administration. We identified the fact that the ERP, GIS and QMS have a low level of implementation in Romanian public administration. Only hardware platforms are well implemented and maybe some ERP and QMS Systems. Because these systems are the basis of implementing an eGovernment (electronic public administration services) we have concluded that in Romania the 2013 year is a very optimistic term. Taking into consideration the low level of absorption of EU Funds we can predict that 2020 year could be a realistic term for a real e-Romania implementation.

## References

**Capgemini, IDC, Rand Europe, Sogeti and DTi,**

2010

Digitizing Public Services in Europe: Putting ambition into action, 9<sup>th</sup> Benchmark Measurement December 2010,

<<http://www.epractice.eu/files/Digitizing%20Public%20Services%20in%20Europe%20Putting%20ambition%20into%20action%20-%209th%20Benchmark%20Measurement%20-%20December%202010.pdf>>.

**Danaiața, D.**

2008

Information Systems for Public Administration, West University Publishing House, Timisoara

**Edelhauser, E.**

2011

Information Systems in the Human Resource Management, Universitas Publishing House, Petrosani

**Edelhauser, E., Ionica A.**

2010

A Business Intelligence Software Made in Romania, a Solution for Romanian Companies During the Economic Crisis, Lectures on Modeling and Simulation 2010, Advances in Modelling and Analysis A Journal, Publisher AMSE Press, Vol. 11, Issue 1, pp. 69-78

**Homburg, V.**

2008

Understanding eGovernment: Information Systems in Public Administration

**Man, M., Macriș, M., Răvaș, B.,**

2010

The accounting reform in Romania – normalization and regulation, Proceedings of the 21<sup>st</sup> International DAAAM Symposium, Published By Daaam International Viena, pp. 897-898, Zadar, Croatia

<http://www.digitales.oesterreich.gv.at/site/6506/default.aspx>

<http://eur-lex.europa.eu/>

<http://www.epractice.eu/en/document/288410>

<http://tool.checkmarket.com/tool/surveys/>

# The impact of supply methods on the workstations layout design

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## Abstract

**Purpose** – to analyze the influence of the supply methods and of the production diversity on the layout design of workstations. The methods to supply the workstations considered are: supply on stock, supply in Strike Zone and synchronous supply.

**Methodology/approach** – designing of 3D models of workstation starting from dimensioning its elements in order to analyze the indicators: area of workstation, the degree of isolation of operator.

**Findings:** the surface of workstation is most influenced by diversity in methods: based on stock and Strike zone; the surfaces of workstation influence the total surface in the following order: storage surface, circulation surface and technological surface, regardless of the used supply method; the total surface is smaller when using the synchronous supply, but is created a preparation workstation; the supply: based on stock and in Strike zone leads to big distances to the nearest workstation.

**Research limitations/implications** – were not considered: the impact of line capacity variation and the workload of operator.

**Practical implications** – the study represents a methodology of analysis of layout design of an assembly line workstation.

**Originality/value** –an analysis on workstation layout design from layout perspective including indicator of analysis: degree of isolation for the operator.

**Key words:** supply, methodology, layout

## Introduction

The competitiveness in the present economical context brings the necessity to offer the client a large range of products, possibility given by the developing of flexible manufacturing systems. The development of these systems is a new direction of organization, which induces important effects on all production subsystems. For all assembly workstations, the main constraint is the logistic management of components that are different from one station to another. For the workstation, logistic management means choosing its supply mode that has characteristics optimum for it. It is important to identify and propose methods to supply the workstation depending of its characteristics (number of products made, the degree of workload of the operators, the available surface etc.).

The aim of this paper is to analyze the influence of the supply method and of the production diversity on the layout design of the workstation.

## Research problem

The study is made on a multi-product assembly line, six workstation, with mainly manual activities. In is analyzed a single workstation chosen considering the followings:

- it is supplied with the many components to assembly;
- the assembled components are different depending of the type of products. It were considered the cases of assembling 1, and 4 types of products.

To design and to organize the workstation are attended the following steps:

- *workstation elements design, fig.1, made in 2 sub-steps:*
  - the design of the elements independent of the supply method: workspace, tools stand, interface of management and control;
  - the design of the elements dependent of the supply method: dynamic racks, transport platform, support for components, supply conveyors, preparation station.
- the selection of the supply method considering the indicators, from which usually are used : the area needed for the workstation and the degree of isolation of the operator.

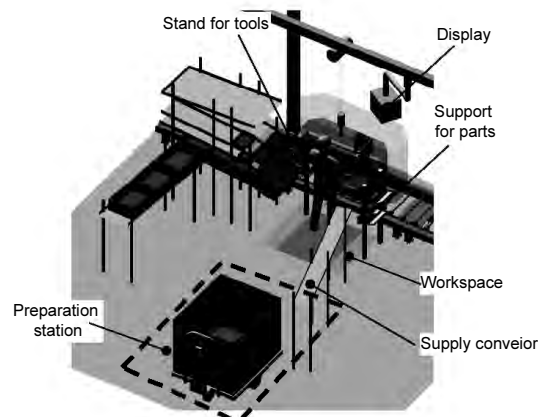


Figure 1. The elements of a workstation

The area needed for a workstation contains the specific surfaces according with the formula of Guerchet (Bonnefous et al., 2011):

$$S = S_p + S_g + S_c + S_s \quad (1.1)$$

in which:

- $S_p$  – machine (station) surface, the area of the smallest rectangle in which can be fitted the horizontal projection of the exterior perimeter of the machine (station);
- $S_g$  – technologic surface, the area demanded by the machine (station) to serve all its needs and for auxiliary activities;
- $S_c$  – circulation surface, the area designed for the access of the operator to the ways of circulation and transport. This surface is frequently calculated with the following formula:

$$S_c = (S_p + S_g) \cdot k \quad (1.2)$$

The coefficient  $k$  is determined as ratio between the average of the overall dimensions of the machines and the industrial racks between which the operator moves and the average of the overall dimensions of the labor objects (transported components).

- $S_s$  – storage surface of components to assemble.

The degree of isolation of the operator is inversely to the possibility of servicing more stations. This indicator represents the distance that must be traveled by the operator to the nearest point to the exterior of the workstation (to service another workstation). So, the presence in the



workstation of a considerable number of industrial racks leads to increase this distance, and therefore, increases the degree of isolation of operator.

The supply methods of workstations considered for this study are: *supply based on stock*, *the supply in Strike zone* and *the synchronous supply*.

The method of *supply based on stock* implies the creation in the workstation of a stock for each component that must be supplied. This stock varies as level depending on the frequency of delivery and the takt time. Depending on the assembled product, the operator takes the needed components from the storage and uses them in the assembly process.

The method of *supply in Strike Zone* has as starting point the supply based on stock, but are reduced the movements of the operator by adequate layout of the components storage. Therefore, the operator can receive the parts in the workstations on tilted rollers, conveyor or dynamic racks, which can be placed on the sides or in front of him, in an optimum ergonomic area, named Strike zone.

This method needs the use of an integrated system of production management for the assembly line, which must make the link between the production line and the workstation supply flow. The logistic operator receives the needs of parts to supply in the form of an hourly tranche delivery program. Knowing the detailed production program on several days and the level of stock in the logistic warehouse, the integrated system can launch orders to supply parts to suppliers.

The *synchronous supply method* is possible by implementing integrated production management systems. The information handled by these systems are used to synchronize the flows of supply and the ones of production. So, the needed parts on the assembled product arrive in the workstation in the needed moment of their assembly.

The flow of information and material is related with the one in the method of supply in Strike zone. The new element is the integration of a new logistic preparation workstation to synchronize the flows of supply with the lines production program. There can be used two techniques of synchronization: picking and kitting.

The kitting represents the process by which the parts to assemble are grouped in an entity named kit (package) and are supplied together in order to be used in one operation or in a sequence of operations.

The picking is a supply method specific to parts of big dimensions and consists in the supply and the ordering of each part in accordance to the order in which it will be assembled.

In table 1 is presented the dependence between the surfaces of the workstation and the characteristic elements of the methods to supply it.

Table 1 The dependence of surfaces of an assembly workstation by the characteristics of the supply method

<i>Method of supply</i>		<i>Based on Stock</i>		<i>Strike Zone</i>		<i>synchronous</i>	
Diversity of assembly		mono-product	multi-product	mono-product	multi-product	mono-product	multi-product
Specific surfaces (Guerche t)	Sp	independent					
	Sg, Sc, Ss	dependent of the means used to supply the to store:					
		MD / PT	MD / PT	MD / PT / CA	MD / PT / CA	MD / PT / SR	MD / PT / SR
Preparation area	SPP	Not concerned				dependent of the area for:	
				Kitting	Kitting / Picking		

MD = dynamic rack; PT = transport platform; CA = supply conveyor; SR = stand for tools

## Methodology

### Workstation description

The transport of products between workstations of the line is made on a mechanized conveyor, each being attached to a transport pallet. This conveyor is in closed loop and it rotates in trigonometric direction, fig.2.

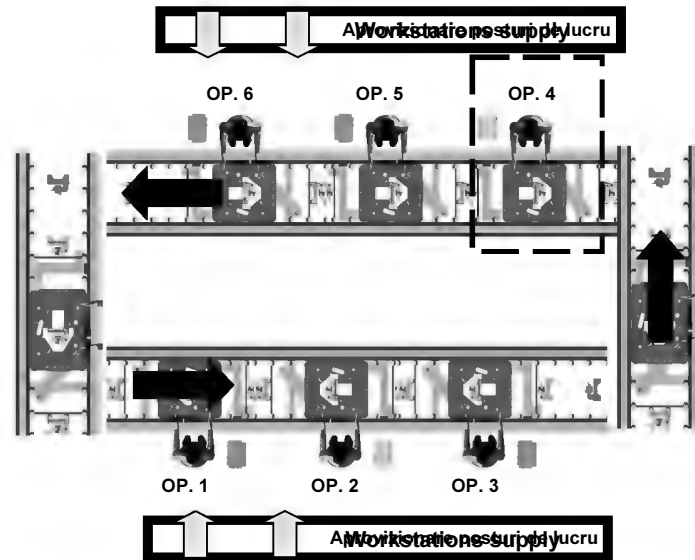


Figure 2. Assembly line

In the studied workstation, workstation 4, is assembled one product in a working cycle. In table 2 are presented the characteristics of the 7 parts assembled in this workstation and the dimensions of their packaging.

Table 2. Characteristics of parts and the packaging to supply workstation 4

Parts characteristics			Conditioning packaging (CP)				Transport packaging (Handling unit - HU)				
Parts	Coef.	Weight part (Kg)	Length (mm)	Width (mm)	Height (mm)	No. parts/UC	Total weight UC (kg)	Length (mm)	Width (mm)	Height (mm)	Nr. CP/HU
R23	1	1.375	600	400	200	15	21.574	1200	1000	145	25
R24	1	3.400	1140	950	650	90	326.5	1140	950	650	1
R25	1	0.561	1140	950	850	450	276.95	1200	1000	145	1
R26	1	0.666	1200	1000	930	160	111.7	1200	1000	145	1
R27	2	0.007	300	200	90	1200	8.71	1200	1000	145	60
R28	1	0.007	300	200	90	1500	10.81	1200	1000	145	60
R29	2	0.001	300	200	90	800	1.11	1200	1000	145	60

### The design of the elements independent from the method of supply

The workspace is mainly determined by the placing of the elements that are part of the workstation and by respecting the ergonomic norms. The areas that form the workspace are: operator surface, recommended working surface, the low activity area and the maintenance intervention area, fig.3.

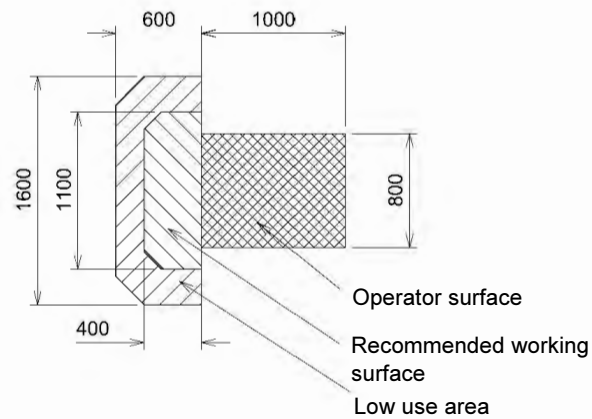


Figure 3. The workspace for the operator

*Operator surface* is the area of movement for the operator. In this it is not recommended the placing of obstacles that may interfere with its activities. It is necessary to guaranty an access to this surface, from the back or from the sides of minimum width 0.8 m.

*Recommended working surface* is an area in which the majority of the assembly activities have to take place (manual activities, independent of simultaneous). The activities les important/ frequent can be made in the *low activity area*.

*Area of maintenance intervention* must be conceived as to have minimum influence on the workstation operator. Therefore, in the majority of the cases, these areas are placed in the opposite side of the workstation from the operator.

**The stand for tools** is used to reduce the movements of the operator and to respect the ergonomic principles. The tools are placed on stands or are hanged by the metallic structure of the workstation, in the nearest proximity of the point of their use.

**The control interface** is made of a display that shows the characteristics of type of product to assemble in the line, details of the assembly process and possible errors that may occur. As well, it has an interaction zone, where the operator can access different help pages or to solve the error messages.

For the positioning of the components are taken into account the constraints of access and visibility of the information shown on the screen. To choose the placing of the display are used the ergonomic rules from fig 4, [1].

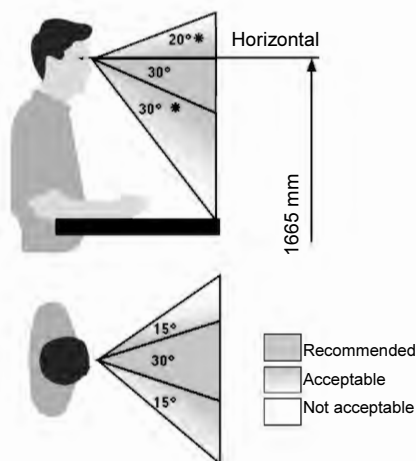


Figure 4. The layout of the display elements

Considering the elements independent of the supply method for the workstation, results the basic structure of it, shown in fig. 5.



Figure 5. The basic structure of the workstation

### The design of the elements dependent of the method of supply

The methods of supply of the workstations influences directly the size of the technological surface, circulation surface and storage surface by the type and number of specific elements used in each case: dynamic racks, transport platforms, supports for parts, conveyors of supply and preparation workstations. In table 3 are represented the elements of the workstation specific to each considered method. The design of these elements is shown in the followings.

Table 3 The characteristic elements of a workstation, dependent of the method of supply

<i>Method of supply</i>	<i>Based on Stock</i>	<i>Strike Zone</i>	<i>synchronous</i>
Dynamic racks	X	X	X
Transport platforms	X	X	X
Supports for parts	---	---	X
Conveior for supply	---	X	---
Preparation workstation	---	---	X

The **dynamic rack** is used to supply the workstation with parts packed in small boxes. The dimensioning of these takes into account the dimensions and the weight of the boxes and the workspace available for operator access.

The dynamic rack must respect the ergonomic rules specific to the loading area and the unloading area on the workstation operator side, fig. 6. Therefore, the two sides of the rack don't have the same characteristics, cause of the different frequency of access. The dynamic rack is usually gravitational and has two flows: supply with parts and return of empty packaging (on the top side, because of the low weight of the packaging). The length X can be determined function of the number of packaging of each type of parts and the tilting of the racks levels.

The **transport platform** is used to transport boxes with parts of big dimensions. It is loaded in the logistic area and remains in the workstation until the parts from boxes are all used. It must be designed as to move in narrow spaces and to improve the ergonomic of the workstation, can be tilted.

The **support for parts** has as porpoise to provide all the parts in the workstation and a optimum positioning for handling the boxes and their parts by the operator when using the synchronous supply method, replacing the dynamic racks from the workspace of the operator (for reasons of ergonomics, space constraints, space needed for the operator to move between workstations etc.). These are placed as close as possible to the working area.

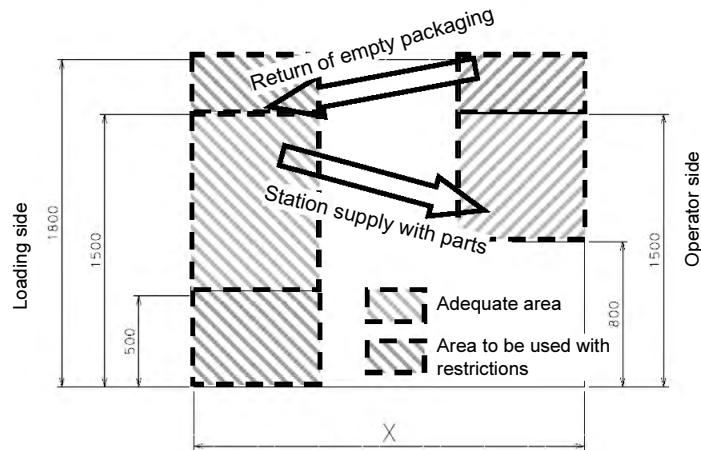


Figure 6. The dynamic rack

To dimension this are used the following information: ergonomic window (the same as in dynamic racks case; the dimensions of the boxes for parts; the number of boxes needed to supply the workstation.

The **supply conveyors** have as scope the supply of the workstation when using the Strike zone supply method. The supply conveyors are mechanically driven and can be on one or more levels depending of the dimensions of the transported parts.

These are dimensioned function of: the characteristics of parts that must be transported (geometrical shape, weight, imposed characteristics of quality of surfaces), wanted autonomy, ergonomic constraints linked of the loading of parts and unloading of them by the workstation operator, constraints of placing for each workstation, the interactions with other elements.

The placing of conveyors must follow these rules:

- to not interfere with the surface of movement of the operator;
- the areas of unloading by the operator must be placed as close as possible to the workspace.

The **preparation workstations** are a part of the workstation when using the synchronous method of supply. These contain tables, stands, tools and equipment that prepare certain components for assembly (deposit of sealing material, assembly of subassembly, control operations etc.) and the preparation of the supply according with the order of production of the main flow.

The dimensions of the dynamic racks, components support, conveyors of supply, transport platforms and of the preparation workstations, calculated according of the characteristics of the packaging of components to supply and according with the method of supply applied, can be shown in table 4.

Table 4. The dimensions of elements of the workstation, dependent of the method of supply

Method of supply	Based on Stock		Strike Zone		synchronous	
	1	4	1	4	1	4
Diversity of assembly, [pcs]	1	4	1	4	1	4
Surface of dynamic racks, [m <sup>2</sup> ]	2.4	8.12	3.14	7.18	0.8	0.8
Surface of transport platforms, [m <sup>2</sup> ]	8.4	21	4.2	16.8	2.8	2.8
Surface of supports for components, [m <sup>2</sup> ]	-	-	-	-	0.24	0.24
Surface of conveyor, [m <sup>2</sup> ]	-	-	1.2	1.2	-	-
Surface of preparation areas	Kitting, [m <sup>2</sup> ]	-	-	-	16.72	34.32
	Picking, [m <sup>2</sup> ]	-	-	-	-	28.40

## Findings

Starting from the design of the elements of the workstation and taking into account the way of combining them, there were built the 3D models of the workstation, fig. 7 – 12. Using this models there were calculated the surfaces specific for each type of workstation and the distance traveled by the operator in each of them, tab. 5 and 6.

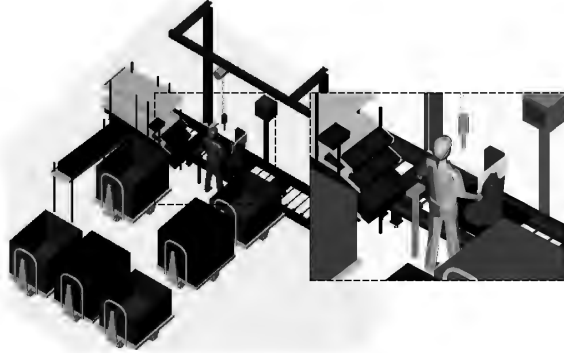


Figure 7. The 3D model of the workstation, on stock supply, mono-product

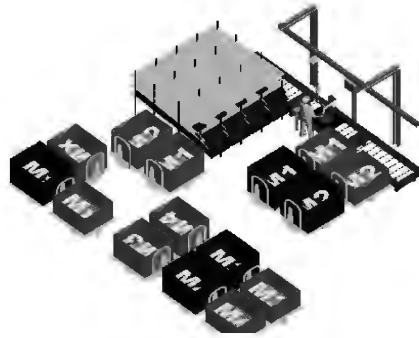


Figure 8. The 3D model of the workstation, on stock supply, mono-product

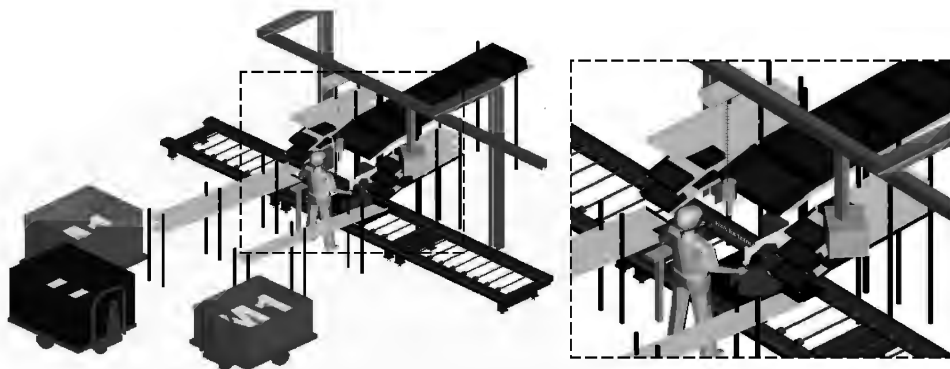


Figure 9. The 3D model of the workstation, Strike Zone supply, mono-product



Figure 10. The 3D model of the workstation, Strike Zone supply, multi-product

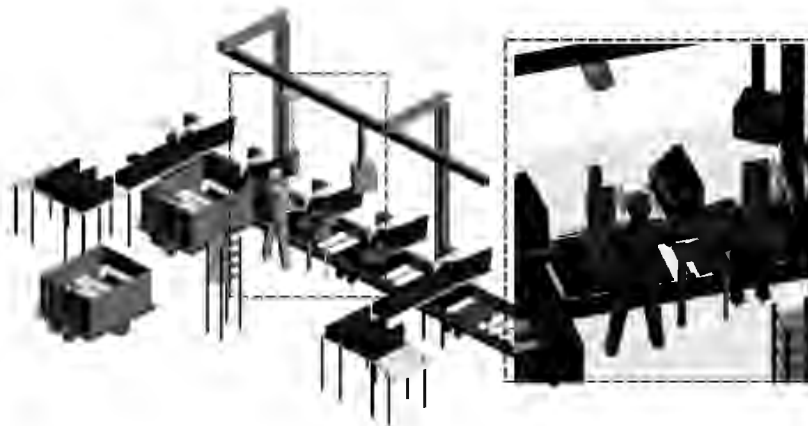


Figure 11. The 3D model of the workstation, synchronous supply, mono-product

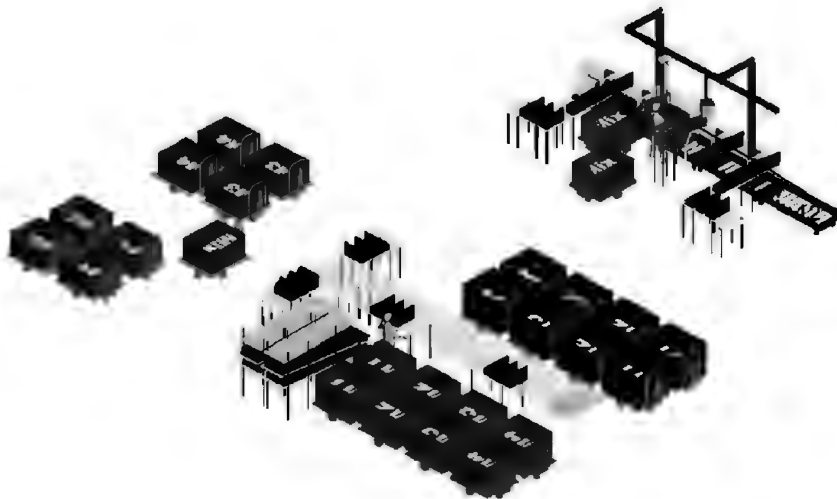


Figure 12. The 3D model of the workstation, synchronous supply, multi-product

Table 5 Surfaces of workstation

<i>Method of supply</i>		<i>On stock</i>		<i>Strike Zone</i>		<i>Synchronous</i>	
Diversity of assembly, [pcs]		1	4	1	4	1	4
Workstation required surface (Guerchet)	Sp, [m <sup>2</sup> ]	1,44	1,44	1,44	1,44	1,44	1,44
	Sg, [m <sup>2</sup> ]	2,61	3,96	0,9	1,4	1,35	1,26
	k	2,23	2,03	2,86	2,95	1,36	1,60
	Sc, [m <sup>2</sup> ]	9,05	10,99	6,69	8,38	3,80	4,32
	Ss, [m <sup>2</sup> ]	13,06	33,91	8,18	24,34	4,425	5,7
	S, [m <sup>2</sup> ]	26,16	50,30	17,21	35,56	11,02	12,72
Total surface of workstation	SPP, [m <sup>2</sup> ]	0	0	0	0	16,72	62,72
	ST, [m <sup>2</sup> ]	26,16	50,30	17,21	35,56	27,74	75,44

Table 6 Distance traveled by operator

<i>Supply method</i>	Diversity of assembly, [pcs]	Distance to the nearest possible station, [m]
<i>On stock</i>	1	9.7
	4	11.2
<i>Strike Zone</i>	1	7
	4	4.3
<i>Synchronous</i>	1	0.9
	4	0.9

The graphical representation of the data of tables 5 and 6 allows the analysis of evaluation indicators of the workstation layout design. The conclusions of this analysis are the followings:

- the surface needed for the workstation is the most influenced by the diversity of assembly, when is used the supply methods based on stock and Strike zone, fig. 13.
- the order of influence of the surfaces of workstation on the required surface is: storage surface - Ss, circulation surface - Sc and technological surface - Sg, regardless of the used supply method, fig. 13.
- the storage surfaces – Ss and the ones of circulation – Sc decrease from the supply method based on stock to the one in Strike zone and to the one in synchronous, fig. 13.
- workstation needed surface is smaller when is used the synchronous supply method, fig. 14, but is needed of special workstations of preparation that is of considerable surface and that can influence the number of personnel in the production system;
- the supply based on stock and the one in Strike zone lead to big distances to the nearest workstation, fig. 15, making difficult the work of the operator in the same time on other workstations.
- in synchronous supply, the operator is not isolated, fig. 15, so it can service others workstation as well.

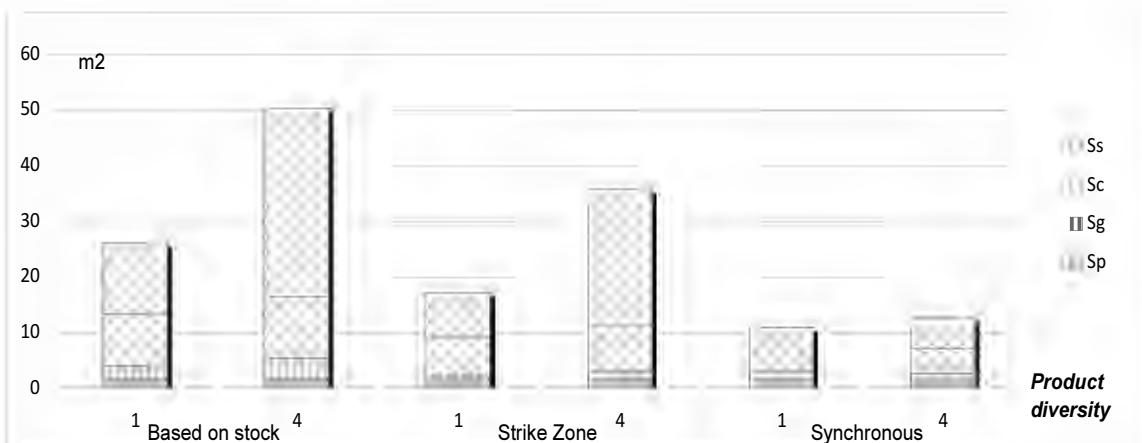


Figure 13. The dependence of the size of workstation specific spaces, diversity of assembly and the method of workstation supply



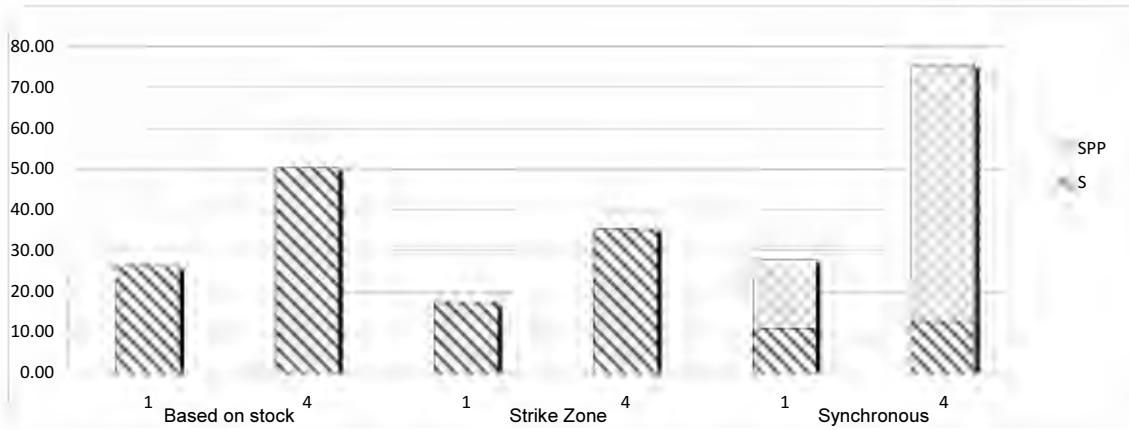


Figure 14. The dependence of the required workstation surface, the diversity of assembly and the method of workstation supply

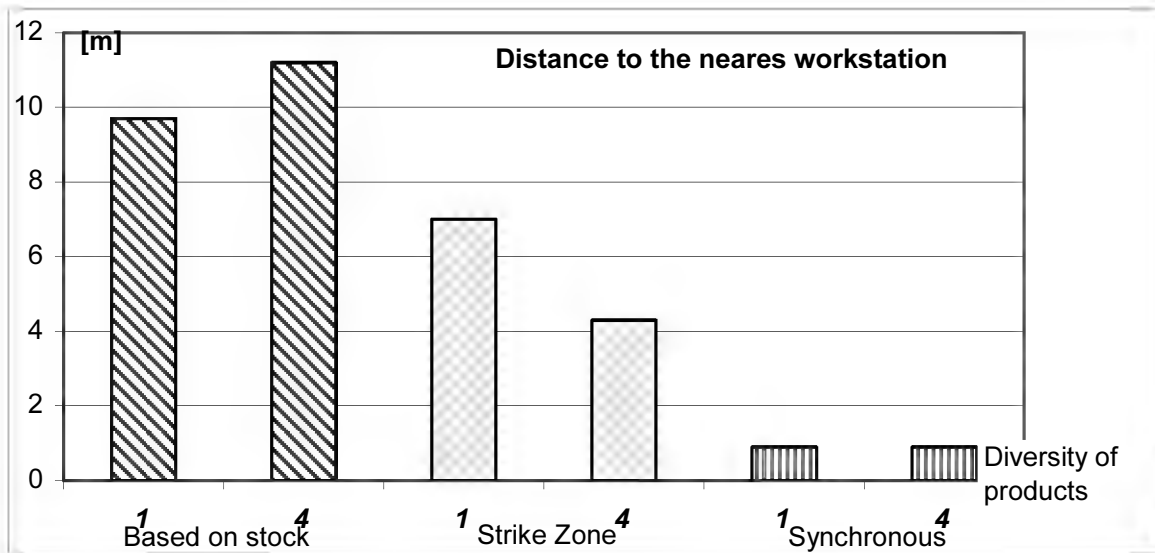


Figure 15. The dependence of the traveled distance of the operator to the nearest workstation by the diversity of assembly and the supply method

## CONTRIBUTIONS

This study represents a methodology of analysis of the layout design of an assembly line workstation, based on the decomposition of the workspace in specific areas and 3D modeling of them. The contributions of this study are the analysis on the required workspace and its components, and on the degree of isolation of the operator, depending of the number of diversity of assembly and the supply method used.

The conclusions are not taking into account the variation of the line production capacity neither the workload of the operator, aspects that will be considered in further studies.

## References

**Bonnefous, P., Curtois, A., Martin – Bonnefous, C. and Pillet, M.**

2011

Gestion de production (5 ème édition), [electronic version], Editions d'Organisation;

**Nițu, E**

2011

Ingineria si managementul productiei, Editura didactica si padagogica Bucuresti

**Ghid Renault**

2004

Ergonomie en Production Principales Spécifications Destinées à l'Ingénierie et la Fabrication, Version 3.

# A Proposed Methodology for the Competencies Used Overview Report Development

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## Abstract

**Purpose** – This article examines some relevant references regarding competence evaluation/assessment (based on their practical observation and analysis) methods. Then there will be describe and to pre-test a methodology for the competencies use overview report based on the workplace observation method.

**Methodology/approach** – The proposed methodology for the competencies used overview report consist of: (a) the workplace observation and time/competencies measurement and analysis; (b) the competencies balance card; (c) the competencies profile design.

**Findings** – The paper proposes a feasible solution for the competencies use overview report (diagnose the exploitation of the competencies profile delivered by a training organization).

**Research limitations/implications** – The presented research and the define methodology allow the comparison of the real exploitation/use of the professional competencies (included in the competencies use overview report) and the competencies profile define by an education or training program, related to a specific profession. This comparison will allow the competencies profile improvement and up-date delivered by the training organizations (in the case of universities, colleges, any professional programs delivered by training organizations on the labor market).

**Practical implications** – A case study will be used to validate and demonstrate the usability of the proposed methodology. The different competencies profile (related to those categories and ratio of competencies used by the nurses for deliver high quality medical services) that will describe the competencies exploitation in practice will be compare with the trained competencies (competencies deliver by different schools in the nursing domain) – future research.

**Originality/value** – The proposed methodology originality consists of the balanced that can be made between the delivered professional competencies (gain by a person through a specific professional program – out-put for education/training organizations) and the real competencies used/needed for human resources in their professional life (in organizations practice).

**Key words:** Competencies, Competencies Use Overview Report, Professional Profile.

## Introduction - Competence Evaluation/Assessment

In the context of this article and the future research that will be done, professional competencies will be presented by taking into consideration the approaches in the medical field. Relevant references are from MEDLINE database where were found studies of reliability or validity of measures of competence of physicians, medical students, and residents. It is very well known that medical schools conducts assessments to certify the competencies of future practitioners provide motivation and direction for learning, but most to judge the adequacy of training programs. For the purpose of our study we shall focus on professional competencies assessment in the framework of human resources improvement during their professional lifetime (considering the individual layer or perspective but also the organizational layer).

Based on further references, we propose that professional competence define as habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served. Competence builds on a foundation of basic clinical skills, scientific knowledge, and moral development (see Figure 1). Competence depends on habits of mind, including attentiveness, critical curiosity, self-awareness, and presence. Professional competence is developmental, impermanent, and context-dependent (Epstein and Hundert, 2002). Table 1 describes the dimensions of professional competence by taking into consideration their practical implication.

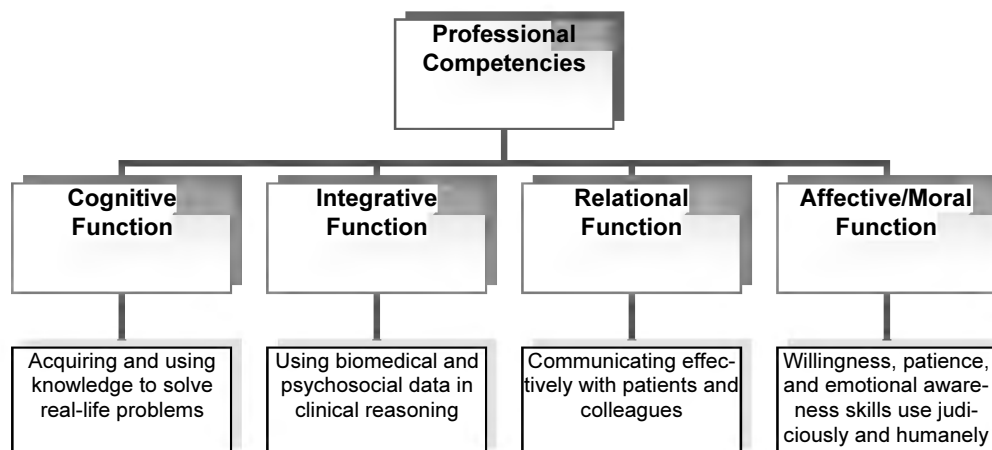


Figure 1. Description of the Professional Competencies Functions

Table 1. Dimensions of Professional Competence (adapted after Epstein and Hundert, 2002)

Dimensions	Dimensions description / content
Cognitive	Core knowledge Basic communication skills Information management Applying knowledge to real-world situations Using tacit knowledge and personal experience Abstract problem-solving Self-directed acquisition of new knowledge Recognizing gaps in knowledge Generating questions Using resources (e.g. published evidence, colleagues) Learning from experience
Technical	Physical examination skills; Surgical/procedural skills; Technical devices use and basic maintenance
Integrative	Incorporating scientific, clinical, and humanistic judgment Using clinical reasoning strategies appropriately (hypothetic and deductive, pattern-recognition, elaborated knowledge) Linking basic and clinical knowledge across disciplines Managing uncertainty
Context	Clinical setting Use of time
Relationship	Communication skills Handling conflict Teamwork Teaching others (e.g. patients, students, and colleagues)
Affective / Moral	Tolerance of ambiguity and anxiety Emotional intelligence Respect for patients Responsiveness to patients and society Caring
Habits of mind	Observations of one's own thinking, emotions, and techniques Attentiveness Critical curiosity Recognition of and response to cognitive and emotional biases Willingness to acknowledge and correct errors

Furthermore, Govaerts (2008) brings some clarity to the identification and definition of competencies, but has concerns about oversimplification of the process. He states that “effective assessment programmes ... will not be confined to standardized tests or checklists; workplace-based assessments involving professional judgments will have a prominent place in these assessment programmes.”

The assessment process must take into account what is assessed, how it is assessed, and the assessment's usefulness in fostering future learning and human resources development, including vocational training programs. An efficient assessment process and program should provide experiences of learning, together with and guidance and support for satisfying learning needs. Table 2 shows, in synthesis some purpose of the assessment process according to Epstein and Hundert study, in 2002.

Table 2. A Synthesis of the Assessment Purposes (adapted from Epstein and Hundert, 2002)

<b>Stakeholder of the assessment Process</b>	<b>Purpose or interest of assessment</b>
Trainees, students or human resources individuals	<ul style="list-style-type: none"> <li>- Provide useful feedback about individual strengths and weaknesses that guides future learning</li> <li>- Foster habits of self-reflection and self-remediation</li> <li>- Promote access to advanced training</li> <li>- Milestones for the career development</li> </ul>
Education program curriculum	<ul style="list-style-type: none"> <li>- Respond to lack of demonstrated competence (denial of promotion, mandated remediation)</li> <li>- Certify achievement of curricular goals</li> <li>- Foster course or curricular change</li> <li>- Create curricular coherence</li> <li>- Cross-validate other forms of assessment in the curriculum</li> <li>- Establish standards of competence for trainees at different levels</li> </ul>
Institution – provider of the education curriculum	<ul style="list-style-type: none"> <li>- Guide a process of institutional self-reflection and remediation</li> <li>- Differentiation among candidates for further, advanced training or promotion</li> <li>- Express institutional values by determining what is assessed and how assessment is conducted</li> <li>- Develop shared educational values among a diverse community of educators</li> <li>- Promote faculty development</li> <li>- Provide data for educational research</li> </ul>
Institution – employers of graduates from a specific education program	<ul style="list-style-type: none"> <li>- Align with human resources selection, recruitment and hire procedures into the organization (attract the more competence people into the organization)</li> <li>- Align with human resources development programs, with career development (plan), promotion strategies etc.</li> <li>- Establish the right work conditions, including health and safety for the professional competence exploitation</li> <li>- Align and harmonized the other organizational resources (know-how, technological and technical equipment, hardware and software etc.) with competitive human resources</li> <li>- Creating an internal competitive environment of work and better satisfy clients needs with professional employees</li> </ul>
Public (Society, in generally)	<ul style="list-style-type: none"> <li>- Certify competence of graduates in order to achieve high standards of work processes</li> </ul>

The references have underlined that medical schools in Canada, the United Kingdom, Australia, Spain, the Netherlands, United States and other countries have made commitments to developing innovative assessments procedures of professional competence (Epstein and Hundert, 2002). These assessments procedures are increasingly multimodal and tailored to the goals and context in which they will be used. Large-scale licensure examinations must use computer-gradable formats, but comprehensive examinations using structured direct observation, real patient cases, case-based questions (Wass et.al., 2001), peer assessments (Schuwirth et.al., 2001), and essay-type questions (Wass et.al., 2001) are reliable as well. The new formats of assessment procedures provide more useful feedback and are more efficient in terms of improvement the curricula and satisfying institutional interest (prestige increasing considering the graduates rate of success). These new procedures target core knowledge and clinical skills in different contexts and at different levels of assessment.

More recent, a utility model have been used to illustrate that, firstly, selecting an assessment method involves context-dependent compromises, and secondly, that assessment is not a measurement problem but an instructional design problem, comprising educational, implementation and resource aspects. In the model, assessment characteristics are differently weighted depending on the purpose and context of the assessment (Van der Vleuten and Schuwirth, 2005).

After this brief overview of some relevant references regarding competence assessment (based on their practical observation and analysis) methods, procedure there will be describe a proposed methodology (part two) and then there will be demonstrate by a case study the approach test and validation (part three) for the competencies use overview report based on the workplace observation method.

### **The Proposed Methodology for the Competencies Use Overview Report**

The main idea behind the process of elaborating the methodology for the competence use or exploit in practice is to create a link between the human resources development into the organization (employer) and the organization that is the provider of education of the employees of a specific profession, qualification (see Figure 2). The proposed methodology will balance between the two types of organizations that are linked on the labor market. The balance refers to the comparison of the professional competencies that are output for the education providers and input for the employer organization.

The proposed methodology for the competencies used overview report consists of: (a) the workplace observation and time/competencies measurement and analysis; (b) the competencies balance card; (c) the competencies profile design. The content of each stage is described in Table 3.

The comparison and analysis of the competencies trained (by different training organization as professional schools, colleges and universities) and the competencies used in practice will be developed in the framework of the Romanian regulations regarding the mandatory schemas of delivered competencies formulated by:

- National Agency for Higher Education Qualifications and Partnership with Economic and Social Environment (ACPART, [www.acpart.ro](http://www.acpart.ro)) - as was already done through the DOCIS - Developing an Operational System for Higher Education Qualifications in Romania project and the National Registry for Higher Education Qualifications;
- The Romanian Agency for Quality Assurance on Pre-University Education (ARACIP);
- The Romanian Agency for Quality Assurance in High Education (ARACIS);
- or other national and international bodies.

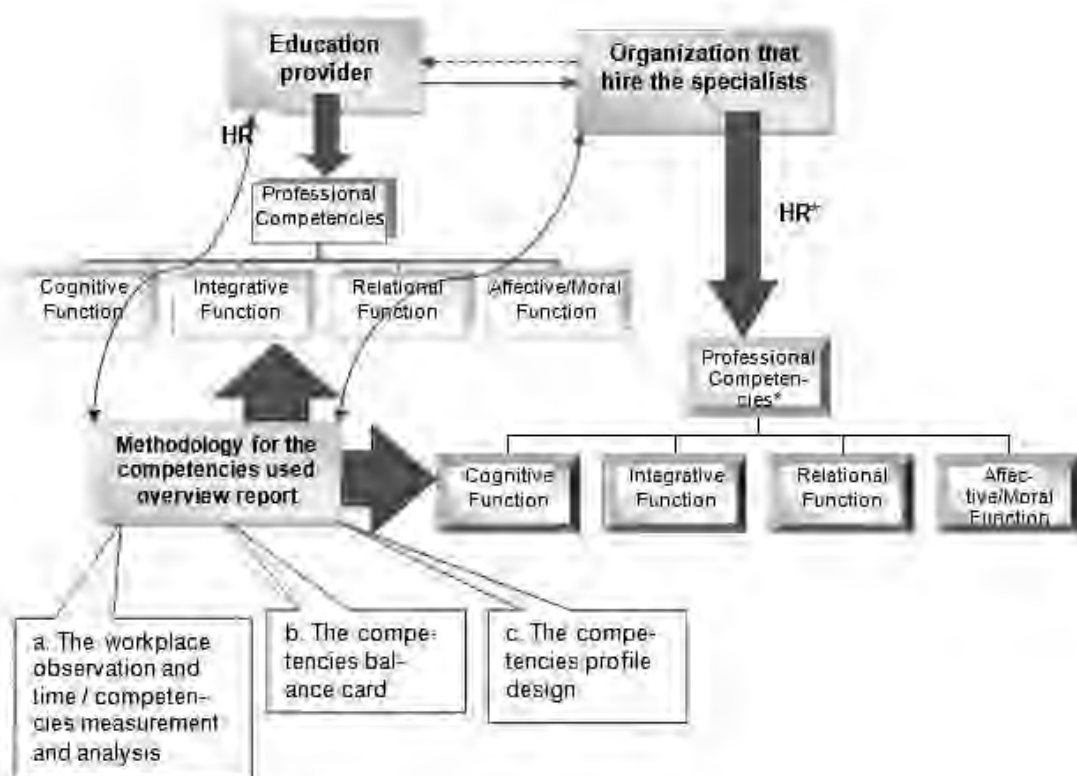


Figure 2. The Proposed Methodology Position and Purpose

Table 3. Proposed Methodology Content Description (Methods and Tools Used)

Stage of the methodology	Description of the content	Methods and tools used
a) Workplace observation and time/competencies measurement and analysis	<ul style="list-style-type: none"> <li>- Workplace description (qualitative input): data about the employee (qualification/specialization, year of experience in general and on the same job in particular, trainings as up-date of the professional knowledge that he-she was involved in etc.); data about the technology, machines and know-how used; data about the workplace placement and organization;</li> <li>- Time measurement (quantitative input) for each type of activity and the correspondent competence used</li> </ul>	Observation method with time measurement/record (chronometer or video-recorder) and identifying the competencies use for each period of time.
b) The competencies balance card	Data and information process in the framework of the balance card	Quantitative input process using Excel software - results interpretation Statistical data process for a global conclusion
c) The competencies profile design	Graphical representation of the competencies used	Quantitative input process using Excel software - results interpretation Statistical data process for a global conclusion and global representation of the competencies overview report

Based on the practical implementation of the proposed methodology for the competence use overview report, there can be identified: the lack of skills that are not trained or weak trained; the corrections that have to be made to the curriculum; the new technologies, know-how and new technologies that have to be implemented in the employment organizations to valorized the trained competencies; established the career plan and human resources development in accordance to practical needs and training organizations potential for professional training delivery. The proposed method will allow the adjustments of each category of competencies - trained and used in organizations practices – for reaching the compatibility between them. In addition, there can be identified important issues for the international compatibility of the competencies delivered by national training bodies in Romanian and those at the European level using the European Qualification Framework.

The data and information collected and obtained (represented by the competencies balanced card and profile design) can be considered relevant for a qualification or specialization if the methodology is applied at least five time for the same subject in the same conditions of work and cumulated for several (at least ten) similar subject (different age and job experiences) that belong to different employer organization (different know-how and technology available; different organization model of the workplace etc.). After statistical data process the researcher can formulate conclusions about the competencies use vs. the competencies trained in a particular case of a profession or specialization.

### Case Study for the Proposed Methodology Test and Validation

The complex case study for the proposed methodology test and validation refer to the general medical assistance, nurse (experimental research extended from Watson et. al., 2002) with the purpose of the corresponding education programs improvement and finally, to better support human resources development programs – in a context of a PhD research program. In Table 4 is presented the delivered competencies by high education medical institutions in Romania, in accordance with the summary of qualification referential description from National Registry for Higher Education Qualifications. This competence schema was used for the proposed methodology application.

Table 4. Competencies Scale for General Medical Assistant/Nurse - Description From National Registry for Higher Education Qualifications

Competencies	Description details
Professional competencies (PC)	PC1 Identification in terms of efficiency and effectiveness of general health care needs; PC2 Provide general health care; PC3 Management of treatment as prescribed by doctor; PC4 Making prevention activities and health education; PC5 Organizing and delivering training; PC6 Conducting research activities in the general health care field.
Transversal competencies (TC)	TC1 Identification of goals to achieve, the resources available, the conditions to complete the work stages and working times, deadlines and risks associated; TC2 Identify roles and responsibilities in a multidisciplinary team and applying effective techniques and working relationships within the team and in relation to patient; TC3 Effective use of information sources and communication resources and training assistance (Internet portals, specialized software, databases, online courses etc.) both in Romanian and in an international language.

For the relevance of the research results there have been tested a group of 24 general nurses from different departments/units of the Emergency Country Hospital Timisoara, Romania (5 nurses from the emergency unit, 4 nurses from surgical units I and II, 5 nurses from the cardiology unit, 3 nurses from the gastroenterology unit, 3 nurse from the internal medical service and 4 nurses from the diabetic and nutrition unit) - 80% of the sample subjects were females and 20 % males. Each nurse activity was observed during one week so five observations sheets were process for each subject involved in the sample. In totally, 120 observations sheets were collected



related to the nurses and the workplaces that were chosen for the research. The average age of the nurses was 34.50 year and they have an average period of experience on the same position of 8 years (high experience). In addition, the subjects were selected as graduated the same private post secondary technical school (a private school that belong to Henri Coanda Foundation in Timisoara, Romania that organize secondary medical education, of 3 years). The researches have been done from 15 March 2012 till 20 June 2012 and the observations were done by future graduate trainees from the same private college (6 graduates were trained for collecting the data from the observation of the nurses and the workplaces) during their clinical practice in the hospital.

The general content and features of the nursing activities were: a) Determining the general health care needs and providing general health care, the preventive, curative and rehabilitation, according to specifications developed by the Ministry of Health, in collaboration with the Order of Nurses and Midwives in Romania (according to the Romanian Law no. 307/2004); b) Treatment implementation, according to medical prescriptions; c) Protecting and improving health, developing programs and carrying out health education activities and facilitate actions to protect health of groups considered at risk; d) Implication in theoretical and practical training that belongs to continuing education programs; e) Preparation of auxiliary medical human resources; f) Involvement in environmental protection; g) Preparation of written files, documentations and reports on specific activities.

In the Emergency Country Hospital Timisoara, there have been observed the following activities of general nurses, in accordance with their competencies (gained by professional training and by experience):

- They operate with responsibility, under the professional regulations and requirements of the job. They have to respect the interne rules of procedure;
- Take new hospital patient and its companion (where applicable), check personal toilet, the hospital dress code and distribute the new patient in the corresponding room;
- First aid and emergency medical calls;
- Participate in providing the best environment and safety in the salon, rooms;
- Identify patient care problems, establish priorities, develop and implement a care plan and evaluate the results obtained throughout the hospital;
- Provides patient room doctor for examination and notify him of his status at admission and throughout hospitalization, observed symptoms and condition of the patient care record them in the file and inform the doctor;
- Prepare the patient and helps the doctor to perform special techniques of investigation and treatment;
- Prepare the patient, specific techniques for specific investigations or surgery, organize patient transport and monitor his condition required during transport;
- They collect biological samples for laboratory testing, as prescribed by the physician;
- Reply of the ward nursing and nurse supervising the performance by the toilet, change of underwear and the bed, creating conditions for physiological needs, patient position change;
- They notice the patients' appetite, supervise and provide feeding to dependent patients, supervise food distribution under the record diet observation chart;
- Manage personal medications, perform treatments, immunizations, biological testing, according to prescription;
- Prepare equipment, instruments and sterile material necessary interventions;
- Provides preoperative patient preparation and postoperative care;
- Report any changes found to the doctor;
- Participate in palliative care and instructs family for their award;
- Supervises the conduct of family visits under the interne rules of procedure;
- Provides verbal or written answer / delivery service to each patient and in turn report.
- Prepare patient for discharge;
- In case of death patient they make the possessions inventory, identify the body and organize transport to a place determined by the hospital management;

- Use and maintain in good condition the medical equipment and tools, supervises the collection of materials and disposable instruments to ensure their storage for destruction;
- Wear protective equipment as mention in the interne rules of procedure, which will be changed whenever necessary, to maintain personal hygiene and aesthetics;
- Respect the current regulations on the prevention, control and avoid of nosocomial infections;
- Respect confidentiality and nurses code of ethics; Respect and protect patient rights;
- Is concerned with updating their professional knowledge through self study or other forms of continuing education required by the job.

Based on this preliminary explanations of the research context, there are presented the research results in each stage of the proposed methodology. In Table 5, 6 and Figure 3 there will be presented the case of one observation situation and the corresponding data processes. In Figure 4 is presented the statistical process data related to the investigations done – global results and indicators.

Table 5. Observation File – Example of a female nurse of emergency unit, 28 years old, 5 year experience in the filed

OBSERVATION FILE NO. 34					
<b>Information about the work-place:</b> Company: Emergency Country Hospital Timisoara, Romania  Department / unit / office: Emergency Unit		<b>Observer:</b> Name: CD  Data: 23 April 2012  Start time of the observation: 14:00  End time of the observation: 22:00  Observation duration: 8 hours – The legal break of 15 min.= 465 min			
<b>Information about human resource:</b> Name: AB  Profession: general medical assistance /nurse  Qualification:  Age: 28 years old  No. of years experience in the field: 5 years		<b>Competencies Scale:</b> <b>PC1</b> Identification in terms of efficiency and effectiveness of general health care needs; <b>PC2</b> Provide general health care; <b>PC3</b> Management of treatment as prescribed by doctor; <b>PC4</b> Making prevention activities and health education; <b>PC5</b> Organizing and delivering training; <b>PC6</b> Conducting research activities in the general health care field. <b>TC1</b> Identification of goals to achieve, the resources available, the conditions to complete the work stages and working times, deadlines and risks associated; <b>TC2</b> Identify roles and responsibilities in a multidisciplinary team and applying effective techniques and working relationships within the team and in relation to patient; <b>TC3</b> Effective use of information sources and communication resources and training assistance (Internet portals, specialized software, databases, online courses etc.) both in Romanian and in an international language.			
#	Activity description	Time		Duration (min)	Type of competency
		hour	minute		
1.	Observation start	14	00	-	-
2.	Gets familiar with the existence ongoing emergencies; takes the exchange of work duties from another colleague	14	23	23	TC1
3.	Takes new hospital patient and its companion; distributes the new patient in the corresponding bed; collects preliminary information and take the patient file from registration (car accident effects of a 23 years old man; legs, hands and head contusions)	14	45	22	PC1
4.	First aid and medical support of the diagnosis; Identify patient care problems; Prepare the patient and helps the doctor to perform special techniques of investigation and treatment; Collect biological samples for laboratory testing and send them	15	28	43	PC2
5.	Cleans and disinfects wounds patient; help doctor to check about the contusions; give painkillers injections	15	55	27	PC2
6.	Waits for the laboratory results; supervisions of the environment and safety in the room area; has short discussions with	16	08	13	PC4

	the family members				
7.	Prepares the patient and helps the doctor to perform special techniques of investigation and treatment – computer tomography and other neurology, cardiology investigations; send the patient in other Hospital units; Processes the patient file and add the laboratory tests results	16	35	27	TC2
8.	Helps a colleague to support the medical investigation of another patient by collecting blood samples for laboratory testing (a 56 year old women with kidney crisis); prepares the perfusions and get it to the patient	17	04	29	TC2
9.	Checks the cleaning and technical conditions of the beds under her responsibility; orders some materials from the deposit and some drugs from the Hospital pharmacy	17	32	28	PC3
10.	Takes new hospital patient and its companion; distribute the new patient in the corresponding bed; collects preliminary information and takes the patient file from registration; asks a colleagues for taking care of the new patient and help the first aid and emergency medical calls (a 26 year old man with abdominal pains, fever that is suspect of appendicitis)	18	10	38	PC1
11.	Coffee Break (she gets a snack)	18	25	-	
12.	Takes new hospital patient and its companions; distributes the new patient in the corresponding bed; collects preliminary information and take the patient file from registration (67 year old men with voltage swing, risk of myocardial infarction)	18	46	21	PC1
13.	First aid and medical support of the diagnosis; identifies patient care problems; prepares the patient and helps the doctor to perform special techniques of investigation and treatment	19	10	24	PC2
14.	Fill-up the patient registration file and prepare the transfer for cardio investigation in another unit	19	32	22	TC2
15.	Acts urgent to support colleagues in taking 3 patients simultaneously, that were involved in a work accident (3 men with contusions because they fell down from a scaffold at 5 m); prepares equipment, instruments and sterile material necessary interventions	19	58	26	PC1
16.	Cleans and bandages the wounds; takes biological samples for laboratory and send them; administer painkillers, antiseptics and antibiotics; prepare supplementary investigation in other units of the Hospital; report the changes found to the doctor	20	10	12	PC2
17.	Prepare patient for discharge;	20	23	13	PC4
18.	Manage personal medications, performs treatments, immunizations, she gets biological testing, according to prescription to other 3 patients in the emergency room	20	45	22	PC2
19.	Distributes the file of discharge and a file for the record diet observation chart to a diabetic patient; provides verbal and written answer / delivery service to the patient	20	58	13	PC4
20.	Prepares equipment, instruments and sterile material; maintains in good condition the medical equipment and tools, supervises the collection of materials and disposable instruments to ensure their storage for destruction	21	16	18	TC1
21.	Together with another colleague, prepares a new patient and helps the doctor to perform special techniques of investigation and treatment (female 28 years old, pregnant, in crisis because of some digestion problems); collects biological samples for laboratory testing, as prescribed by the physician	21	42	26	TC2
22.	Changes of underwear and the bed, creating conditions for physiological needs of a patient; patient position change;	21	48	6	PC2
23.	She teaches labor exchange, gets off the wear protective equipment and leaves the unit	22	00	12	TC1
	TOTAL	-	-	465	-

Table 6. Competencies Balance Card – Example of a female nurse of emergency unit, 28 years old, 5 year experience in the filed

Category of competencies (symbol as presented in Table 5)	Time consumption (min)	%
<b>PC1</b> Identification in terms of efficiency and effectiveness of general health care needs	119	26
<b>PC2</b> Provide general health care	134	29
<b>PC3</b> Management of treatment as prescribed by doctor	28	6
<b>PC4</b> Making prevention activities and health education	39	8
<b>PC5</b> Organizing and delivering training	0	0
<b>PC6</b> Conducting research activities in the general health care field	0	0
<b>TC1</b> Identification of goals to achieve, the resources available, the conditions to complete the work stages and working times, deadlines and risks associated	41	9
<b>TC2</b> Identify roles and responsibilities in a multi-disciplinary team and applying effective techniques and working relationships within the team and in relation to patient	104	22
<b>TC3</b> Effective use of information sources and communication resources and training assistance (Internet portals, specialized software, databases, online courses etc.) both in Romanian and in an international language	0	0
<b>TOTAL</b>	465	100

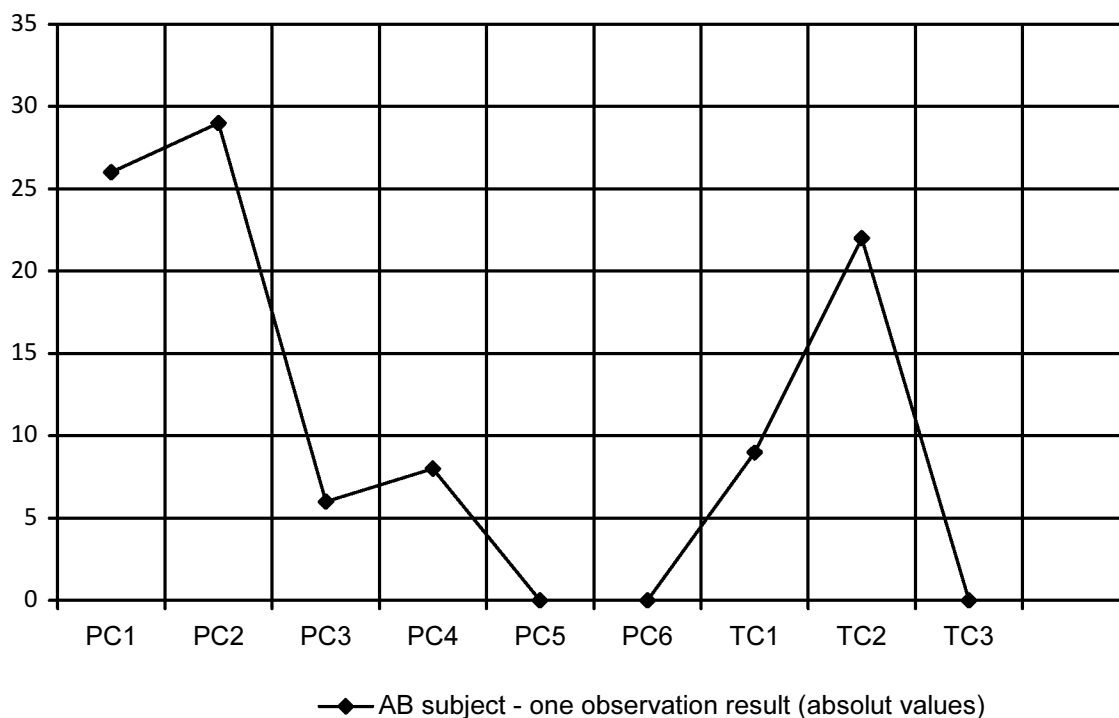


Figure 3. The Competencies Profile Design - Example of a female nurse of emergency unit, 28 years old, 5 year experience in the filed

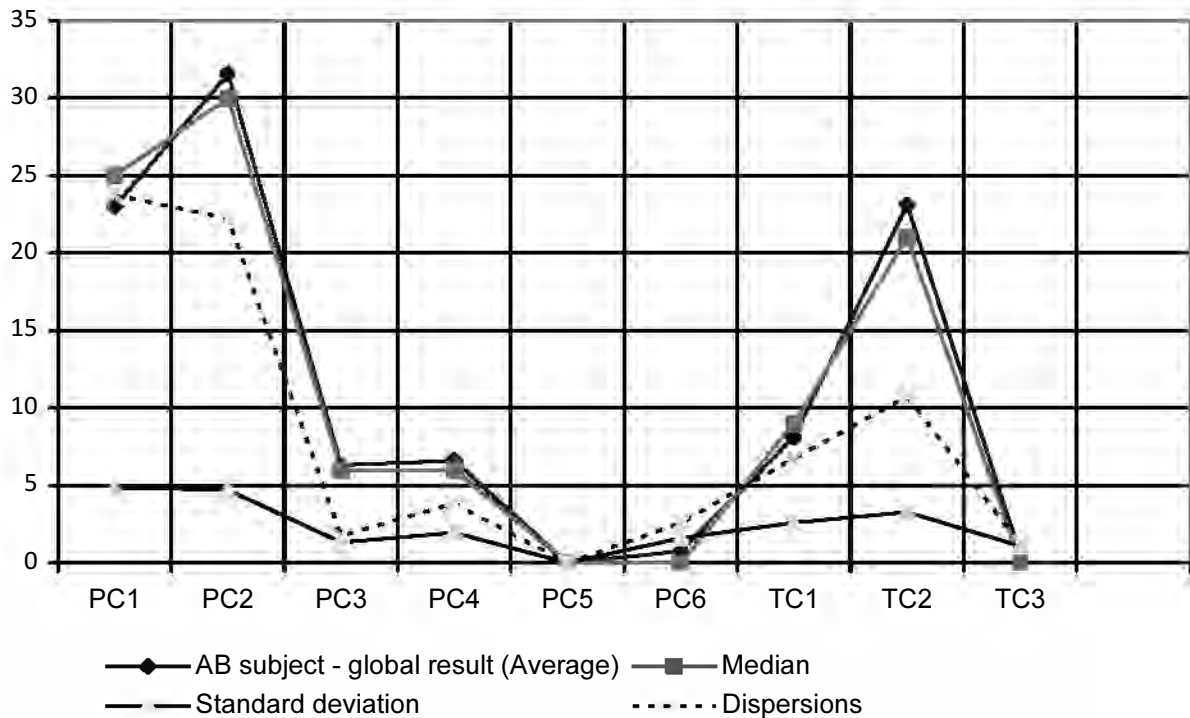


Figure 3. The Competencies Profile Design - Example of a female nurse of emergency unit, 28 years old, 5 year experience in the filed (continued from previous page)

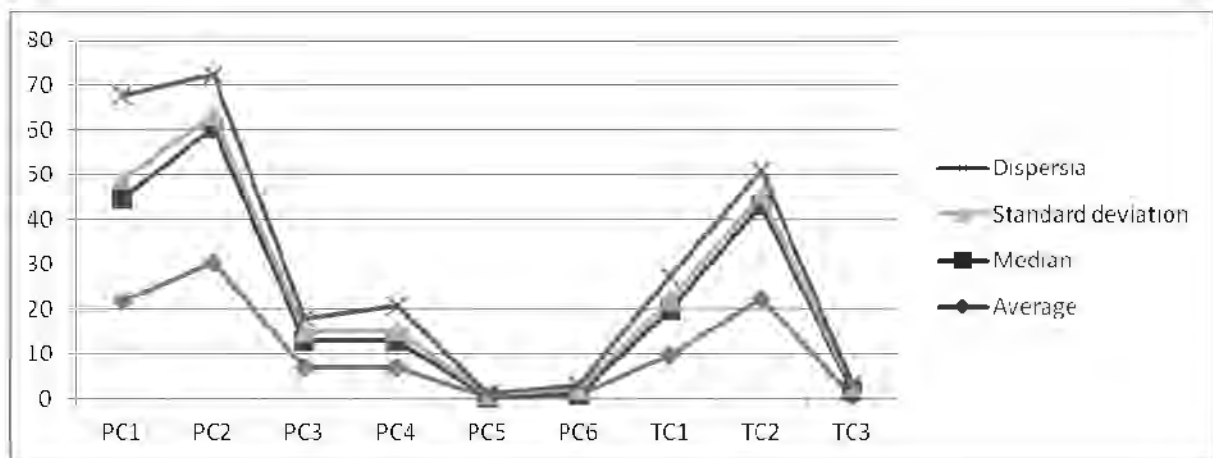


Figure 4. The Global Competencies Profile Design

For the global result there have been calculated (using Excel functions) the Median function that measures central tendency, which is the location of the center of a group of numbers in a statistical distribution. In addition, three most common measures of central tendency were determinate: (1) Average which is the arithmetic mean, and is calculated by adding a group of numbers and then dividing by the count of those numbers; (2) Median which is the middle number of a group of numbers; that is, half the numbers have values that are greater than the median, and half the numbers have values that are less than the median; (3) Mode which is the most frequently occurring number in a group of numbers. For the global results interpretation there have been calculated the standard deviation and the dispersion of all data collected for each type of competencies.

According to the global research results, there have been concluded:

- The most needed competencies are PC1, PC2 and TC2, then less needed are PC3, PC4 and TC1;
- The rarely needed competencies are PC5, PC6 and TC3 that are related to training and research in the field (vocational training);
- The competencies comparison between those delivered by training organization and those needed in practice shows an equilibrium, but there have been identified some lack of nurses knowledge in the field of administrative work. These situations will be analyzed in a future research;
- The researches have validated the proposed methodology and give opportunities for human resources evaluation in the context of their development plan establishment.

### **Conclusions**

The paper has presented a feasible solution for the competencies use overview report - diagnose the exploitation of the competencies profile delivered by a training organization. The presented research and the proposed methodology allow the comparison of the real exploitation/use of the professional competencies (included in the competencies use overview report) and the competencies profile define by an education or training program, related to a specific profession. This comparison will allow the competencies profile improvement and up-date delivered by the training organizations (in the case of universities, colleges, any professional programs delivered by training organizations on the labor market). The proposed methodology originality consists of the balanced that can be made between the delivered professional competencies (gain by a person through a specific professional program – out-put for education/training organizations) and the real competencies used/needed for human resources in their professional life (in organizations practice).

### **References**

**Epstein, R.M., and E.M Hundert**

2002

“Defining and Assessing Professional Competence.” *The Journal of the American Medical Association (JAMA)*, 287(2): 226-235.

**Govaerts, M.J.B.**

2008

“Educational Competencies or Education for Professional Competence?” *Medical Education*, 42(3): 234-6.

**Schuwirth, L.W., M.M. Verheggen, C. van der Vleuten, H.P. Boshuizen, and G.J. Dinant**

2001

“Do Short Cases Elicit Different Thinking Processes Than Factual Knowledge Questions Do?” *Medical Education*, 35: 348-356.

**Van der Vleuten, C.P.M., and L.W.T. Schuwirth**

2005

“Assessing Professional Competence: From Methods to Programmes.” *Medical Education*, 39(3): 309-317

**Wass, V., R. Jones, and C. van der Vleuten**

2001

“Standardized or Real Patients to Test Clinical Competence? the Long Case Revisited.” *Medical Education*, 35: 321-325.

**Watson, R., Stimpson, A., Topping, A. and Porock, D.**

2002

“Clinical Competence Assessment in Nursing: a Systematic Review of the Literature. *Journal of Advanced Nursing* (doi: 10.1046/j.1365-2648.2002.02307.x), 39: 421–431.

## Adapting through personal development

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### Abstract

**Purpose** – The paper aims to reveal and discuss the recent growing interest for personal development that seems to outline an emerging study field, and especially a flourishing industry of training business, but with many different approaches more or less related to individual needs and perceptions.

**Methodology/approach** – After synthesizing of SciVerse Hub statistics on publications and research areas referring to personal development, we review few conceptual approaches and we present the main results of a study of individual perceptions on this.

**Findings** – A growing number of subject areas addresses related issues of personal development, especially social sciences, business and management. The results of study showing that respondent's perceptions on personal development reflect rather a limited understanding of the concept.

**Research limitations/implications** – The study has a limited research area (a number of 163 Romanian students), making difficult generalization of results.

**Practical implications** – Organizations are groups of individuals performing economic activities, so that any organizational capability depends on individual capabilities and willingness of self-change that is personal development's essence.

**Originality/value** – The paper provides an evidence-based overview about interests for personal development and discusses some implications and results of a study on individual perceptions within a group of Romanian master students in Human Resource Management.

**Key words:** personal development, self-management, self-change.

### Personal development - a common increasingly used term, but how many meanings?

In the new millennium, all major aspects of human life appear to be heavily marked by globalization, continuous change and unprecedented uncertainty. Day after day, everything around us seems less predictably and controllable, our jobs are more unsecure, individual requirements and responsibilities are more demanding under the pressure of time and global competitiveness, implying a greater effort for an appropriate change of self in order to keep the pace with all these. Consequently any of us can become more concerned about oneself, wondering how could find its own place, identity and sense of life within such a rapid changing world with globally determined coordinates. And because concerns of this kind are usually considered as being issues of personal development (PD), it's understandable why one says that in the 21st century this has turned from a luxury in a necessity (Aubrey, 2010).

So, is no wonder that term of PD is used now more than never, or that the interest for the topic was increasingly expanded during last years, both as number of writings and of study fields addressing PD related issues. It's a fact evidenced by the results that we have obtained through a search of this term performed with SciVerse Hub - a platform enabling advanced searches across SciVerse ScienceDirect and SciVerse Scopus content - two leading scientific databases,

and web content (<http://www.hub.sciverse.com/>). Thus according SciVerse Hub statistics, the total number of searching results were greater each year since the beginning of new millennium - an increase of more than 80 times, from almost 70,000 in 2000 to almost 6 million in 2011. Only in less than three months of the current year (at March 15, 2012) the number of results was almost double than in all final year of the past century (1999). In table 1 we synthesize the SciVerse Hub statistics on search results grouped by main type of documents and subject area/field.

Table 1. SciVerse Hub Statistics on results of searching for “personal development”

Specifications	1999-2012	2012 (15.03)	Subject Area (in descending order of results)
Total number of results	11,225,554	96,675	Social Sciences; Business, Management and Accounting; Economics, Econometrics and Finance; Medicine and Dentistry; Psychology; Biochemistry, Genetics and Molecular Biology; Immunology and Microbiology; Agricultural and Biological Sciences; Computer Science; Environmental Science; Neuro-science; Pharmacology, Toxicology and Pharmaceutical Science.
Books	99,095	653	
Conferences	28,211	56	
Full text articles	897,382	15,501	
Theses & Dissertations	265,311	529	

These statistics show a growing number of subject areas addressing related issues of PD explicitly or implicitly, with a particular interest in social sciences, business and management, suggesting that PD appears to outline itself as a multidisciplinary emerging study field. But, as say Steve Pavlina, it is a very broad and fragmented field, because: (1) any area of life "can reasonably slide under the umbrella of self-improvement", and (2) each of these areas "has its own purported experts" who have ideas, rules and advice somewhat different, being often in disagreement (Pavlina, 2008, p. xvii). This may explain why, despite that PD became a common widespread used term, as evidenced from presented statistics, "the concept is itself endowed with numerous implicit meanings" (Donatti and Watts, 2005, p. 475). Thus the conceptual approaches of PD still suggest rather a diversity of views than a consensus that could and should result in a more clear understanding of the term, as a prerequisite of ensuring a sound foundation for study in the field.

Obviously, the multitude of various topics that can have explicit or implicit connections with PD may justify different approaches of issues, depending on purpose and context.

For example, within the general context of human growth and development, a main purpose is to study the factors which are more important in determining of who we are and what we become (Beckett and Taylor, 2010), and also their interactions which lead to development through a progressive series of changes (Salkind, 2004). These approaches reveal two major determinants - biological and environmental factors, underlying debates on prevalence of our biological inheritance or of environment within we grow up, suggestively termed by Beckett and Taylor as "nature" and "nurture" (Beckett and Taylor, 2010).

In a more specific context, even if often PD is used now interchangeable with 'personal growth', some previous works suggested a distinction between the two concepts (Irving and Williams, 1999; Johns, 2002). Thus, according to Irving and Williams, PD "is a process concerned with specific aspects of the individual: the development of 'what', and the ways this can be planned, achieved and evaluated", while personal growth "is a more generic process having to do with the totality of the individual" (Irving and Williams, 1999, p. 517).

Another conceptual distinction is emphasized within the context of training, in terms of how PD is related to (and differs from) professional development: each of the two inextricably contains the other, while may be distinguished as semantic and training purpose (Waters, 1999; Johns, 2002).



The many attempts of defining PD are convergent in essence, in the sense that they refer to a complex process implying "change of self, by self, for self" (Waters, 1999, p. 173). In other words, it involves a self-initiated process started from a desire for changing and improving – as perceived in a personal view – supported by individual effort of self-actualization, and having as ultimate end the improvement of own life. Quality of life may be improved through PD, as a result of learning and applying the appropriate ways for self-management of various aspects defining each of us – generally as human being, and individually as person.

According to Hazel Johns there is a "traditional trinity revered in adult learning" for PD: knowledge, skills and awareness - of self and others (Johns, 2002, p. 4). These can refer to each of the aspects related to major areas of personal growth (World Organization of the Scout Movement, <http://www.scout.org>): the body – physical development, the intelligence –intellectual development, the emotions – emotional development, the social nature – social development, the soul – spiritual development, the identity – character development, as person.

To conclude, there are various aspects that define us as human beings and as persons that shape our identity and life, and are all important for PD. The problem is that each of us can have a different view about what is more important for its own life – a different perception on PD. This make at least questionable the promise of some authors and/or training providers in the field – increasing as number during the last years – which claim they have discovered an "universal key of success" that can be easily used by every person, of course, with condition to buy their books and/or enroll in their training programs.

Against this background, considering the similar national tendency related to increasingly number of writings and training providers in the field, we considered opportune to undertake an exploring study of individual perceptions about PD. The methodology and the main results of the study are briefly presented in the follows.

### **Methodology of study and demography of respondents**

The study was conducted among the students enrolled in the two years master program of Human Resource Management offered by Faculty of Sciences, University of Petrosani, Romania. It was based on a questionnaire with open questions, having at origin an online questionnaire available at [www.artterapia.ro](http://www.artterapia.ro)\*. We adapted the questionnaire by reformulating some of the questions, and asking for few basic demography data – gender, year of study, and employment status.

Total number of master students enrolled during the period considered was 202, out of which have responded 163 – response rate of 80.7 percent, N = 163. The demographic structure of respondents as resulted by grouping them based on each of the three above mentioned elements was as follows:

- 30.7 percent male, and 69,3 percent female;
- 49.7 percent in the first year of study, and 50.3 percent in the second year of study;
- 38 percent employed, and 62 percent without jobs – only 21.8 percent of them being officially registered as unemployed.

The six open questions considered for the study with aim to explore the respondents perceptions on PD were:

Q1: Do you know what is referring to the term of personal development?

Q2: What personal development really mean for you?

Q3: How long – in hours – could you allocate for this purpose during a month?

Q4: What topics would meet your needs?

Q5: What are your expected results after attending a personal development program?

Q6: What do you think about development by the means of arts – music, dance, painting, theater, film, photos, etc.?

Content analysis of responses was done separately on each of these questions, aiming to identify prevalent common elements allowing for their grouping in some relevant categories for statistical data processing and interpretation. The main results are presented and discussed in the next section.

### Statistical results, discussions and concluding remarks

For the first two questions – that have tried to establish whether PD is a known, familiar, or unknown term, and what are its real meanings for each of respondents, after applying methodological procedure described before were identified seven main categories of responses. Thus, the many of respondents (26.4 percent) thinks that PD refers in essence to reaching the goals – own or/and organizational.

The next two categories (with weights equal, of 19 percent) are those who consider that PD refer to a process of improvement of skills/competencies and relationships, respective to a training process. But almost as many are those with answers suggesting that either they don't know to what PD is refer to, or even not heard of this term (18.4 percent).

In addition, another category of respondents (representing 12.5 percent) refer to some issues that show rather a confusion/overlap with professional development. We noted that only 2.5 percent of respondents believe that personal development implies spiritual growth, and even less respondents (1.8 percent) consider that this term refer to different practical ways to succeed.

As concerning the answers to the second question, the prevalent category was formed by the respondents who said that for them-selves PD means mainly development of personal skills/competencies and relationships (29.4 percent). Then have followed two categories of respondents, for which PD means primarily a growing of own potential (24.5 percent), respective acquiring of new knowledge (19 percent). The next category of respondents (14.7 percent) answer in rather vague or quite similar terms with those used for the first question suggesting a confusion, or unclear meanings.

For other respondents (representing 9.2 percent of total) PD means mainly the control over life, while for few others means a change (1.8 percent), respective independence and progress on their own, i.e. to work harder without the help of others, to rely on their own forces (1.2 percent).

The distribution of the answers is graphically represented in the figure 1 and figure 2.

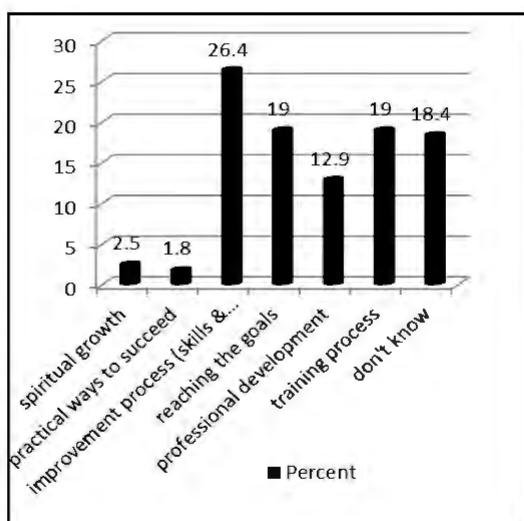


Figure 1. Distribution of answers to Q1

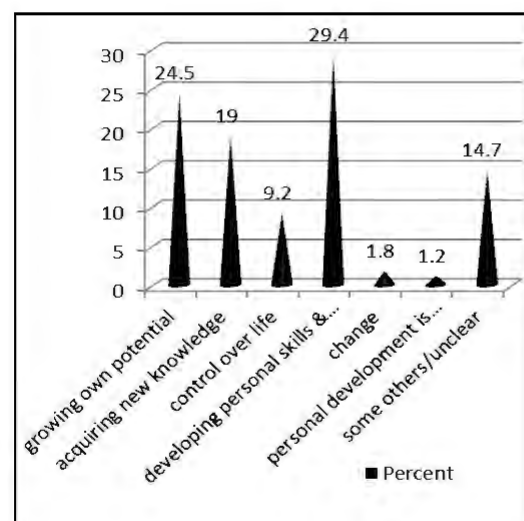


Figure 2. Distribution of answers to Q2

The third question (Q3) was aimed to reveal the willingness and capability of the respondents to involve in PD, on regular basis – estimated by the available time that each can and is ready to allocate for this purpose during a month. In this case, the answers suggest that the majority of respondents are less willing and/or ready for this, about 35 percent could allocate maximum 10 hours/month, and 25.8 percent between 30 and 100 hours/month, while only 19 percent could allocate over 100 hours/month.

For the fourth question, the answers were as expected more various but with a quite surprisingly proportion of respondents – almost a quarter – who seem to don't know what topics would meet their needs. The frequency of the prevalent answers for the rest of respondents was as follows:

- 29.4 percent - continuous improvement;
- 16 percent - psychology/motivation;
- 8.6 percent - change of lifestyle, mentality, etc;
- 6.1 percent - decision problems;
- 5.5 percent - improving quality of life;
- 4.9 percent - self-knowledge, managing emotions;
- 3.7 percent - conflict solving;
- 1.2 percent - philosophy.

We noted a somewhat similar distribution of the answers to the fifth question, in the sense that over 18 percent of total respondents answered quite uncertain i.e. they don't have clear expectations about the effects/results from which could benefit after attending a PD program. The rest of the answers were grouped within the following categories of prevalent expectations/results are:

- 25.2 percent - to acquire new knowledge;
- 14.7 percent - to learn what is needed in practice and how to apply;
- 14.7 percent - to gain self-confidence;
- 14.1 percent - to improve the professional background;
- 6.7 percent - to relax, to feel more secure and satisfied;
- 4.3 percent - to answer for personal questions;
- 1.8 percent - to effectively use available time.

For the fourth and fifth questions, we present the distribution of the answers in the figure 3 and respective in the figure 4.

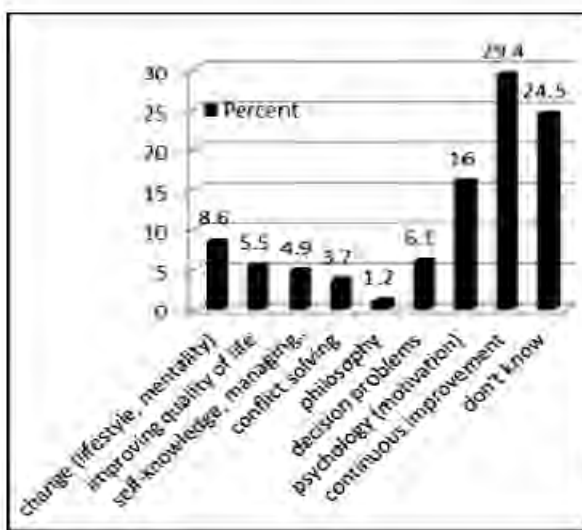


Figure 3. Distribution of answers to Q4

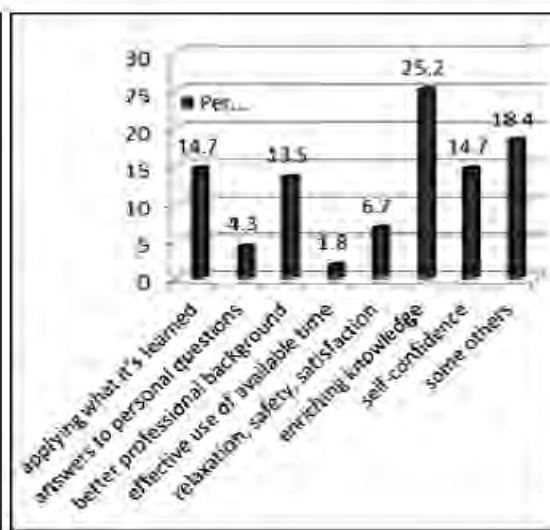


Figure 4. Distribution of answers to Q5

PD may involve multiple forms of learning in order to acquire and apply knowledge, skills, and awareness of self, as required for the process of change, but some may be perceived as being apart from the common ones of traditional education, for example the various forms of arts. The final question (Q6) was addressed for this purpose, revealing that almost a half of respondents consider the development by the means of arts a good idea (27 percent), or something useful/effective (20.2 percent). The answers were more diverse, but we may mention that 14.7 percent of respondents have emphasized the contribution to emotional development, while a cumulative percentage of 17,7 percent referred to this in terms of relaxation, of creativity, of helping or facilitate. However, about 20.2 percent of total answers suggested that respondents don't know or don't realize of how development through arts could give them some real benefits.

As an overall concluding remark, our study revealed that despite an expected common concern of the master students in Human Resource Management, their perceptions on PD reflects rather a limited understanding of the concept, to only the few from the many facets of the complex process of self-changing. Apparently it's missing the perspective of "whole" and the component of awareness of self, especially as concerning the will and capability to initiate and manage a purposeful change leading to PD in the sense defined by Waters: change of self, by self, for self.

The practical implications at organizational level arise from the fact that organizations are, in essence, groups of people performing various activities within an economic established setting, so that any capability of an organization - including that of adapting to the rapid global change - depends on capabilities and willingness of self-change of its members. Eventually, it's about adapting through PD.

The need of PD is common to all the people either they are Easterners, or Westerners. For this reason, perhaps could be more useful to concentrate the concerns for finding managerial approaches able to sustain this common need of the people within organizations. Managing the self-change processes of individual members of organizations in a purposeful way, so as they to see the change not as something imposed by owners or managers but as a resultant of some mutual efforts consistent with their personal need of development, could mitigate the differences and apparent dilemma between East and West.

### Notes

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### References

**Aubrey, B.**

2010

Managing Your Aspirations: Developing Personal Enterprise in the Global Workplace. McGraw-Hill Education (Asia).

**Beckett, C., and H. Taylor**

2010

Human Growth and Development, second edition, USA: SAGE Publications Ltd.

**Cullen, J.G.**

2009

"How to sell your soul and still get into Heaven: Steven Covey's epiphany-inducing technology of effective selfhood". Human Relations, SAGE Publications, 62 (8): 1231–1254.

**Donati, M., and M. Watts**

2005

"Personal Development in Counsellor Training: Towards a Clarification of Inter-Related Concepts". British Journal of Guidance & Counselling, Vol. 33, Issue 4: 475-484.

**Grant, A.M., and B. O'Hara**

2006

"The self-presentation of commercial Australian life coaching schools: Cause for concern?"  
International Coaching Psychology Review, The British Psychological Society, Leicester, 1 (2):  
21–33.

**Irving, J.A., and D.I. Williams**

1999

"Personal growth and personal development: concepts clarified". British Journal of Guidance and  
Counselling, 27(4): 517-526.

**Johns, H.**

2002

Personal Development in Counsellor Training. SAGE Publications Ltd.

**Pavlina, S.**

2008

Personal Development for Smart People: The Conscious Pursuit of Personal Growth, Hay House  
Inc, USA (<http://books.google.ro/>)

**Salkind, N.J.**

2004

An Introduction to Theories of Human Development. USA: SAGE Publications Ltd.

**Waters, M.**

1999

Personal Development. In Anthony Landale (editor): Gower Handbook of Training and  
Development, third edition, Gower Publishing (Chapter 16).

# Research on determination behavioral abnormalities in making economic decisions

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## Abstract

**Purpose** – In this paper we study the emotions than have generally been examined in the empirical literature..

**Methodology/approach** - Research was conducted in May-June 2012 and the questionnaire was applied to a sample of 130 people between 19-34 years old from Cluj-Napoca, students at master and bachelor in the field of management and economic engineering.

**Findings** – In making economic decisions, human beings are influenced by feelings and intuition, sometimes they are crack up, become blinds in front of important decisions and are controlled by fear when are in danger of losing.

**Research limitations/implications** – This is a preliminary study, so the sample is not statistically representative. We intend to extend the research to a representative sample and with more questions.

**Practical implications** – We created some situations in which people are naturally assigned to different emotional states before they make important decisions.

**Originality/value** – Understanding the role of emotions in economic behavior has made enormous strides in recent decades.

**Key words:** behavioral economics, decision making, risk.

## Introduction

In this paper we conducted an experimental research to determine some behavior abnormalities manifested in making economic decisions. Based on these results we identified the causes of major discrepancies between theoretical predictions and observed behavior.

We focused our research around some fundamental questions: What is the reason why human beings even if are put in identical situations still make different choices? And what makes us reach these different results? We note that classical models, used in the economy can not accurately predict the behavior of an individual, for that reason we proposed to realize this research.

Experimental research is a special form of problem solving, subject to rules concerning the process and evidence. Experimental research can be viewed as a process of generating and testing hypotheses in order to understand a physical or psychological phenomenon.

## Research objectives

The main objective of this research is to determine the behavior abnormalities manifested in making economic decisions. In the background lies a desire to report the causes of major discrepancies between theoretical predictions and observed behavior. We also propose that after interpretation of the results to have the ability to understand the way in which decisions are taken in certain economic situations.

## Research hypotheses

The idea of this research was born from the need to demonstrate a hypothesis, namely: It is assumed that in making economic decisions, human beings manifest behavior abnormalities.

With this key assumption we can make other three secondary hypotheses:

- It is assumed that there is a causal relationship between the manifestation of behavioral abnormalities and the existence of conditions of risk.
- It is assumed that there is a causal relationship between the manifestation of behavioral abnormalities and an existing uncertain, ambiguous situation.
- It is assumed that there is a causal relationship between the manifestation of behavioral abnormalities and making impulsive decisions.

Primary information will be obtained using the experiment. This method consists in selecting groups of subjects, submit to various scenarios or alternative treatments to eliminate insignificant variables and evaluate the strategic significance of the differences found in the answers obtained. This method seeks to establish causal relationships between variables.

## Establishing the research instrument

Based on information collected by consulting the literature we developed a questionnaire to see if we tend to make hasty decisions without control our emotions when we are engaged in an economic transaction. In preparing the questionnaire we used hypothetical examples inspired from daily activities.

The questionnaire includes nineteen closed questions, with two or more answer options and their editing respect the following rule: introductory questions, complex questions, and finally identification questions.

## Planning the research

Research was conducted in May-June 2012 and the questionnaire was applied to a sample of 130 people between 19-34 years old from Cluj-Napoca, students at master and bachelor in the field of management and economic engineering. Subjects were randomized regardless of gender. Respondents completed the questionnaire individually, without limit of time. This is a preliminary study, so the sample is not statistically representative. We intend to extend the research to a representative sample and with more questions.

## Interpretation of results

The first question is an introductory question, seeking to place the respondent in the middle of problem. The question intended to show how each interviewed person characterized himself in terms of decision making style and the degree of risk-taking perspective. This is important because we can make correlations between how individuals are characterized and decisions that they will adopt in the proposed scenarios.

1. How do you characterize yourself in terms of decision style?

- I carefully evaluate the risks associated with each alternative before making a decision;
- I base on my own experience in finding solutions for a problem;
- I tend to rely on instinct in my decision making;
- Sometimes I am surprised by the real consequences of my decisions;

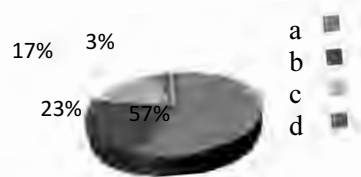


Figure 1. The distribution about decision style

2. Which of the following two situations seem most convenient for you:
- Receive 500 Ron today;
  - Receive 1000 Ron over 5 months.



Figure 2. The distribution of immediate preferences

We see a trend of preferring gain immediately, probably in light of the fact that a delay of reward may cause some qualms and may induces fear that offer will not be paid.

When it brings into question this, we tend to make hasty decisions. Starting from the idea that people are rational being, how can we explain that only 33% chose the greater gain? What bank practice a rate interest which can double the amount in just 5 months? What investment is shown to be so prosperous that after so short period can generate a double benefit? Or what type of gambling guarantees our gains with risk of drop 0? These are just some examples that are meant to suggest that our deliberations were not based on rational principles.

3. Which of the following two situations seem most convenient for you:
- Receive 500 Ron over 1 year;
  - Receive 1000 Ron over 1 year and 5 months.

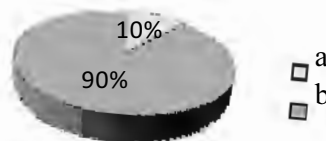


Figure 3. Distribution by future preferences

To interpret these results is necessary to return to the previous question, where we see that we used the same delay of time between the answer options. It is interesting that this time the respondents chose the second option response, demonstrating that the deliberations of some of them were more rational.

Analyzing the two questions, we can draw the idea that respondents tend to behave impatiently today but prefer to act patiently in the future. Of all respondents, 57% showed this behaviour.

4. This weekend you propose to go to a movie, which is not your favourite movie, however is a better option than to spend time at home. But an unforeseen situation occurs and you lose money allocated to this event. What decision you make?
- Follow your plan;
  - Drop the idea.



Figure 4. Distribution depending on the reaction to a unforeseen situation 1



To understand the objective followed by including this scenario in the questionnaire grid is necessary to interpret and answers the next question.

5. This weekend you propose to go to a movie, which is not your favourite movie, however is a better option than to spend time at home. You have purchased the ticket with a day before and when you got home you found that you've lost your pocket. What decision you make?

- a. Follow your plan;
- b. Drop the idea.



Figure 5. Distribution depending on the reaction to a unforeseen situation 2

If we analyze these two cases we see that the scenarios are similar: there is a loss in the first case of a sum of money, and in the second case of an object. However, the respondents have made different decisions. How can we justify this anomaly of behaviour? Certainly the decision process involved psychological factors that influence rationality in thought.

6. Consider that you own a lot of money and you are advised by your consultant to invest in a project with 60% chance of winning. What decision you make?

- a. I accept the offer and take the risk;
- b. I refuse the offer because it is too risky.

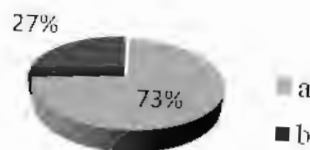


Figure 6. Distribution depending on the decisions taken in risk conditions 1

To capture the fact that in this case manifested behavioural abnormalities, it is necessary to track and interpret the results obtained by using the question number 7.

7. You decide to invest your accumulated savings and the only option is a portfolio whose risk of loss is estimated at 40%. What decision you make?

- a. I accept the offer and take the risk;
- b. I refuse the offer because it is too risky.

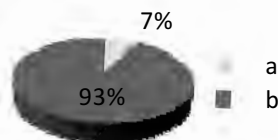


Figure 7. Distribution depending on the decisions taken in risk conditions 2

We note that the information is the same in both cases, the only difference consisting in the formulation of the problem. When you focus on the positive side, there is a process of releasing oxytocin in the brain, for which let us driven by impulse and not by reason.

8. Consider the following two types of lotteries, where you can play 100 tickets. Which of the two lotteries you chose?

- a) Lottery A, where:  
10 tickets worth 10,000 Ron;  
90 tickets worth 0 Ron.
- b) Lottery B, where:  
1 ticket worth 50,000 Ron;  
8 tickets worth 10,000 Ron;  
91 tickets worth 0 Ron .

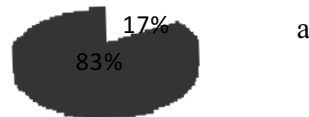


Figure 8. Allais Paradox 1

This type of scenario was adopted according to one of the models proposed by the mathematician Maurice Allais. He outlined a paradox that shows a strict difference between rational intuition and decision theory dictates.

Most people are guided by the following reasoning: reducing the probability of recording a gain is offset by the possibility of having a higher gain.

9. Consider the following two types of lotteries, where you can play 100 tickets. Which of the two lotteries you chose?

- a) Lottery C, where:  
100 tickets worth 10,000 Ron;
- b) Lottery D, where:  
1 ticket worth 50,000 Ron;  
98 tickets worth 10,000 Ron;  
1 ticket worth 0 Ron.



Figure 9. Allais Paradox 2

To demonstrate why this type of decision is considered a paradox, we will get to use a set of mathematical relationships, as follows:

We note the utility associated with X amount with U (X Ron) relation. At the same time we also refer to the probability of each event.

Preference for Lottery B can be translated as the following relation:

$$0.1 * U(10.000Ron) + 0.9 * U(0Ron) < 0.01 * U(50.000Ron) + 0.08 * U(10.000Ron) + 0.91 * U(0Ron) \quad (1)$$

After simplifications we get:

$$0.1 * U(10.000Ron) < 0.01 * U(50.000Ron) + 0.08 * U(10.000Ron) + 0.01 * U(0Ron) \quad (2)$$

Preferences for Lottery C can be translated as the following relation:

$$1 * U(10.000Ron) > 0.01 * U(50.000Ron) + 0.98 * U(10.000Ron) + 0.01 * U(0Ron) \quad (3)$$

After simplifications we get:

$$0.1 * U(10.000Ron) > 0.01 * U(50.000Ron) + 0.08 * U(10.000Ron) + 0.01 * U(0Ron) \quad (4)$$

Analyzing the Relation 2 and the Relation 4, we see that are in contradiction. The theory of Allais conclude that everyday life rational intuitions take precedence over formal theories.

10. You have in front of you two boxes: in the first box are introduced ten tickets. Five of them with the text "WIN" and the other five text "LOST". In the second box ten tickets are introduced whose combination is not known. From which box you want to extract a ticket?

- a. First box;
- b. Second box.

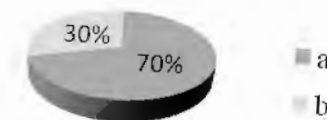


Figure 10. Distribution depending on the reaction to an uncertain situation

People preferred to bet on a familiar scenario than on unknown one even if in the second case we introduced eight tickets with text "WIN" and only two with the text "LOST".

### Conclusions

Following the interpretation of results, all four hypothesis described above were confirmed, demonstrating that in making economic decisions, human beings are influenced by feelings and intuition, sometimes they are crack up, become blinds in front of important decisions and are controlled by fear when are in danger of losing.

### References

**Bătrâncea L.**

2009

Games Theory, Economic Behaviour, Experiments. Cluj-Napoca, Risoprint.

**Camerer, C., Loewenstein, G. and Prelec, D.**

2005

"Neuroeconomics: How Neuroscience Can Inform Economics." Journal of Economic Literature, 43(1), pp. 9–64.

**Camerer, C. F., Bhatt, M. and Hsu, M.**

2007

"Neuroeconomics, illustrated by the study of ambiguity-aversion."

<http://idei.fr/doc/conf/tse/papers/hsu2.pdf>.

**Glimcher, P. W.**

2003

Decision, Uncertainty, and the Brain, MIT Press, USA.

**Phelps Elizabeth A.**

2009

"The Study of Emotion in Neuroeconomics." <http://cnl.salk.edu/~terry/BGGN/CH016.pdf>.

**Yang Y.**

2005

"Decision-Making Under Risk: Financial Goal, Wealth, and Reflection Effect."

<http://athenaeum.libs.uga.edu/handle/10724/8663>.

# Measuring Significant Statistical Differences on Innovation: An Operational Framework for Mapping and Measuring Innovation Level of three European Regions

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## Abstract

**Purpose** – This paper elaborates the notion of ‘Conceptual Model of Innovation’ and develops it further to advance the analysis of three different European models, compared in order to define the new model of innovation for the Central Region of Romania.

**Methodology/approach** -We established a series of specific research objective like: Identifying the most important variables; Define the ‘Conceptual Model of Innovation’; Analysis of technological innovation models from Spain, Finland and Romania using the ANNOVA method. Then with the help of Bartlett test we determinate the homogeneity of variances.

**Findings** – The research question we put is connected with the variable that differs significantly from the others. The results relate that the success of Finnish education system, considered the best in the world, is based on networking between government, academia and the private sector. Similar relationship we find now in the innovation system from Spain.

**Research limitations/implications** – There is a consistent number of institution involved in the innovation system

**Practical implications** – Analyze the model for innovation system and start to build the new model for Romania.

**Originality/value** – The analyses and the evaluations represent the author’s contributions.

**Key words:** Innovation; models; region.

## Introduction

Innovation has become a policy priority in many countries supported by national strategies and large budgets. Subsequently, innovation has taken on a more central role and many governments have established dedicated ministries, departments and offices to support the study, incorporation and implementation of innovation policy. Thus, in order to evaluate the effectiveness of governments’ intervention, various innovation indices have been developed over the years to measure innovation performance at the national and sub-national levels.

In an increasingly globalised economy, the ability to draw in innovations and ideas from elsewhere and build on them to create value at home has become a powerful facility for economic growth. Since some places are better at adopting and adapting borrowed ideas than others the process of ‘innovation through adoption’ deserve more attention.

Based on such beliefs, this paper elaborates the notion of ‘Conceptual Model of Innovation’ and develops it further to advance the analysis of three different European models, compared in order to define the new model of innovation for the Central Region of Romania.

These innovative systems are designed to build communication networks between the various factors involved in the innovation process. According to the "European Innovation Scoreboard, the Central Region of Romania is positioned well below the European average, while in Spain, Bask Country Region is located near the European average, in general terms of innovation, and on the leaders in Europe we find Finland. Given these positions, the paper has defined the objective of determining a model of technological innovation for Romania, which is based on the analysis of different regional innovation systems in Finland and Spain.

## **Empirical research**

### **Objective of the paper**

The main objective of the paper is summarized as follows:

Analyze the innovation model from Spain, Finland and Romania.

To reach this objective, we established a series of specific research objectives that help achieve the research project, being in full agreement with the main objective. The specific research objectives are:

1. Identifying the most important variables for the technological innovation;
2. Technological innovation analysis models from Romania, Finland and Spain Depending on the most significant variables on technological innovation;
3. Identification of critical variables that should be the base of the development for the new model of innovation in Romania, Central region, considering the results of the analysis performed on models in Finland and Spain;
4. Based on variables identified in Objective 3 will define the model of technological innovation for the Central Region of Romania;

Starting from the second objective has been defined two assumptions that help us analyze and compare three models of technological innovation in Finland, Romania and Spain. We have chosen three countries as a part of the middle class of technological innovators in Europe, another part of Europe's most innovative class, while the third is located in the tail of European league.

### **Identification of critical variables**

Key factors are defined taking into account the indicators used in the assessment of innovation in Europe, conducted by the institute in 2009 INNO METRICS.

Establishing the most important variables for the technological innovation is the first step done in order to achieve the major objective of this research project. Variables are chosen considering the indicators that are part of the evaluation of regions and countries in Europe by the European Statistics Research Institute in Brussels. From a total of 29 indicators we chose the most relevant concern the technological innovation. This analysis will be made for several European countries, chosen according to the classification made by the European Score Board.

The set of indicators has varied over the time. You can compare the above set of indicators with the indicator used in 2005. Sources of data for performance evaluation of different region are different: Euro stat, World Bank, IMF, Thomson-Reuters. From all the factors were selected only 11 who met the two conditions simultaneously and were found in two large scale studies in Europe: the European Innovation Score-board (EIS) and Regional Innovation Scoreboard and were evaluated for three regions: Etelä / Finland, Bask Country / Spain and Centru/Romania.

Table 1: Analysis variables for the tree regions;

Acronym	Indicator	Data source (reference year)	Region		
			Etela / Finlanda	Țara Bascilor/ Spania	Centru/ România
NETL	1.1.3 Percentage youth aged 20-24 having attained at least upper secondary level education;	Eurostat (2007)	0.58	0.82	0.11
PIPV	1.1.4. Participation in life-long learning per 100 population aged 25-64;	Eurostat (2007)	0.84	0.41	0.07
FPCD	1.2.1 International scientific copublications per million population;	Eurostat (2007)	0.74	0.41	0.12
CICD	2.1.1 R&D expenditure in the business sector (% of GDP);	Eurostat (2007)	0.8	0.62	0.29
GIMM	2.2.1. SMEs innovating inhouse (% of SMEs);	Eurostat (2006)	0.63	0.56	0.19
PIMM	2.2.2. Innovative SMEs collaborating with others (% of SMEs);	Eurostat (2006)	0.67	0.44	0.17
PIPP	3.1.1 SMEs introducing product or process innovations (% of SMEs);	Eurostat (2006)	0.63	0.63	0.18
PIMO	3.1.2. SMEs introducing marketing or organisational innovations (% of SMEs);	Eurostat (2006)	0.77	0.37	0.23
PIRU	3.1.3. Share of innovators where innovation has significantly reduced the use of materials and energy (% of firms);	Eurostat (2006)	0.38	0.47	0.48
PTMI	3.2.1. Employment in medium-high & high-tech manufacturing (% of workforce);	Eurostat (2007)	0.45	0.58	0.53
PABC	3.2.2. Employment in knowledgeintensive activities as % of total employment;	Eurostat (2007)	0.71	0.46	0.08

## Hypothesis

Null hypothesis we want to test is as follows:

*There is no significant statistically difference between innovation indicators in Romania, Central Region and Finland, Etelä Region, and the Basque Country in Spain.*

In the typical application of ANOVA, the null hypothesis is that all groups are simply random samples of the same population

ANOVA provides a statistical test of whether or not the means of several groups are all equal, and therefore generalizes t-test to more than two groups. Doing multiple two-sample t-tests would result in an increased chance of committing a type I error. For this reason, ANOVAs are useful in comparing two, three, or more means.

## Findings

The analysis of variance has been studied from several approaches, the most common of which uses a linear model that relates the response to the treatments and blocks. Even when the statistical model is nonlinear, it can be approximated by a linear model for which an analysis of variance may be appropriate.

Thus for analysis we considered the three regions as the three variables to be compared with each other. Coding regions was performed as follows: VAR1 represents Etela Region from Finland; VAR2 represents Basque Country in Spain and VAR2 representing the Central Region in Romania.

The question we put on a variable that differs significantly from the others, has found the answer, as a result of Bartlett's test for multiple comparison. Note that variables are ordered according to increasing value VAR 3 indicators (average lowest indicators) to VAR1 (with the highest average indicators). To explain the above table to look at the numbers resulting from the analysis: see next variable VAR2 value 0.155135352. We can say that there is a significant difference between VAR2 and VAR3 because we have a variation greater than 0.155135352. For VAR3 the average is 0.222727273 and for VAR 2 is 0.524545455. You can also see that between VAR2 and VAR1 there is no significant difference between them, the variation is only 0.130 - value less than 0.155135352.

Analyzing the table, we can see that application WinSTAT calculated and defined subsets of variables with groups of data that differ significance of each other. If our analysis subsets are two in number, one of which contains VAR3 representing the Central Region and the second subset is composed of VAR1 and VAR2, namely the Basque regions and Etelä.

The review can see that the null hypothesis is rejected because it demonstrated statistically differences so we propose the alternative hypothesis, namely:

Hypothesis °A: There is significant difference between innovation indicators in Romania, Central Region and Finland, Etelä Region, and the Basque Country in Spain.

## Discussion and conclusions

In this paper we have presented the evaluation of three innovative regions.

The results of our analysis relate that the Finnish innovation system, considered the best in the world, is based on networking between government, academia and the private sector. Similar relationship we find in the innovation system from Spain.

The system approach has deep roots in history. The National Innovation System tradition developed among academics, adding new dimensions to the analysis. A system approach to understanding the organization of research evolved gradually. At the very beginning, there was only one component in the system, or in fact there was no system at all. University research was the basis of all progress, and pure research was contrasted with applied research, which is derived from pure research. The interest of academics here was to preserve a division of labor. This understanding is what we have called above the spontaneous philosophy of scientists. It was shared also among nonscientists very early on.

As it was mentioned earlier in this article, being open to research or even receiving large amounts of funds this way does not guarantee strong economic development. The way these resources are used and industries that are consuming them are far more important. In order to achieve economic convergence transition economies need not only to liberalize their financial and trade systems but also make sure these processes are followed by knowledge transfer. One of the basic indicators of this process is the R&D system convergence.

## References

**Albaladejo M.**

2001

Determinants and Policies to Foster the Competitiveness of SME clusters: Evidence from Latin America, QEH Working Paper Series – QEHWPS 71.

**Athreye S.**

2004

Agglomeration and Growth: A Study of the Cambridge High-Tech Cluster, in the Bresnahan T. and Gambardella A. (eds), Building High-Tech Clusters: Silicon Valley and Beyond, Cambridge University Press.

**Armbruster et al.**

2008

Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys, Technovation,

**Avram Tripon**

2007

Creativitate si inovare pentru proiecte antreprenoriale, Editura Universitatii Petru Maior, Targu Mures.

**Baptista R.**

1996

Research Round Up: Industrial Clusters and Technological Innovation, Business Strategy Review, Vol. 7, No. 2.

**Benko G.**

2000

Technopoles, High-Tech Industries and Regional Development: A Critical Review, GeoJournal 51: 157-167.

**Capron, H., Meeusen, W.**

2000

The National Innovation System of Belgium, New York: Physica-Verlag

**De Propriis L.**

2002

Types of Innovation and Inter-firm Co-operation, Entrepreneurship and Regional Development.

**Dyker, D.A., Radosevic, S.**

2001

Building Social Capability for Economic Catch-up: The Experiences and Prospectus of the Post-socialist Countries, Innovation.

**Dupree, A. H.**

1957

Science in the Federal Government, New York: Harper and Row.

**Godin, B.**

2009a

National Innovation System: The System Approach in Historical Perspective, Science, Technology and Human Values, 34 (4): 476-501.

**Godin, B.**

2009b

The Invention of Innovation: Willam F. Ogburn and the Use of Invention, Project on the Intellectual History of Innovation, Montreal: INRS.

**Hull, A.**

1999

War of Words: the Public Science of the British Scientific Community and the Origins of the DSIR, British Journal of the History of Science, 32, p. 461-481.

**Keeble, D. and Wilkison, F.**

2000

High -Technology Clusters, Networking and Collective Learning in Europe, Ashgate, England.

**Kevles, D.J.**

1971

The Physicists: the History of a Scientific Community in Modern America, New York: Knopf.



**Leskovar- Spacapan, G., Bastic, M.**

2007

Differences in organizations innovation capability in transition economy: Internal aspect of organizations strategic orientation, Technovation.

**Macleod, R., and E. K. Andrews**

1970

The Origins of the DSIR: Reflections on Ideas and Men, 1915-1916, Public Administration, 48, p. 23-48.

**Masso, J., Vahter, P.**

2008

Technological Innovation and Productivity in Late-Transition Estonia, University of Tartu, Faculty of Economics & Business Administration WPS

**Naman, S.L., Slevin, D.P.**

1993

Entrepreneurship and the concept of a fit, a model and empirical test, Strategic Management Journal.

**Peter F. Drucker**

2004

Managementul viitorului", Editura ASAB, Bucuresti.

**Varcoe, I.**

1979

Scientists, Government and Organized Research in Great Britain, 1914-16: the Early History of the DSIR, Minerva, 8, p. 192-216.

# New Evaluation Methods by Means of Open Mobile Technology

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## Abstract

**Purpose** – The paper presents results of the project entitled "Develop open Operative system services for Smartphones that facilitate New Evaluation methods, and enhance the use of Immediate feedback on evaluation" (acronym Done-IT) financed by European Commission.

**Methodology/approach** - Teacher is preparing a number of multiple-choice tests from the study subject. These are distributed to students and each student uses Smartphone to answer the questions.

**Findings** – The mobile student evaluation system for Smartphone gives the teachers a new tool to provide verification or elaborative feedback to students immediately after a test or exam.

**Research limitations/implications** – The evaluation system comprises an embedded automatic marking system, which helps teacher to see the participation degree of the students and results of the evaluation.

**Practical implications** –The Eastern educational systems is based on reproduction of a content required by the teacher and lack of interaction between instructor and students while the Western educational system is based on practical oriented activities, development of projects, interactions between instructors and students by means of new learning technologies. The paper is approaching the educational dilemma between East and West.

**Originality/value** – The main contribution is the Peer Learning Assessment System (PeLe) for Smartphones, a student evaluation system that facilitates active learning.

**Key words:** active learning, assessment system, new learning technology.

## Introduction

In modern economies, and particularly in the context of natural resources scarcity and global competition, output growth largely depends on the ability of firms to find a workforce disposing of the skills needed for they activity, said Lauer (2005). The initial educational achievement undoubtedly represents an essential component of one's overall human capital, even though it is complemented by skills acquired through work experience or training.

There is a dilemma between the post-communist countries, for the way of managing the training/educational system. The Eastern educational systems is based on reproduction of a content required by the teacher and lack of interaction between instructor and students while the Western educational system is based on practical oriented activities, development of projects, interactions between instructors and students by means of new learning technologies.

## Background information

The traditional way of teaching face to face in Romanian universities does not allow participants in the teaching process: teachers and students to verify their learning achievements during partial or final exams in a short period of time and the results are published after a few days, usually 10 days. At this moment "Petru Maior" University of Targu-Mures in Romania (UPM) has a few computer laboratories equipped each of them with maximum 24 computers, on which is possible to

run Learning Management Systems with digital multiple-choice tests/exams for students. Currently we are using LMS Moodle.

From another perspective, Smartphones with high resolution become more popular to the students, the access being conditioned by their price, which becomes cheaper. It is estimated that mobile device could replace in the very near future the access to evaluation tests instead of computer interface. The characteristics of the various devices are so different that the issues related to delivering information and services on the web involve not only presentational aspects, but also structural and navigational aspects (Tortone et al., 2006).

With this background, in order to have access to new evaluation models, UPM has decided to participate in the Done-IT project "Develop open Operative system services for Smartphones that facilitate New Evaluation methods, and enhance the use of Immediate feedback on evaluation" promoted by Sør-Trøndelag University College in Trondheim Norway (HiST) in partnership with other Vocational Education and Training and high education institutions from Norway, Hungary, Slovenia, Sweden and United Kingdom. It is a KA3 ICT Lifelong Learning Programme, available online at <http://histproject.no/node/167>.

The main deliverances of the Done-IT project are the Peer Learning Assessment System (PeLe) for Smartphones. The first prototype has been demonstrated at the International Conference Online Educa in Berlin from November 30 to December 2<sup>nd</sup> 2012, by specialists' from HiST. Also representatives of the UPM joined the presentations. It is an assessment system, which is designed to enhance students learning, with the architecture described by Lu et al. (2011a and 2011b).

### **Objectives**

Advanced educational methods are based on Peer Learning processes, where students learn from their peers. The efficiency of such processes is difficult to measure by use of existing Information and Communication Technologies. Also a challenging problem is to consider using of assessment for learning as a training method, because students are unable to immediately verify their learning during tests/exams as feedback is published after several days or even weeks. Educational institutions have access to computer science laboratories, but these cannot be used during evaluation period for all the campus students. On the other hand, within a few years ahead a lot of students will have access to cheap mobile phones with high resolution pressure sensitive screens.

The Done-IT pilot project, under KA3 ICT call has developed a new evaluation model, where the assessment results from several tests and/or the final exam (summative assessment) in a class are turned into an active, creative and collaborative peer learning process by the use of immediate feedback:

- a) Verification feedback led by a teacher discussing why a particular answer is correct and the others are incorrect;
- b) An elaborate feedback discussion run by students where the answers are displayed but they don't know which are correct or incorrect;
- c) An elaborative feedback discussion led by one student: the deviation from the correct answer without addressing why this is correct and the other ones are incorrect.

### **The evaluation model**

Usually, assessment is a process that measures student's performance of learning by reproduction content. The assessment provides teacher information about:

- The successes of the teaching;
- The measure of learning the thought subject by the students;
- The degree of understanding the thought subject by the students.

This information is collected by the teachers in order to improve instructional methods of teaching from one generation of students to another, for the benefit of the educational process in the

school/university. The collected information, affects the subsequent classes, helping them to be where the teacher want to be at the end of the course.

Evaluation is a process through which instructors/teachers appreciate the quality of teaching by achievements of the students. Considering the moment of evaluation can be: *formative evaluation* by monitoring continuously students learning through ongoing feedback and *summative evaluation*, conducted at the end of the course.

Usually, summative evaluations have a high contribution to the final degree, while formative assessments have low or no contribution to the final degree. Summative evaluation may consist in: final exam, project, essay, report. Results from summative evaluations may be used to improve teaching and learning efforts in the next generation of students.

Martin et al. (2011) have described the use of learning curves for evaluating personalised educational systems and outline some of the potential pitfalls and how they may be overcome.

Usually in higher education, courses are finished with a final exam for assessment of knowledge, as displayed in figure 1. The dotted line indicates the skills obtained by the students. Such courses are usually terminated with a traditional (handwritten) exam.

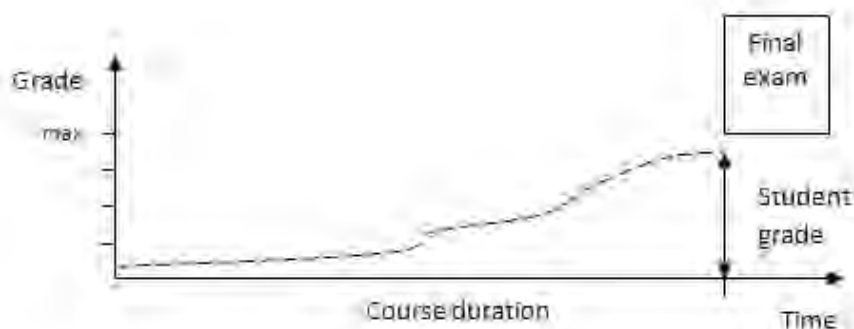


Figure 1. Acquisition of knowledge in a traditional higher education course

Done-IT (<http://histproject.no/node/167>) implements peer learning assessment solutions through verification or elaborative learning processes that utilize immediate feedback after tests and/or exams. The traditional exam (Fig. 1) is replaced with a number of tests (Fig. 2) that provide feedback from the student to the teacher and from the teacher to student. The course may be completed with a smaller final exam since the tests contribute to the final score from the course. Done-IT uses industrial production flow as an educational framework.



Figure 2. Acquisition of knowledge in a course using several smaller tests in combination with PeLe

PeLe is a new evaluation model where test results for a class are turned into an active, creative and collaborative learning process by the use of immediate feedback, described by Stav (2011):

- The verification feedback leaded by the teacher allows demonstrate the students why a particular answer is correct and why the others are incorrect;
- An elaborate feedback discussion run by students: the answers are displayed but they don't know which are the (in)correct ones;
- An elaborative feedback discussion led by one student: the deviation from the correct answer without addressing why this is correct and the other ones are incorrect.

The mobile student evaluation system for Smartphones gives the teachers from “Petru Maior” University of Tirgu-Mures a new tool to provide verification or elaborative feedback to students immediately after a test or exam. Students still remember questions after testing, and in this way they have the opportunity to learn the reason an answer is correct or not. This method is a collaborative supported learning that helps students to improve their knowledge in the study subject. Thus, mobile technology provides new evaluation and testing criteria for education and training.

The industrial production flow is used as an educational framework, and modern response service technologies are implemented in order to promote immediately after completion of test and exams the use of peer learning assessment methods.

### The assessment

The assessment phases include several steps.

Step 1: A typical PeLe session consists in running the application on a digital smartboard and the participants can see the display on their monitors. The computer running the PeLe application (Fig. 3) is connected to a server located in Trondheim, Norway, and the computer screen is displayed on the smartboard.



Figure 3. The application interface

Step 2: During the assessment the students are handed the test either on paper or projected on a screen, and respond to it using an electronic device (Fig. 4) like a Smartphone, iPod, pad, computer, that are connected to the same server in Trondheim. The teacher is monitoring the activity in real time, and if necessary scrolling the questions.



Figure 4. Students interface on login

Step 3: The result consideration phase is after the test submission, when the students get a short break. Teacher uses this phase to obtain a complete overview of the results submitted by the students.

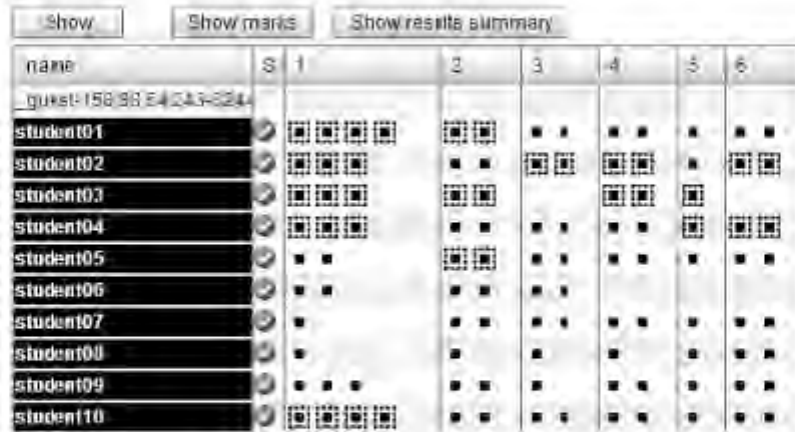


Figure 5. The results submitted by the students

The PeLe interface (Fig. 5) provides an overview of how the students have answered the assessment. It allows identifying the problematic questions, the students that have more problems than others, the students who need special attention, etc.

The post-assessment activities can be done by the teacher as effectively as possible due to the software interface that is designed as a tool which ensures that. A question with a high proportion of incorrect answers from students is highlighted, so that the teacher may spend more time on it when reviewing the test. The teacher uses this information to select the problematic questions (Fig. 6) in order to prepare the most important part, from a learning perspective: the post-assessment activities.



Figure 6. Problematic questions

Step 4: In the post-assessment phase, new questions are elaborated, in connection with the problematic questions from the testing phase. They are used by the teacher to provide verification or elaborative feedback in order to enhance new learning activities.

In this way, the assessment system is used to reveal the test results (Fig. 7) and promote and enhance the peer-learning process. The teacher engages the students in a process where they learn from the problematic questions they have just spent time trying to solve. Students experience with learning processes and response technologies have been described by Thorseth and Stav (2011). Experiences with use of online response technologies for Smartphones in education of engineers have been reported also by Hansen-Nygård et al. (2011a and 2011b).

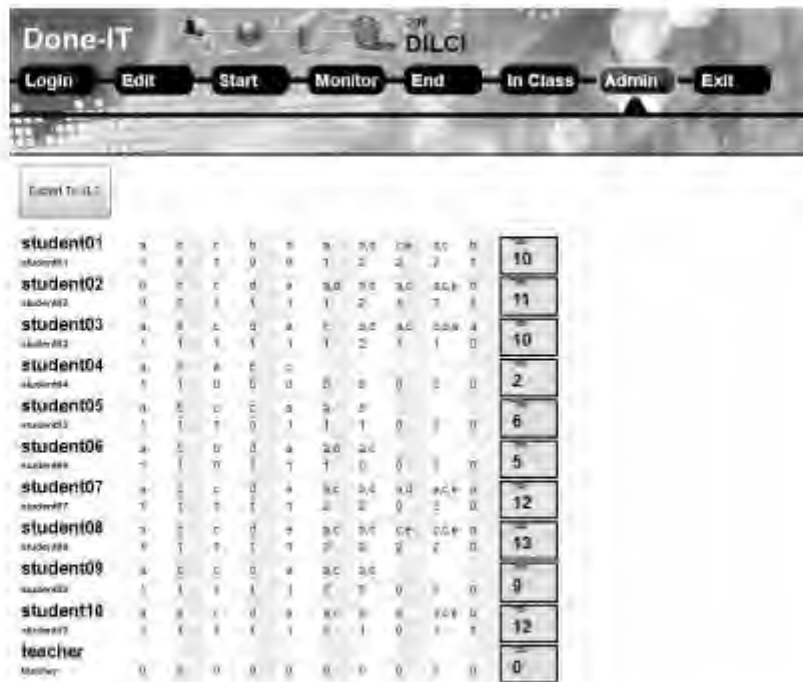


Figure 7. Final results

In UPM, the PeLe evaluation model is used in combination with state of the art video adapted e-learning solutions. The first testing of PeLe for mobile devices was done over a period of 4 weeks. Students' feedbacks on the system were collected from a survey given at the end of the test period. A selection of the results obtained from 37 students appreciates that: a) *First impression of the PeLe is:* excellent (3), very good (21), satisfactory (6),...; b) *By using PeLe I had a chance to learn from peers:* strongly agree (6), agree (18), neutral (7)..., etc. As a conclusion we appreciate that most of the students are satisfied with the use of the PeLe.

### Discussion and conclusions

Sør-Trøndelag University College of Trondheim in Norway is coordinator of the project "Develop open Operative system services for Smartphones that facilitate New Evaluation methods, and enhance the use of Immediate feedback on evaluation" (acronym Done-IT), financed by European Commission, having partner "Petru Maior" University of Tirgu-Mures (<http://histproject.no/node/167>). During the project we have employed the PeLe in a few courses delivered for students.

The evaluation system comprises an embedded automatic marking system, which helps teacher to see the participation degree of the students and results of the evaluation.

During the post-assessment phase teacher analyses the results and provides explanation of the particular questions. Students are turned into an interactive, creative and collaborative peer learning process by use of immediate feedback:

- The teacher displays the results making an analysis and explanation to each question, which choices are correct and why the others are incorrect?
- A peer learning discussion is following giving feedback on students' performance that enables students to restructure their understanding and skills on evaluated subject. In this way students build immediately more powerful ideas and capabilities;
- Depending on the teacher strategy of teaching, may invite the students to take part in a 2nd chance assessment. Each student decide if will accept or not the 2<sup>nd</sup> chance, or to participate further in the learning process.

During the learning process, the assessment system immediately recognizes and responds to students learning in order to enhance that learning. The feedback information generated by peer learning assessment is of benefit for students, as well as for teachers.

### **Acknowledgement**

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### **References**

**Hansen-Nygård, G., K. L. Nielsen, J. B. Stav, T. M. Thorseth and K. Arnesen**

2011a

"Experiences with online response technologies in education of engineers." International Conference on Computer Supported Education (CSEDU 2011) conference, 6-9 May 2011, Noordwijkerhout, Netherland.

**Hansen-Nygård, G., K. L. Nielsen, J. B. Stav, T. M. Thorseth and K. Arnesen**

2011b

"Experiences with use of Open, Web-based Student Response Services for Smartphones." International Technology, Education and Development Conference (INTED 2011), 7-9 March 2011, Valencia, Spain: 4944-4950.

**Lauer, C.**

2005

"Educational attainment in France and Germany." Education and Labour Markets Outcomes. ZEW Economic Studies, 2005, Volume 30: 37-93.

**Lu, J., A. Sundaram, Z. Meng, A. Priya, G. Lu, J. B. Stav**

2011a

"Mobile Exam System – MES, Architecture for Database Management System." The International Conference on Education & Learning in Mobile Age - CELMA, 1-2 June 2011, Lake District, United Kingdom.

**Lu, J., A. Sundaram, and V. Arumugam**

2011b

"Innovative Evaluation System – IESM: An Architecture for the Database Management System for Mobile Application." ICOMP'11 - The 2011 International Conference on Internet Computing, 18-21 July 2011, Las Vegas, USA.

**Martin, B., A. Mitrovic, K. R. Koedinger and S. Mathan**

2011

"Evaluating and improving adaptive educational systems with learning curves." User Modeling and User-Adapted Interaction, Volume 21, Number 3: 249-283.

**Stav, J. B.**

2011

"Designing new assessment methods that turn immediate results obtained in tests, into a creative learning tool by use of Smartphone's." The 3rd annual International Conference on Education and New Learning Technologies, 4-6 July 2011, Barcelona: 6797-6800.

**Thorseth, T. M. and Stav, J. B.**

2011

"Students experience with learning processes, response technologies and webapps for Smartphone's." The 3rd annual International Conference on Education and New Learning Technologies, 4-6 July, 2011, Barcelona: 6733-6740.

**Torlone, R., T. Barbieri, E. Bertini, A. Bianchi, M. Billi, D. Bolchini, S. Bruna, L. Burzagli, A. Cali, and T. Catarci**

2006

"Methods and Tools for the Development of Adaptive Applications." Mobile Information Systems, 2006, Part III: 209-247.

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# Reshaping sustainable development on safe and rational premises

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## Abstract

**Purpose** – This paper advocates for the need of a new type of growth and puts forward a solution for a valid sustainable development by reshaping its concept on safe and rational premises.

**Methodology** – The approach tackled by this paper consists of two steps: (1) it argues on the need of a new model of development, and (2) it establishes a new model of growth, saferational development, perceived as a regular tetrahedron, where the former concept of sustainability is enriched with a safety dimension.

**Findings** – The paper identifies new solutions for a smart future growth, based on safe and rational foundations.

**Research implications** – This paper articulates a clear vision for the future growth by explaining the saferational development through the facets of a regular tetrahedron.

**Practical implications** – The rethinking of the sustainability concept and the building of a new powerful model of development might constitute the proper answer to the present shattered world order.

**Originality/value** – The paper demonstrates that the term of sustainability must be enriched with another dimension that covers a safe and rational behaviour, and must be accordingly designated as a new type of development, namely saferational development.

**Key words:** sustainable development, welfare

## Introduction

We live in a world that needs rethinking the sustainability concept and building of a new powerful model of development considering the present shattered world order. The current crisis and recent evolutions emphasized two important dimensions of a sound development: the security and the rational dimension of a smart future growth. Stable, robust and steady growth involves economic, social and environmental concerns, but also security that safeguards this smart growth. This might entail different approaches tackled by the poor and rich nations, but the result constitutes a new world order, based on safe and rational premises.

Sustainable development alone belongs to the pre-crisis past. The recent evolutions faced the world with lots of problems, but encompass also the solutions. Therefore a saferational development is the answer today, where the security and rational aspects should be dominant and should dictate our choices. Several researchers affirm that we should live according with the prerequisites of the era of knowledge societies [Kalfoglou Y., 2007]. Others argue that we have to live an ecological era where the restoration, organic farming, eco- and bio-economy and other correlated prefixes are the main societal demands [Horlings I. et al., 2010]. A number of researchers advocate that a green revolution is needed, while others suggest that the sustainable development is not sustainable per se [Aras G., 2009]. Bottom line is that what the world needs today is a fundamental transformation and, in my opinion, the new society must be built on safe and rational foundations, where current needs and aspirations of rich and poor nations must be acknowledged, but tackled in a new behavioural pattern.

## Assessment of the need of a new model of growth

Sustainable development was primarily used as a term by Brundtland Commission in 1987 and it was defined as a “development that satisfies the needs of the present without compromising the future generations’ ability to meet their own needs” [Brundtland, 1987], in terms of sound economic, social and environmental progress. However, for the sake of a declared concern about the future generations needs, important liabilities are presently introduced that jeopardise the present generation wellbeing and therefore the next ones too. What is seen as a sustainable solution for tomorrow may not be bearable today, economically or socially. Therefore, in the absence of safe and rational approach of resources, the present generation wellbeing will be jeopardised and the next generation may simply not exist.

Sustainability concept produced no significant results [Momete D.C., 2012]. Within the forty years after the 1972 Stockholm Conference on the Human Environment, and after a myriad of summits, conferences, workshops, speeches, declarations of intent and about 900 environmental treaties that come into force [Backhaus J., 2012], the environmental damage has worsen. Since the introducing and the popularization of the sustainable development, prevailing unsustainable trends were encountered all over the world. The world economy failed to meet the stakes of 1972 Conference on all aspects, economic, social and environmental. Figure 1 portrays the changes in global gross domestic product (GDP) per capita values, along with the emissions of CO<sub>2</sub> resulting from burning fuels and global Gini coefficient values from 1972, expressed as an index (1972 = 100).

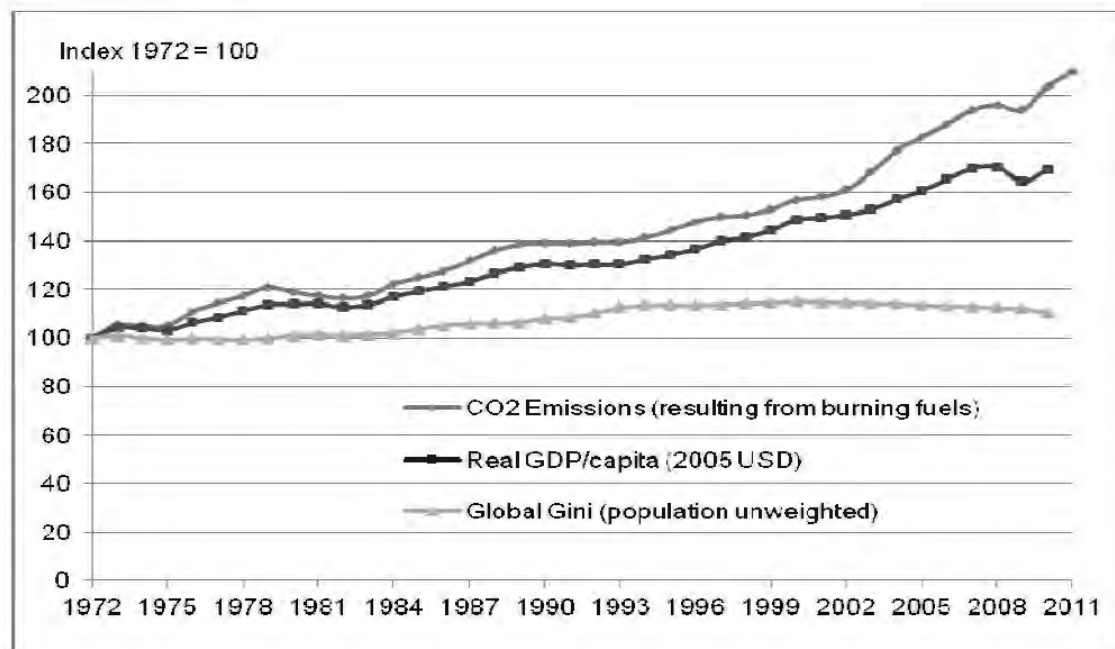


Figure 1. The outcomes of sustainable development.

Source: author's own calculations based on: [British Petroleum, 2012] for CO<sub>2</sub> emissions values, [United States Department of Agriculture, 2012] for GDP/capita values and [Lafleur B, 2012] and [Milanovic B., 2005] for global Gini values.

The global economic growth was substantial, but with large oscillations over the 1972-2010 period [United States Department of Agriculture, 2012] and was also characterised by increased inequalities among individuals in terms of welfare. Gini coefficient, which varies between 0, showing perfect equality and 1, showing perfect inequality, was employed for assessing the differences between richest and poorest individuals around the globe by using Milanovic (2005) recommendations. The global CO<sub>2</sub> emissions, resulting from burning fossil fuels, doubled in size [British Petroleum 2012], while total CO<sub>2</sub> emissions sharply increased from 330 parts per million (ppm) in 1972 to 390 ppm in 2010 [National Oceanic and Atmospheric Administration, 2012], registering a 19 percent increase over the period. At the same time the wheat-related natural disasters have registered a tripling in size since the 1970s [World Health Organization, 2010]. Therefore, a

safeguard should be placed and the sustainability concept that must be changed and enriched with other dimension, safe and rational behaviour, consequently becoming a safe and rational development – saferational.

The recent evolutions showed that the authorities react by trying to cover all the aspects, economic, social and environmental at the same time, without the prior consideration of priorities given by a certain situation. In such a way, on the quest towards the welfare of tomorrow, some aspects will be always neglected as the education, for instance. Education will always be a “Cinderella” when speaking about investment and will never receive sufficient financial support, as is happened for twenty years in Romania, if the actual insufficient and irrational policy measures are maintained. The actual pattern of reaction to crisis generated a deepening of the crisis and therefore two important dimensions are to be considered: the security and the rational dimension of a smart future growth. Therefore, the new post-crisis society must be built on safe and rational premises, where all the four dimensions of a saferational development, economic, social, environmental and safety, must be wisely and rationally balanced.

### Conceptual explanation of a new model of growth

The world needs a fundamental transformation, therefore sustainability must be enriched with another dimension that covers a safe and rational behaviour. The theoretical argument of this paper is based on the emphasis of the saferational development as a regular tetrahedron of development where the four dimensions are based on the three former pillars of the sustainable development enriched with a safety dimension. Climate change is considered to be a part of the national security and is not included into the environmental facet, which was more laxly tackled by the authorities, but instead in the safety zone. The four components of the tetrahedron are identified as economic, social, environmental and safety (ESES):

- Facet 1: Economic: stable and reliable economic growth.
  - Facet 2: Social: education, training, labour.
  - Facet 3: Environmental: pollution, biodiversity.
  - Facet 4: Safety: security of supply, financial safety, social safety, climate change, and classical security issues (like terrorism and political stability, industrial hazards, etc).
- } Rationally tackled

The four faces of the regular tetrahedron can be flipped over and the base will generate the main answer, depending on the needs. The base is considered the part resting on the bottom, as safety is depicted in figure 2. In such a way, the answers to the problems will be dominated by a rational behaviour, and decisions are easier to make when the authorities know what to tackle first to overcome a problem, in a step-by-step approach.

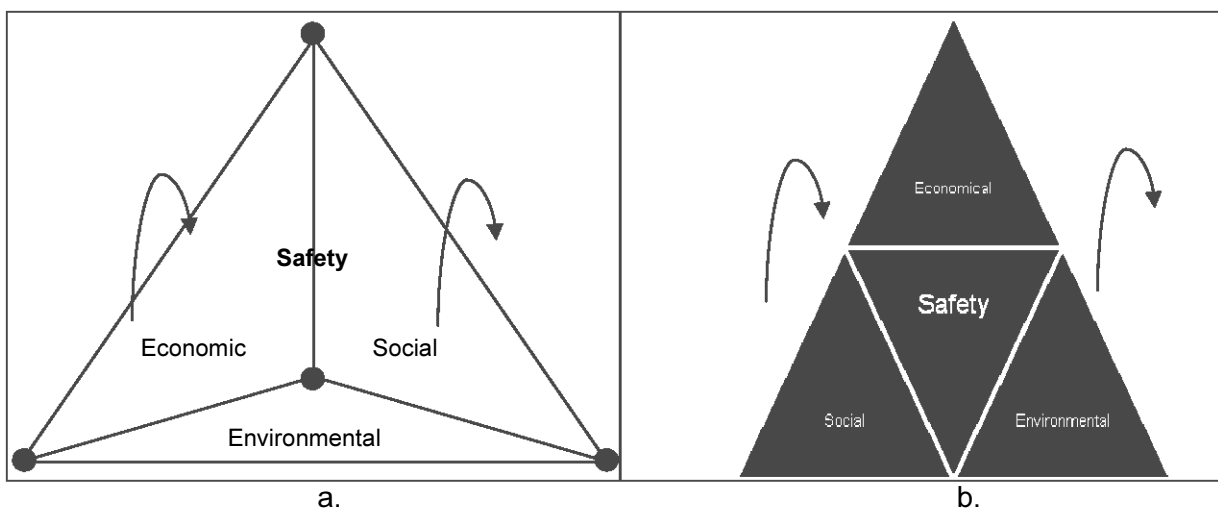


Figure 2. The ESES regular tetrahedron of saferational development: a. The regular ESES tetrahedron; b. The ESES evolutent.

As a result, when a crisis is setting in/developing, the safety aspect prevails over the others and the measures taken are to cope to:

- security of supply, in terms of access to material resources and their quality (as energy, water, etc);
- social safety, in terms of the equal access to social resources (pensions/unemployment/health insurances);
- financial safety, in terms of the security of banks and of the financial arrangements (involving the determination of social cost of certain financial systems that are to be rethought).

These imply changing of consumers' behaviour, changing policies and supporting technologies that will solve the crisis. In the same manner, when the economic aspect will be considered as the main actor and will be the base, the economic growth and poverty reduction are to become the main drivers, leaving all the other measures in supporting roles. Equally, when social measures are thought as the main answers, social face will become the base and education, training and social progress are to be supported with priority.

Saferational solutions incorporate the principle of affordability, as a sustainable solution for tomorrow may not be bearable today, economically or socially, or may generate other unforeseen problems, as that of biomass that proved to produce cascading effects on sustainable development, if unwisely approached [Momete D.C., 2011]. Moreover, the human beings must redefine the way in which they live by adopting an adaptive development and important behavioural change based on the efficient use of materials. However, this would depend on the national specificity of a country that should rethink its priorities according with its domestic endowment, needs and culture. Rich and poor nations should be part of a new convergence and they must share common, but adapted to their specificity responsibilities, considering the possibility of maximising the benefits of employing the saferational development concept.

## Conclusions

The paper identifies new solutions for a smart future growth, based on safe and rational premises. The recent recession showed its effects on the national choices, when security of supply came first when dealing with national priorities. This indicates the importance of the safe and rational aspects in dealing with economies. Changing policies and replacing/supporting technologies for the sake of a declared sustainability and profitability, without the prior consideration of what is safe and rational, will not necessarily contribute to the development of a sustainable future, neither for the rich economies, nor for the poor ones.

## Acknowledgements

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## References

### **Aras G. and Crowther D.**

2009

"Making sustainable development sustainable", Sustainable development, 47/6: 975-988.

### **Backhaus J. (Ed)**

2012

"Sustainable lifestyles: today's facts & tomorrow's trends", Energy Research Centre of the Netherlands, Netherlands.

### **British Petroleum (BP)**

2012

"BP Statistical Review of World Energy", available at [www.bp.com](http://www.bp.com).

**Brundtland H. (Chairman)**

1987

“Our Common Future”, World Commission on Environment and Development (WCED): 363, Oxford University Press, New York.

**Horlings I., Kitchen L., Marsden T., and Bristow G.**

2010

“Exploring the potential contributions of the bio– and eco– economy to agri-food and rural regional development”, Centre for Business Relationships, Accountability, Sustainability & Society (BRASS), Cardiff University.

**Kalfoglou Y.**

2007

“Knowledge society arguments revisited in the semantic technologies era”, International Journal of Knowledge and Learning, 3 - 2/3: 225-244.

**Lafleur B.**

2012

“World income inequality”, The Conference Board on Canada, available at [www.conferenceboard.ca](http://www.conferenceboard.ca).

**Milanovic B.**

2005

“Worlds Apart: Measuring International and Global Inequality”, Princeton University Press.

**Momete D.C.**

2011

“Analysis of sustainable biomass: a three-dimensional approach”, Revista Recent, 12/3 (33): 321-326.

**Momete D.C.**

2012

“Assessment of the outcomes of sustainable development goals”, Annals of the Oradea University, Fascicle of Management and Technological Engineering:74-79, 2012.

**National Oceanic and Atmospheric Administration (NOAA)**

2012

Mauna Loa Observatory, Hawaii, United States, available at <http://www.esrl.noaa.gov>

**United States Department of Agriculture (USDA)**

2012

Economic Research Service, International Macroeconomic dataset, <http://www.ers.usda.gov/Data/Macroeconomics/>.

**World Health Organization**

2010

“Climate change and health”, Fact sheet No. 266, January 2010.

# World Class Manufacturing Production System Assessment (WCMPSA)

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## Abstract

**Purpose** – This article aims at offering essential guidance in order to draw and perform the production system assessment for industrial Romanian companies.

**Methodology/approach** - Based on a benchmark analysis (production systems defined by several automotive companies) and company strategy a production system assessment template was developed, and it was validated through a case study.

**Findings** – The assessment template developed was used during a training session in order to evaluate trainees' understanding, to perform the company's initial assessment and to involve them in the implementation plan drawing up.

**Research limitations/implications** – The process of design and validation of a production system assessment was developed based upon only one Romanian company. The process can be the same for different companies from the automotive sector or any other industry.

**Practical implications** – Realizing the gap between industry leaders and current production system, is the first step in a process aiming towards employee's development and business orientation for world class manufacturing techniques.

**Originality/value** – The process of design and validation of a production system was developed based on Romanian companies' local condition, including cultural aspects. Key points for a good design and usage are articulated.

**Key words:** production system, world class manufacturing, assessment

## Introduction

In the last 20 years several Western companies have transferred their production facilities to Eastern countries, in order to take benefits by employees' low cost. Each company knows that this competitive advantage will be lost in a period of 8-12 years. The possibility to maintain this competitiveness is to introduce the more advanced production tools and methods, first step being the evaluation of the current status compared with the leaders of the market and the definition of the gap and implementation plan.

The organizations' competitive advantage is determined by the world class manufacturing tools and methodologies applied inside the factory, known under different production system names such as "World Class Manufacturing", "Lean Manufacturing", "Agile, Lean Six Sigma" and so on. For that company that initiates a developing process in this direction, the first step is to evaluate the current status and to shape a vision about what should be implemented.

## General frame

Beyond all benefits generated by complex machinery or last moment technology, the competitive advantage of industrial companies is provided by the systems put in practice. All companies should be aware of their position in their industry segment by comparison with their best competitor (benchmarking analysis), or with the best systems of World Class Manufacturing (WCM), and therefore they should be able to initiate challenging optimization and development projects.

In order to allow this sort of comparison, the elaboration of evaluations is imperative. The multinationals from the automotive industry have created their own assessment systems, each corresponding to the degree of maturity reached by the company. For an industrial entity that desires to set its own production system, the development of an assessment method can be generated by already existent and well – known surveys, yet, any of these should be adapted to the context, i.e. the phase of implementation concerning the production system (PS), which is valid within that company: starting point/ re-launch, maturity or consolidation. The proposed method - World Class Manufacturing – Production System Assessment (WCMPSA) was elaborated and applied within a Romanian automotive company at its launching phase of implementation for a new PS. The assessment was made by the technical personnel of the company, as a consequence of training sessions focusing on the presentation of the main techniques and methods. The assessment aimed on the one hand at identifying all primary operational practices to be implemented with priority and the development of an implementation plan, and on the other hand, at estimating the degree of expertise and performance of WCM techniques.

The WCMPSA assessment is part of a more complex evaluation – “The techno- economical assessment of quality costs”, a method developed by author based on the Halifax’s–Z theory, which takes into consideration, according to Smister (2011), the internal attitude towards personnel training and manufacturing processes, as well as the customer standpoint and the economic and financial position.

The evaluation proposed by WCMPSA, will be based on a technical assessment of all internal processes, in relation to customer requirements, WCM technologies, methods and techniques, without putting aside the organizational culture and inherently, the degree of expertise and stimulation manifested by the company’s personnel.

### **WCM methods and techniques for the automotive industry production systems**

World Class Manufacturing system, methods and techniques, according to Halevi (2004), address the manufacturing environment, logistic activities as well as administrative activities and they lead to considerable improvement of the company’s performance, by putting in place waste reduction and elimination, with minimum costs, and by ensuring prompt reaction to customer demand, increase of productivity, as well as improvement in the working area, stimulation of employees and safety conditions.

The fundamental techniques, are: 5S activities & Visual Management, Standard work approach and Continuous Improvement, Employee suggestion system (Japanese term: Kaizen Teian), Team work (Workshops activities), Basic Problem Solving and FORD 8D. These methods and techniques can be implemented at all levels within the company, at a very rapid pace and with highly effective results.

Advanced methods such as: Total Productive Maintenance – TPM, Just in Time - JIT, combined with Pull Systems and Kanban (Japanese term for signal), require a step – by – step implementation.

An approach that lately is being tackled by the vast majority of companies is the process – based approach. On an overall perspective, Value Stream Mapping is being employed, whereas, at the level of manufacturing or logistic processes, the technique known as FMEA (Failure Mode Effect Analysis) is used, along with its derivations: DFMEA - Design – FMEA, PFMEA: Process FMEA and LFMEA: Logistic FMEA.

Other methods are also put in practice as additional support for process implementation: Quick Changeover or Single Minute Exchange of Die – SMED and Error Proofing (Japanese term: Poka Yoke). Keeping critical and particular process characteristics under control, by reducing their variation is being accomplished by means of DMAIC technique (Define, Measure, Analyze, Improve, Control), inherent to statistic control of processes.

Globalization incurred elimination of boundaries among countries, industries and companies. The most advanced processes look at the entire supply chain, and finally to the end user. Conse-

quently, many companies have initiated and elaborated to detail Supplier Chain Management development programs.

One key lean tool is that of „Production System assessment”. When used correctly, the assessment allows the users to perform “gap” analysis to compare the current state to a Lean future state. It allows everyone to discern at a glance where the organization is and where should be after achieving a more Lean state. If it is done frequently, the assessment has the role to monitor progress in relation to Lean concepts/ tools; it is not meant to replace bottom-line metrics such as work-in process, inventory turns, scrap reduction, value-added time, cycle times, etc. It will allow the organization to communicate Lean language using a common visual tool, as presented in figure 1, according to Strategos Inc. (2011).

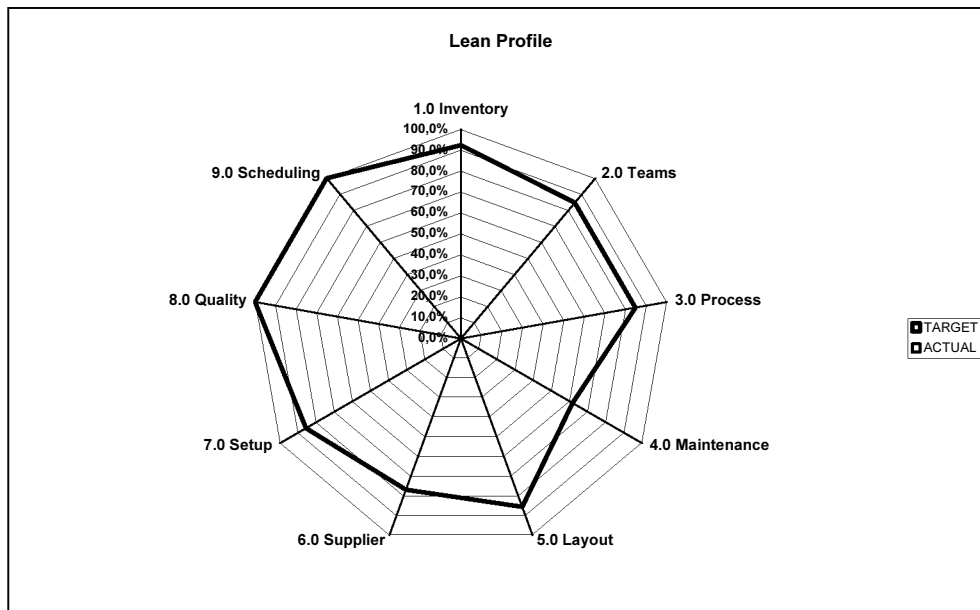


Figure1. Visual chart for production system assessment

Production system assessment is an indicator also for sustainability. Sustainability is a common problem with any business philosophy. Often, these problems come about as a result of lack senior commitment, no goal alignment throughout the organization, lack of understanding and no alignment to strategy. A real implementation means a behavioral and cultural change.

Knowledge of these concepts and specific expertise is essential to identify techniques that can support the company development.

### Assessment systems used by automotive industry leaders

The automotive industry is known as probably the most dynamic segment for development and implementation of production management techniques. In order to identify and assess the degree of expertise and performance have been evaluated the best PS implemented in Romania: the Ford Production System, Ford (2001), and the Autoliv Production System, Autoliv (2005). Templates presented by consulting companies and studies in the area have been consulted: AME (2010), Strategos Inc. (2011), Lean Romania (2010). As a consequence of this perusal concerning the following conclusions has been reached:

- the assessment of the production system is closely related to strategic programs;
- assessment could be performed internally, by the personnel directly involved, under the guidance of the internal specialist (within the organization – of that particular division or of the group) or of an external consultant; for this undertaking to be possible, the people involved need to have sound knowledge regarding WCM techniques;



- the PS assessment doesn't evaluate the manufacturing techniques only, but also looks at the organizational environment, at the expertise and attitude of the technical personnel and management;
- the assessment must take into account each phase of implementation for the PS: starting point/ re-launch, maturity, or consolidation; consequently, a simplified evaluation offers an overall image, whereas, a complex evaluation will absorb more and more elements specific to that company, in order to differentiate the degree of implementation;
- the most advanced methods allow the assessment of each technique by means of PDCA (Plan, Do, Check, and Act).

### **Assessment template design**

One element in re-launching an implementation of a production system within a Romanian organization from the automotive industry constitutes the assessment of the initial state of fact. The evaluation of the production system was carried through by the technical personnel of the company, who, within a training session, have been presented the main techniques and methods. The assessment aimed not only at evaluating the expertise and performance of WCM techniques, but also at identifying the methods which should be regarded as priority and at elaborating an implementation plan.

A relatively simple assessment method has been developed, easily to put in place, under the form of a questionnaire: World Class Manufacturing Production System Assessment (WCMPSA).

The following areas have been selected and put under scrutiny:

- Team work, PDCA, working by objectives (on short TW),
- 5S and VM - Visual management (on short 5S & VM),
- Standardized work (on short SW),
- VSM, Waste elimination and Gemba principle: Japanese term which means to go to the place where the problem occurs (on short VSM),
- Total productive maintenance (TPM),
- Just in Time (JIT) main domain with the following components: JIT - Level production, JIT - Continuous flow, JIT - Material control/ pull system, JIT - Line layout and flexibility (Quick changeover),
- Employee Involvement (on short EI), main domain with the following components: EI - Cultural awareness, EI - Continuous improvement,
- Prime Quality (on short PQ), main domain with the following components: PQ - Quality methods (Error proofing), PQ - Quality Assurance, PQ - Supply management

Each area is characterized by a series of criteria clearly outlined, scored from 1 to 4 according to the following rule:

- 0: there is no evidence of the element (0 percent)
- 1: it can be identified in some places (25 percent)
- 2: it can be detected in some places, but not for the majority of cases (50 percent)
- 3: almost everywhere, some exceptions (75 percent)
- 4: it is present everywhere in the plant (100 percent)

As an example, the EI - Organization culture field has been described and thoroughly analyzed:

- Plant management communicates with shop floor workers regarding employee satisfaction and organizational objectives at least twice per year.
- Employees are able to accurately describe the organization goals and how their job contributes to the achievement of those goals.
- There is a formal process for production workers to regularly receive feedback on problems detected in downstream processes and at the customer.
- There is a formal process in place that provides shop floor workers the opportunity to work in groups to address performance, quality or safety issues.

- Shop floor employees understand and can use common performance metrics to monitor and improve production processes.
- When problems in the production process occur they are detected and investigated within 10 minutes of the first occurrence. (e.g. Whether it be engineering, maintenance or support personnel there is a sense of urgency to rectify problems when they occur.)
- Production engineers and support staff routinely goes to the spot of a problem in production to assess the actual situation, to identify problems and involve the production workers in analysis and decision making process (Gemba).

### **Assessment and results usages**

During the training session (2 groups x 2 days x 8 hours), the assessment questionnaires have been applied, after introducing the WCM techniques and methods. The participants have examined an individual domain, in groups of 3 - 4 persons, they scored them, and then they presented to the entire group the analysis, deciding with the rest of the participants the final scoring. Following the debate, and the review of the assessment questionnaires, the following conclusions have been reached:

- the objectives of a PS implementation were defined: customer satisfaction, profitability and organization sustainability (defined as a self – supporting system, by means of a continuous development and without generating waste of resources);
- the general implementation of the system was scored at 47.10 percent (Figure 2 and Table 1);
- the degree of expertise in WCM techniques is differentiated; some of the company's employees displayed a general degree of expertise in some techniques (e.g. TPM), other employees had particularly high experience in working with these techniques; it was concluded that informing and making aware as many employees as possible would constitute an extremely value adding process;
- putting in practice the operational practices has been marked out as an extremely challenging trial and the participants have emphasized: the necessity of an overall and structured approach (by avoiding isolated projects, with no connection among each other), the usage of methodologies' steps and discipline throughout the whole process.

The following priorities in the process of Production system implementation have been pinpointed (Figure 3):

- 5S and visual management (29 proposals)
- Employee involvement (18 proposals)
- VSM & waste reduction (17 proposals)

The results have been summed up and presented to the top management. The PS evaluation and the identified priorities, along with the strategy of the company constituted the foundations for a three year implementation plan with clearly articulated actions to be put in place.

### **Discussion and conclusions**

- All assessment should contain the following phases: preparation, choosing the assessor and the method, analysis of result and elaboration of the report and putting in practice its conclusions.
- The production system assessment starts from world-class methods selection, possible to be implemented and consulting assessment surveys developed by industry leaders continuing with the definition of the scope and evaluation framework
- For the company under review was developed and applied a relatively simple evaluation that took into account the re-launch phase of the system the final goal being the PS implementation plan.
- For the future, it is recommended to develop a more complex assessment, to monitor progress and sustainability of the system being implemented.

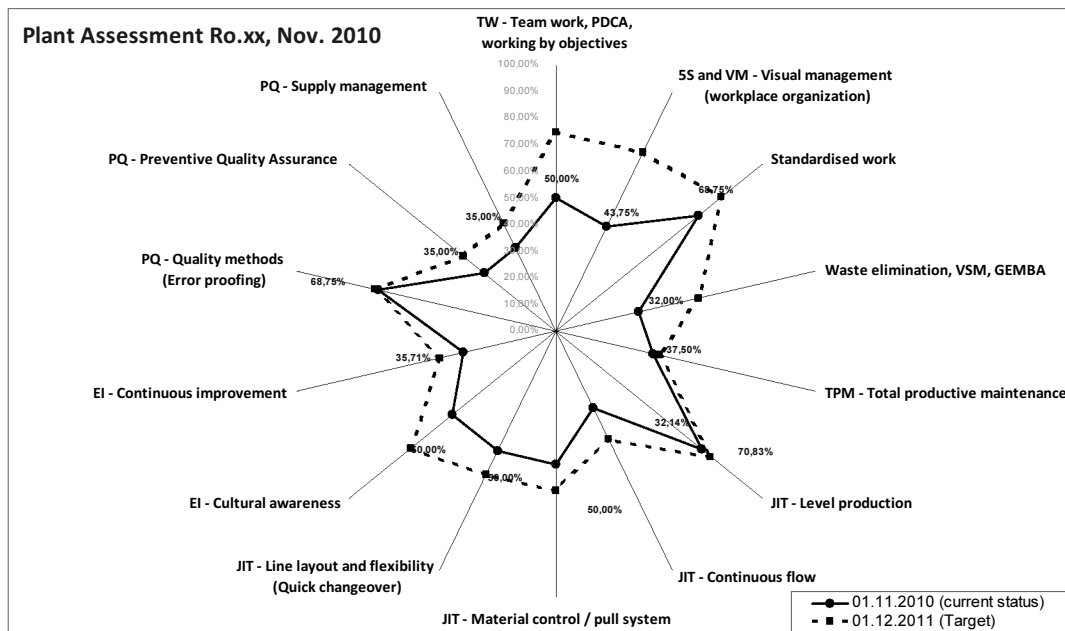


Figure2. Production System definition and initial assessment

Table 1. Production system areas assessment

Domain	Data: nov.10
TW - Team work, PDCA, working by objectives	50,00%
5S and VM - Visual management	43,75%
SW - Standardized work	68,75%
VSM - Waste elimination, GEMBA	32,00%
TPM - Total productive maintenance	37,50%
JIT - Level production	70,83%
JIT - Continuous flow	32,14%
JIT - Material control / pull system	50,00%
JIT - Line layout and flexibility (Quick changeover)	50,00%
EI - Cultural awareness	50,00%
EI - Continuous improvement	35,71%
PQ - Quality methods (Error proofing)	68,75%
PQ - Quality Assurance	35,00%
PQ - Supply management	35,00%
Total	47,10%

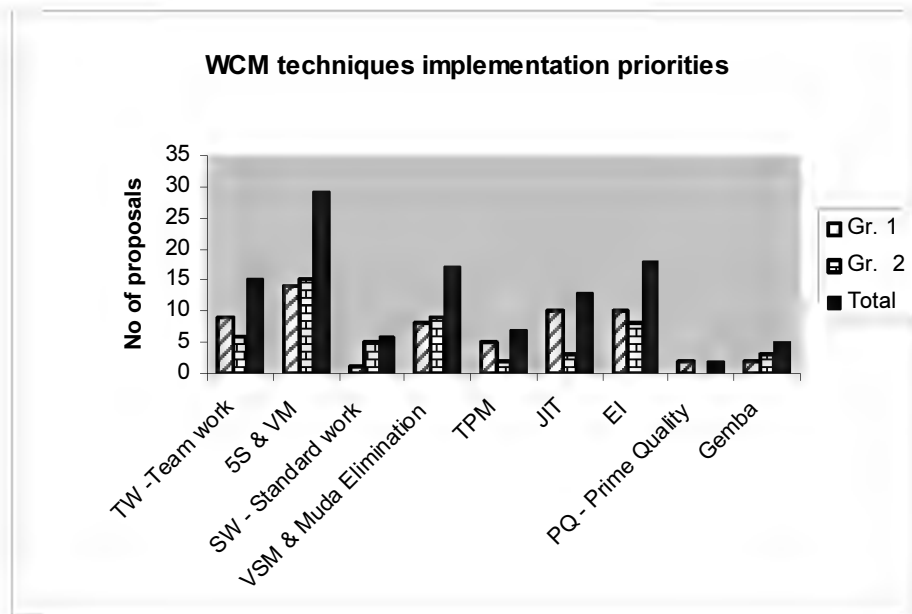


Figure 3. WCM techniques implementation priorities

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### References

**Simister, P.**

2011

"Balanced Scorecard As A Performance Measurement System",

<http://www.differentiateyourbusiness.co.uk/balanced-scorecard-as-a-performance-measurement-system>

**Halevi, G.**

2004

"Handbook of Production Management Tools", Production and Operations Management, Eastern Economy Edition, Fourteenth Printing (Second Edition), 2006, ISBN-81-203-2767-5

**Ford Resource Centre**

2001

"Lean Manufacturing – Site Focused lean deployment"

**Autoliv Inc.**

2005

"Autoliv Production System" <http://www.autoliv.com>

**Strategos Inc.**

2011

"Lean Assessment", <http://www.strategosinc.com>

**Lean Romania**

2010

"Lean Assessment", <http://www.lean.ro>

**AME - Association for Manufacturing Excellence**

2010

"Lean Assessment Tool"

[http://www.ameconference.org/uploads/media/baltimore2010/ame\\_baltimore\\_brochure.pdf](http://www.ameconference.org/uploads/media/baltimore2010/ame_baltimore_brochure.pdf)

# Knowledge–Based Management – Management Of The Future

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## Abstract

*The purpose of our research are: to evaluate the stage of knowledge-based management development in the world and to try to formulate a better denition of both – science and praxis of knowledge-bases management. In order to achieve this we have analysed several hundred of books and papers dedicated to the knowledge-based management, focusing on the identification of the main new managerial approaches. As the result, we have identified three main knowledge-based management approaches: IT, consultants and managers. We have characterised each of them showing certain strengths and limits from scientific and pragmatic points of view. Starting from these analysis, we have formulated the new definitions of knowledge-based management science and knowledge-based management practices, pointing out some features. These represent our original contribution to the development of the knowledge-based management field.*

**Keywords:** *knowledge, knowledge based management science, knowledge based management praxis.*

## Introduction

During the last four decades have been published a very large number of books and – especially studies – on the new field of management. They are very diversified from many points of view, reflecting authors, the degree of development of the national economy involved, personality and experience, the level of their management knowledge, specificity of business environmet a.s.a.

In the same time, in the numerous organisations have been developed new managerial approaches, methods and tools based on knowledge.

There are many facts indicating that was appearing a new science and praxis – knowledge-based management.

In this study – based on the extensive analysis [Nicolesco, O., Nicolescu, C., Knowledge-based organisation and management, 2011] – we present shortly the main approaches of knowledge based management at the world level and an essay to define the new science and practice of knowledge-based management.

The originality of our definition is generated by the focus on the new type of maangement relationships and processes based on knowledge.

## WORLD KNOWLEDGE–BASED MANAGEMENT APPROACHES

The transition to the knowledge–based economy, to the building and operating of knowledge–based companies, cannot be accomplished in the absence of the knowledge–based management. Studies have shown concomitent with the increase of the knowledge–related

revolution, there have been a number of significant changes also in the knowledge-based management content. According to certain specialists, **the knowledge-based management has undergone three stages:**

- a) the 1993 – 1996 stage, characterized by the focusing on the integration of information, the retrieved and the sharing of information
- b) the 1996 – 2003 stage, focused on the generating and the use of knowledge on the pragmatic organizational changes.
- c) The stage after 2003 – the third generation of knowledge-based management approach-, characterized by the focusing on organizational education, the creation of knowledge, innovative processes, the turning of knowledge into actions and the managing of the chaos, risks and uncertainty.

The North – American professors M. Koenig and T. Srikantaiah [M. Koenig, T. K. Srikantaiah (2004); pag. 3-8, Knowledge Management Lessons Learned, Asist, Information Today, Medford] go forward with **another staging of the knowledge – based management evolution.**

- phase 1, of the internet and intellectual capital, where the focus is on information technology, the intellectual capital and the internet. The key word refers to good practices being subsequently replaced by learning lessons.
- phase 2, of the human and cultural dimensions, which focus with priority on the communities of practice, the organizational culture, the organizational learning and the tacit knowledge. The keyword relates to communities of practice.
- phase 3, of the contents and the retrieval knowledge, where the focus is on the structuring of data bases content, of the knowledge and the accomplishment of terms indexes. Keywords are represented by contents management and taxonomies.

There are **several acceptations**, also as in term of the knowledge-based management. Subject to their contents and to whom promoted them, we have grouped into three categories (see figure no. 1). For each of them we present shortly the main characteristics of knowledge-based management.

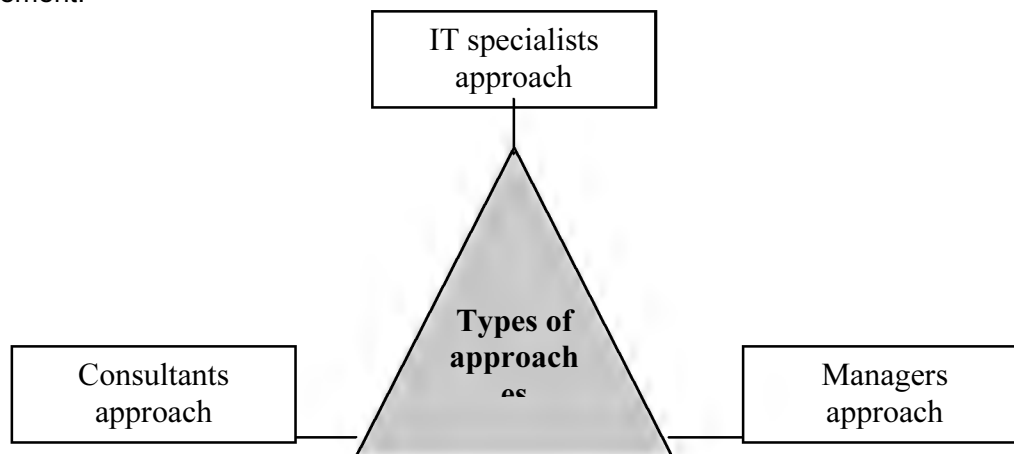


Figure 1. Knowledge-based management approaches

### Lester's Approach

We exemplify the **IT approach**, by the **Michael Lester's approach** [M. Lester (2001), Innovation and Knowledge Management, The Long View, in Creativity and Innovation Management, nr. 3] who, in a very well documented study, based upon several Australian projects and investigations, proposes the following **definition: "the knowledge-based management is a key process, by which in the companies, industries and, ultimately, in the countries, one gets a higher economic performance for the involved population, by means of a full turning to good account of the potential earnings of the transformations generated by digital technologies and the internet"**. Further on, it is shown that it is essential to have a process of innovation and distribution of

knowledge, which is largely dependant on the collaboration and cooperation between all stakeholders for the accomplishment of the access to that necessary information, as well as the latter's use, as well as by on the learning processes, by using synergic networks, feed-back loops and by generating increasing incomes. On this definition and approach, we may make the following **comments**:

- the knowledge-based management is approached particularly in relation with the top IT technologies
- the primordial attention is paid to the innovation and the knowledge associated to it
- the management is approach at the company level, the branches level and the national level
- the great focus is placed on the involvement of all stakeholders who may contribute to the turning of the knowledge to good account.

This approach is based upon the theoretic and pragmatic approaches of the National Innovation System (NIS) in Australia.

Lester's approach is typical for the specialists coming from IT or who work with and for the latter. Naturally, it is one unilateral vision, although it holds some elements of great value.

### **Clarke and Rollo's approach**

The partly different approach, as specific to management specialists, is held by the professors Thomas Clarke and Christina Rollo [Th. Clarke, Christina Rollo (2001), *Capitalising Knowledge: Corporate Knowledge Management Investmens*, in *Creativity and Innovation Management*, nr. 3]. They **define the knowledge-based management** as being the organizations' dedication to developing the knowledge production and flow, to sending and using such knowledge for the creation of economic value. Having analyzed this particular definition, the following **relevant elements** come out:

- the approach is focused on the knowledge taken as a whole, regardless it nature
- the revealing of the existence of some multiple specific processes relating to knowledge treatment (generating, transmission, usage, turning to good account)
- the emphasys on knowledge-management finality the creation of value added.

We naturally find in this particular approach that the knowledge – based management refers to the organization and the knowledge as a whole, going beyond the unicriteria vision of IT specialists.

### **The Conception of Abell and Oxbrow**

In the book called *Competing with Knowledge*, the authors [Angela Abell, N. Oxbrow (2002); p. 33-34, *Competing with Knowledge*, Library Association Publishing, London] after reviewing several studies on the knowledge – based management, choose to approach this concept as a scientific field and, at the same time, as a field of business.

**The knowledge-based management is a scientific field** promoting an integrated approach of the creation, captation, organization, access to and use of the intellectual capital of an enterprise, in terms of customers, markets, products, services and internal processes. It is important to notice that in this particular definition, the limitation of the knowledge – based management to the action on the intellectual capital, however conceived in a comprehensive vision, with a focus on customers and on the market.

**The knowledge-based management approached as an business**, consisting in the acquisition, sharing and use of knowledge within the organizations, including the learning process and informational systems. This particular definition, as taken from the Center of Economic Studies within Warwick University, shows, mainly, four categories of changes from the economic environment: the perception of knowledge as an important asset; the increase of the number of jobs based upon the creation and use of any the knowledge; the convergence of the informational and communicational technologies; the relevance and unique impact of those assets represented by tacit knowledge. Although there are a number of question marks, in terms of the rigorousness

of the managerial terminology, used\*, the approach catches the essence of the knowledge – based management related activities.

By its contents, the vision of Abell and Oxbrow is part of the managerial approach, with a strong economic dimension.

### **Ferguson's approach**

The top management consultancy – from the 5 top consulting companies in the world conceive the knowledge–based management, in terms of the providing it for the industrial transportation, companies, etc., which need it. In this vision of managerial consultancy, Neil Ferguson [Ferguson. N. (1998), Market Research – A Perfect Marriage, in Knowledge Management] believes that the **knowledge–based management** consists in business processes and solutions, implemented within a given organization, for the purpose of using the knowledge, as acquired by experience and generated by the skills of the organisation human resource, as well as that knowledge coming from external sources and within the strategic applications of the intellectual capital, designed for the improvement of efficacy, efficiency and profitability within the organization. Further on, Ferguson underlines the idea that the information technology, the business and the organizational culture combine in order to create an environment where knowledge (the experience, skills, information and data of an economic value), may be identified, collected, disseminate and used. Studying this particular approach shows the following **major characteristics**:

- the great focus on the economic content of the processes and solutions, involved
- the knowledge are approached within an appropriate acceptation, by accurately highlighting its dependence on the human factor
- the connection between knowledge and the intellectual capital is achieved
- the multi–dimensional nature of the processes, involved – the technological, economic, cultural dimension, etc. – is revealed
- the entire management is centered upon its finality, under its multiple aspects (functionality, efficiency and profitability)

There is no doubt that this particular approach is far more comprehensive than the previous, the managerial elements being more pregnant underlined, but only from the consultant's perspective.

## **DEFINITION OF KNOWLEDGE – BASED MANAGEMENT SCIENCE AND PRAXIS**

### **Approach premises**

We shall present our point of view, starting from the previous types of approaches, as well as from the content and specificity of the management. Our vision is based on the following **premises**:

- the transition towards a new type of economy, namely the knowledge – based economy, shall have a great deal of influence on the content and way of expression of the management, in all of the latter's components and in terms of all society levels.
- the placement of knowledge at the forefront of the management, since it becomes at the same time the essential resource, a major asset, the main product and the strategic advantage for organizations, is incumbent on the new type of management
- the dealing with knowledge as a management object, in its complexity, considering the sources, types, dimensions, and the latter's characteristics, as well as its specificity at multiple levels.
- the management maintains its organizational finality represented by the high competitive functionality and performances for the company

Starting from these very premises, we hereby propose two definitions of the knowledge management, one as science, as theory and the other one, as managerial practice.

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\* It is obvious that specialists generating this particular approach, come from the economic and IT fields, being less familiar with the managerial theory.



## Knowledge-based management science

**As a science, the knowledge-based management consists in studying the knowledge-based managerial processes and relations, in discovering of the basic rules governing them and in conceiving new systems, methods, techniques, etc., for the purpose of increasing the functionality and the economic, social and ecological performances of the organizations, by valorising the great values of the knowledge.** In the elaboration of this definition, we have started from the presumption that the placing of knowledge at the forefront of the management within companies (as a resource, product, competitive advantage, etc.) triggers a substantial change of the managerial processes and relations. As such, there appear new essential – principles, rules, requirements, etc. – which come to govern the knowledge-based processes and relations and concomitently a large part of the previous element undergo a substantial change, some of them being left aside. Obviously, under these particular circumstances, we need new approaches of the management system as a whole, new managerial methods and techniques, and a considerable part of the classical managerial instruments, shall change substantial, and/or shall undergo a moral depreciation, being finally left aside.

In comparison with the classical management, the knowledge-based management grants a **much bigger relevance to knowledge** – having become an essential raw material of the organization and, naturally, of the management – placing data and information on the second position.

A second essential difference relates to the **superior focusing on human resources, as compared to the previous period of time.** Moreover, the human resource of the organization, is not related only to employees, but also to the company's stakeholders – from the perspective of dealing with both explicit and implicit knowledge.

The two mentioned changes, which are at the same time conceptual and methodological, shall change the content of this new scientific field – knowledge-based management.

**The scope of the knowledge-based management science** is to great deal the same, as the one of the classical management. The major difference refers particularly to:

- The content of the concepts, methods, techniques, which are not eliminated, but which have remarkable new characteristics, due to the knowledge. The elements within table no. 1, as drawn up by the American specialists Carter and Scarbrough [Carter, Ch., Scarbrough, I. (2001), Towards Second Generation of Knowledge Management The People Management Challenge, in Education and Training, vol. 43, nr. 4-5] contributes to understanding the implications that the ascendance of the human resources has over the knowledge – based management.
- There are a great number of new elements, both theoretical, and methodological, which stand for the conceptualization and operationalization of the knowledge from the managerial perspective, the most visible being at the level of managerial instruments.

**We structure the knowledge-based management, in seven main parts:**

- the definition of the knowledge-based management science
- the knowledge-based strategies and policies
- the knowledge-based management system
- the knowledge-based managers, leaders and entrepreneurs
- the specific knowledge-based management instruments
- the knowledge-based organisational culture
- the performnce and competitiveness of knowledge-based company.

Methods of influence of the human resources on the knowledge – based management

Current no.	Human resources practices	Human resources management impacts	Results (effects) in terms of knowledge management
1	The strong involvement of the management in the running of the organization's activities	Organization's employees involvement	Positive feed-back to the initiatives of the knowledge-based management
2	Adjusting the human resources management to the specificity of knowledge-based employees	Strong motivation and keeping in the company of the knowledge-based employees	The increase of the performances of the knowledge-based employees
3	Internal and external harmonization of human resources practices	Connecting the knowledge-based management and the human resources management to the company's strategy	Coding and customizing the company's strategy
4	Connecting the human resources management practices to the development of the social and human capital	Developing employees' capacities and the intellectual capital	Providing long – term flexibility and strategic innovation for the company
5	Developing and supporting the learning processes within the organization	Creating and maintaining learning practices, as used at a large scale within the company	Improving the "sharing" of learning processes and tacit knowledge within the entire organization

Within each the seven categories of issues, the focus is on the news elements, which are specific to the knowledge – based management, with less reference to the classical managerial elements maintaining their validity and use the knowledge-based organizations.

**The theory of the knowledge-based management is in an incipient stage.** Basically, we cannot even say that there is such science in the rigorous acceptance of this concept. Our definition points out what it should be the essence of the knowledge-based management at the general level, similarly to the current definitions of the management science.

The theory of the knowledge-based management has a strong **multi-disciplinary character**. In addition to its own managerial elements, it also includes the economic, sociological, psychological, informatics, technical, juridical knowledge, etc, of course in terms of its specificity.

In the end, let us have one last remark. Although the efforts and accomplishments in terms of the knowledge-based management science are in an incipient stage, this does not mean that they are insignificant. On the contrary, just as the American professor Robert Nelson has underlined, "without a theoretical basis, the knowledge – based management risks to remain only a fashion that shall not last for too long". The development of its theoretical database adds substance and value to knowledge-based management, by conferring it a higher degree of deepness and by facilitating an efficient and effective operationalization in the organisations.

## The knowledge-based management praxis

As a practice, the knowledge – based management consists of the company approaches, methods, techniques, focused on the production and use of knowledge, generating a higher degree of turning to good account, as compared to the previous period, of the multiple values of knowledge. Just as it usually happens in all new fields relating to organisations, practice has come ahead of theory. Particularly, in the developed countries, there are thousands of companies which have developed managerial practices focused on knowledge, under its diverse forms, by which the organisations gets more functionality. Companies acting in such fields as informatics, telecommunications, engineering, bio-technique, etc. are most advanced. The managers of these companies show, in a considerable degree, a certain receptivity towards the knowledge – based management, just as it comes out of the analysis in the figure no. 2, which shows the results of an investigation conducted in 50 companies from developed countries in the EU and from the USA (customers of the top consulting companies - PriceWaterhouse. Coopers and Leibrens etc.). Four fifths of the managers believe that the implementation of the knowledge – based management does not show to be highly difficult.

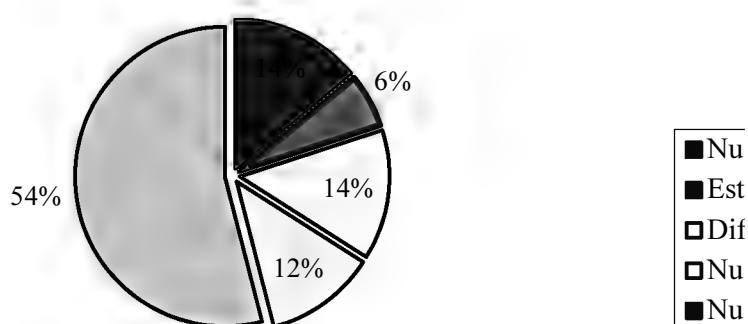


Figure no. 2 – The difficulty in convincing company managers, of the benefits of introducing the knowledge – based management

Of course, this sample is not representative for all company managers, as concerned, and the answers, as resulted, are relevant particularly for the top companies.

The knowledge – based management, as operationalized in companies, shows certain characteristics that provide it with functionality and efficacy. According to a study conducted in 44 companies from the North – American pharmaceutical industry, **the main features characterizing the knowledge – based management**, are:

- Building a culture of knowledge
- Expressing leadership
- Practicing partnerships
- Acting as a learning organization
- Using largely teamwork
- Developing knowledge – based communications
- Sharing knowledge among employees and others stakeholders
- Knowledge mapping
- Using knowledge databases
- Learning from negative and positive experiences

If we carefully examine all the aforementioned characteristics, we notice that they are **mainly of a human nature**. In this respect, the Indian specialist R. Monga underlined the fact that “the action for building an efficient, dynamic and competitive knowledge – based organization, begins with satisfying employees, using:

- Constant and fast processes of individual and organizational learning
- Visionary and intellectual leadership
- Company reengineering, by turning it into a supple organization
- Creating an innovative and participative environment for all employees

- Developing new methods for the attraction, retaining, development and motivation of the knowledge-based employees, by harmonizing their individual goals with the organizational ones.

In a close relation with the intensely human nature of the knowledge-based management contents, there are also the **5 Cs, characterizing the knowledge-based management in a synthetic manner**, [Angela Abell, N. Oxbrow (2002); p. 33-34, *Competing with Knowledge*, Library Association Publishing, London] as shown in figure no. 3.

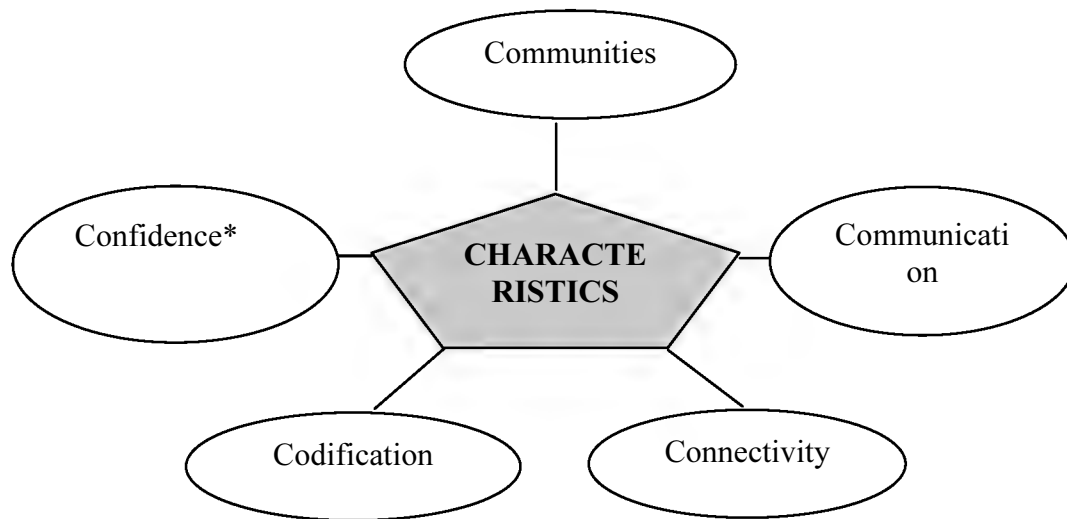


Figure no. 3 – The 5 Cs of the knowledge – based management

**In the last years in the managerial practice at the world level there are two trends:**

- To the proliferation of highly efficient managerial practices, under the form of “the best practices”, case studies, direct transfer of know – how by the relationing of specialists and managers involved
- The theoretization of these practices, by elaborating a number of rules, principles, approaches, etc., usually disseminated by means of articles, studies in the special literature, or in the business literature, books, etc.

The intensification of these trends in the short run is sure and it shall generate a large number of positive effects in terms of the knowledge – based management and companies’ performance. The current pace of scientific, technological, educational, cultural and – not in the least – economic and managerial changes, is giving us reasons to be optimistic. Of course there are necessary big efforts on the part of the specialists dealing with the management – both theoreticians and practitioners – in order to turn the multiple benefits relating to the knowledge – based economy, to good account, generating high competitiveness.

**CONCLUSIONS**

During the period of over two decades of the shaping the knowledge-based management, this concept has undergone a rapid development. At present, one considerable part of the management science components is developed at a considerable level. Certainly the knowledge-based management science includes a number of rigorous principles, rules, methods and approaches, which cover the largest part of the management issue.

Naturally, the knowledge-based management practice has preceded the appearance of the knowledge-based management science. At present, this practice outruns the knowledge-based management science, because of the multiple necessities that the organizations are facing and had to solve in order to survive and be efficient.

Whereas the intensification of the knowledge revolution, reflected in the acceleration of the building the knowledge-based economy and in the proliferation at a large scale of the knowledge-based organizations, we can state that the knowledge-based management practice and science shall develop at the same time and in a rapid pace.

The functional and competitive knowledge-based economies and organizations cannot be in the absence of some efficient knowledge-based managerial practice and science. The evolution of the special literature and of the knowledge-based managerial practice in the last decade sustains our previous statement. The book of Nicolescu O., Nicolescu C., *Knowledge – Based Management and Organization*, published in 2011 contain the most comprehensive approach of the knowledge-based management, not only in Romania, but also in the world. The book deal for the first time in the special literature, with the specificity of the knowledge-based management functions, of the functions of the knowledge-based organization, of the knowledge-based system and sub-systems, the design of the new knowledge cycle.

The knowledge-based management science, being in a full process of development and growing up, stands for the science of the future. Their concepts, systems and approaches are indispensable for the knowledge-based economy. Without an intensive and professional calling upon the knowledge-based science, the EU2020 Strategy shall rest only one intelligent “strategic thought” - as things also stood in terms of Lisbon Strategy -, without generating the performances that the European Union needs, as well as each country in the European Union and each European citizen and company.

## REFERENCES

**Abel, Angela and Oxbrow, N**

2002

Competing with Knowledge, Library Association Publishing, London, p. 33-34

**Ajmal, M., Held, P. and Kekäle, T.**

2010

Critical Factors for Knowledge Management in Project Business, in Journal of Knowledge Management, vol. 1

**Ferguson. N.**

1998

Market Research – A Perfect Marriage, in Knowledge Management

**Firestone, J. and McElroy, M. V.**

2005

Generations of Knowledge Management, Executive Information Systems, Inc. database, <http://www.dkms.com/papers/generationsofkm.pdf>

**Ichijo, K.**

2007

Enabling Knowledge-based Competence of a Corporation, In K. Ishijo, I. Nonaka, Knowledge Creation and Management: New Challenges for Managers, Oxford University Press, Oxford, p. 84

**Kim, M.**

2003

A Knowledge Management Model for SMEs in the Knowledge Based Economy, in xxx Entrepreneurship and Innovation in the Knowledge Based Economy Challenges and Strategies, APO, Tokio, p. 18-19

**Koenig, M. and Srikantaiah, T. K.**

2004

Three Stages of Knowledge Management, In M. Koenig, T. K. Srikantaiah, Knowledge Management Lessons Learned, Asist, Information Today, Medford, p. 3-8

Lester, M.

2001

Innovation and Knowledge Management, The Long View, in Creativity and Innovation Management, nr. 3

**Ma, Z. and Yu, K. H.**

2010

Research Paradigms of Contemporary Knowledge Management Study: 1998-2007, in Journal of Knowledge Management, vol. 2

**Russ, Meir**

2003

Knowledge Management Strategies for Business Development, Business Science Reference, Hersey, New York, p. 3-4

**Monga, R.**

2002

Summary and Conclusions, In xxx Productivity in the e-AGE, APO, Tokio, p. 5-6

**Nicolescu, o and Nicolescu, C.**

2011

Knowledge-based Management and Organization, ProUniversitaria Publishing House, Bucharest

**Nicolescu, O. and Nicolescu, Luminița**

2005

Knowledge-based Economy, Company and Management, Economic Publishing House, Bucharest, 2005

**Stewart, Th.**

1998

Intellectual Capital: The Wealth of Organisations, Nicholas Bready Publishing House, London, p. 109

**Tuomi, I.**

2002

The Future Management, Life in Learning in Europe, vol. VII, no. 2

**Turner, G. and Minone, C.**

2010

Measuring the Effects of Knowledge Management Practices, in Electronic Journal of Knowledge Management, 8(1)

**Watson, J.**

2002

Applying Knowledge Management, Morgan Kaufman Publishers, Elsevier Science, San Francisco, p.5

# A Proposed Approach for the Project Meetings Processes Improvement in the Case of Virtual Teams

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## Abstract

**Purpose** – Business globalization have force organizations to develop information and communication facilities for the virtual teams' (VT) support. Researchers all over the world have recognized that information and communication technologies (ICT) are vital for the VT's existence. The present paper's purpose is to describe an efficient methodology for improving the project meeting processes related to Customer Relationship Management (CRM) and Customer Oriented Design (COD) activities in organization. The methodology targets the time and cost reduction of the project management processes in the case of virtual teams (e.g. multinational companies).

**Methodology/approach** was inspired by the Business Process Management project approach. Using the modeling and simulation facilities of the Bonita Studio software solution there will be described the project meeting process (including the resources needed) and after the graphical model of this process, some simulation iteration will identify the improvements. Based on the simulated solutions, managers (decision team) can choose the adequate situation in a particular context of work.

**Findings** – the BPM project methodology supported by Bonita Studio software solution is an efficient approach to support the decision making process and resources optimization in the project meetings processes.

**Research limitations/implications** are related to the project processes definition and description (initial data identification and clear description in some certain-uncertain conditions of the activities).

**Practical implications** are increasing efficiency and effectiveness of business processes.

**Originality/value** – The proposed approach is based on an open source software and can be easily applied in any organization. The methodological approach is an efficient solution for the project managers' work and it can be extended to all business processes in a company.

**Key words:** Virtual Team, Project Management, Bonita Studio.

## 1. Introduction

Researchers have underline the significant proportion (85% of respondents said they conduct more than half of their work virtually; 2/3 respondents said they are involved in two or more virtual project teams) of the virtual work in modern organizations (started from managers to employee working in design, research and development, marketing, etc. - administrative positions) (Maznevski and Athanassiou, 2006). Today's managers in multinational organizations when thinking of their teams, they see shifting membership and boundaries, embedded in multiple organizational and environmental contexts, with dynamic tasks. Moreover, each team member is simultaneously part of several different teams with different purposes (Lane et al. 2004).

Current researches consider virtual teams within traditional organizational environments as well as within emerging networks of interrelated activities that take place anytime, anywhere, and with

few geographical, or structural constraints (Qureshi and Vogel, 2001). In addition, references have underlined the important relationships in global, virtual teams that are found essentially in three levels: (a) within the team, (b) between the team and its organizational context, and (c) between the team and its external environment. Insightful research on global, virtual teams should examine dynamics deeply within one of the levels taking into account links with the other levels; or conversely look at connections across all zones in a single organization or context (Maznevski and Athanassiou, 2006), including the knowledge management activities.

The collaborative environment created to support virtual team knowledge work is essential for their success. Prospective process-aware cooperative tools are required to record, map, and manage processes involved in knowledge work. Software systems such as Workflow Management Systems (WfMS), Groupware, Knowledge Management (KM), Process Modeling, and Project Management (PM) have been used to automate or to augment business processes in organizations. Solutions required for highly efficient and effective Knowledge Logistics (Dustdar, 2004) require novel conceptual abstractions and revisited metaphors for collaboration and coordination, as well as novel technological solutions, which go well beyond current collaborative software systems (Dayal, 2001) such as: Groupware (Chan and Chung, 2002), Workflow (Van der Aalst et al., 2003), (Weske, 1998), Project Chan and Chung, 2002) - and Knowledge Management (Maurer and Holz, 2002), (Woitsch and Karagiannis, 2002), which constitute a highly fragmented collaborative systems market. Furthermore, the rise of the extended enterprise suggests that expanding of organizational boundaries is offset by increasingly distinct roles and relationships. Zigurs and Qureshi (2001) recognized that collaborative systems and web technologies have opened up many possibilities for creating new and different types of relationships, as well as increasing the reach of these relationships.

In view of these trends, the purpose of the present paper is to describe an efficient methodology, approach solution for improving the project meeting processes of global, virtual teams in the context of Customer Relationship Management (CRM) and Customer Oriented Design (COD) activities in organization (in our case, project meeting management activity in multinational company). The methodology targets the time and cost reduction of the project management processes/activities (inter-relationship between different members, partners international located) in the case of virtual teams.

## **2. The Proposed Methodological Approach**

Complex, distributed projects should follow the steps of a project management approach. The vision has to be clear defined and considered by all members team. Specific external and internal requirements have to be known (identified and clear explain to all members team). Functions of different units/elements have to be defined. There have to be establish how all elements will work together (the relations between entities have to be settled). This approach is convergent with continuous improvement concept as part of any company's strategy optimization of resources, input and output etc. Optimization refers to the selection of the best option out of a set of available alternatives. Automation will help any business manager to chose the best element out of given alternatives, faster and easier, while reducing costs, time and stress.

Taking into consideration the purpose of the proposed research (to optimize project/process meetings in the case of CRM) there have been implemented several work concepts. First, the optimize process has been consider from the perspective of a Business Process Management (BPM) project. Second, the decisions about the BPM tool for modeling and simulation has been done.

The proposed methodology was inspired by the research activity done for defining the training materials (and their exploitation) in the context of the CertiBPM - Certified Business Process Manager project (LLP-LdV/TOI/10/RO/010).

### **2.1. Business Process Management (BPM) project**

Figure 1 shows the general overview of a BPM project that is the proposed approach, also. The core of the BPM project deployment is the process modeling that has to consider and define the



following elements: process scope; process start; process activities and their interconnections; process numbers (measurable figures of its activities. For example, the resources needed and their allocation, as duration, number of staff, maximum load etc.), process key performance indicators (KPI), process end and process connections with other processes (a systemic perspective of all processes in a company). All these elements need to be documented before starting implementation and automation.

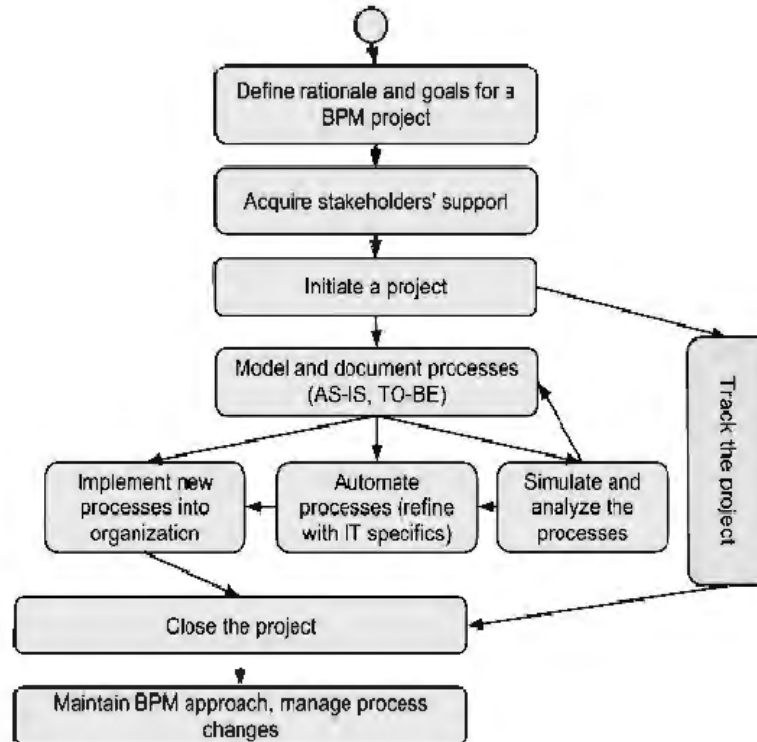


Figure 1. General Overview of the BPM project Development – The Proposed Methodological Approach

From the practical point of view a BPM project has, as a starting point that consists of the clear definition of the need of improvement (the requirement for improvement) or the need to solve a particular problem in terms of optimization (reducing costs and resources need, time reducing, maximizing profit, or efficiency). Before starting a BPM project, we need data and facts from present situation (describing the process and its activities - how they are). That is a specific activity related to the BPM project kick-off document specificity that consists of:

1. Rationale description, aims and goals (measurable if possible);
2. Project team description (management, supervisors, analysts, technical team, information providers, external mediators and experts);
3. Project plan (milestones, events, tasks), tracking plan;
4. Project cost calculation;
5. List of processes or key-process areas which will be covered;
6. Risk plan (preventive actions, "emergency" plans);
7. Communication plan;
8. Configuration management plan;
9. Quality plan.

The main actions after the BPM project kick-off are:

1. BPM Trainings;
2. Refine, discuss the process list;
3. Acquire existing documentation (ISO, short process descriptions);
4. Preparation of the first draft (process model for each process, overview of all processes);
5. Interactive workshop (process owners, department leaders);
6. Review the process (all stakeholders);
7. Written confirmation for each process (management).

The training should have two objectives: to introduce the methodology and train the Process Management team in using it (case studies and practical exercises are recommended); to present the project to all project stakeholders, facilitating the understanding and getting their support (demonstrations and practical examples are recommended).

The process list has to be identified and priorities criteria have to be settled. Process list has to be created taking into consideration the existing documents and structure but also processes which have not been documented. The difference between activities and processes has to be clearly defined and explained to all participants, actors involved in the BPM project (the process is defined by interconnected activities which are using resources to transform inputs into outputs).

The BPM project team has to collect the existing data, information, documentations, documents (procedures, drawings, graphs etc.) and based on practical observations (in the companies departments where the processes are developed, ongoing) and discussions with the employees and supervisors involved in a particular process the BPM project team has to prepare the first draft of the: process system and model.

The interactive workshop meeting is performed in real time. To involve geographically distributed teams (of multinational companies) videoconferencing equipment or other webinar software tools (e.g. AnyMeeting, EVO etc.) should be used. In most cases, the actual process modeling is performed in real-time; in this way, all involved parties can contribute to the result and at the end they will have a better understanding of the process. The result of a workshop is a process model, accepted by all involved parties. By approving the model, they also confirm the process, roles, outcomes etc. In this way, all the participants have no excuse for not using or working according to the model.

After the interactive process design workshop is finalized (there can be many sessions in several days), all the processes in the companies have been described and they can be done the review of them. Stakeholders usually develop this action; when this action is finalized, confirmations are written for each process and they can be adapted and implemented correctly in company practice.

## **2.2. Process Modeling and Simulation Methodology**

The BPM projects are using specific notations and symbols in order to create a comprehensive picture of any process, no matter how complicated it is. The Business Process Model and Notation (BPMN has been developed by Object Management Group) that is a graphical representation for specifying a business process in a business process model give the first step of the methodological approach. This preliminary stage will support the modeling phase by using specific notations or symbols for events, activities, gateway, and connections, all related to a business process. In this way, the business process will be defined by a graphical diagram (graphical model) together with a list of documents, exceptions, business rules, a list of roles etc.

From the management perspective, based on a given process model, different situations can be simulated using specialized software tools in order to find an adequate solution for a process de-

ploy in a particular organizational context. Simulations can help the management team to identify the correct decisions when a process event or exception occurs or when we deal with planned changes. Running different simulation scenarios and analyzing the results can support the decision making process and managers can understand the correlation between different factors and act accordingly. Therefore, the business process simulation, analysis, and optimization are done through the following steps: the establishment of the design simulation scenarios; run simulation using a specific software tool; observe results and statistics of some simulation iteration; modify input parameters (number of resources, costs...) and analyze the intermediary results; optimize the process according to the analysis results by finding an adequate solution in a specific context of the business process development or implementation.

Various software tools (that can be used for the process modeling, too) can support the process simulation; for example: Bonita Studio 5.4 (open source, <http://www.bonitasoft.com>), Microsoft Visio 2010 Premium with analystView 360 ([http://visio.microsoft.com/en-us/Partners/Partner\\_Solutions/Pages/analystView-from-Global-360.aspx](http://visio.microsoft.com/en-us/Partners/Partner_Solutions/Pages/analystView-from-Global-360.aspx)); Visual paradigm ([www.visual-paradigm.com/](http://www.visual-paradigm.com/)); iGrafix Flowcharter ([www.igraphix.com](http://www.igraphix.com)); Signavio Oryx ([www.signavio.com](http://www.signavio.com)) etc. It depends on companies financial resources and users ability to implement a particular software solution for the business process modeling and simulation.

### 3. Project Meeting Process Modeling and Simulation – Case Study

In the following section there will be demonstrate the use of the proposed methodological approach for the project meetings improvement. The presented case study was suggested during a consultant process that aims to optimize the specific business processes related to the Division of Software Development of a multinational company, in the context of Customer Relationship Management (CRM) and Customer Oriented Design (COD). The modeling and simulation process was supported by Bonita Studio 5.4 software tool.

The proposed analyze business process consists of several activities for the organization of an interactive workshop at the client location. In Figure 2 is shown the graphical model of the analyzed process (first version of the process modeling activity result).

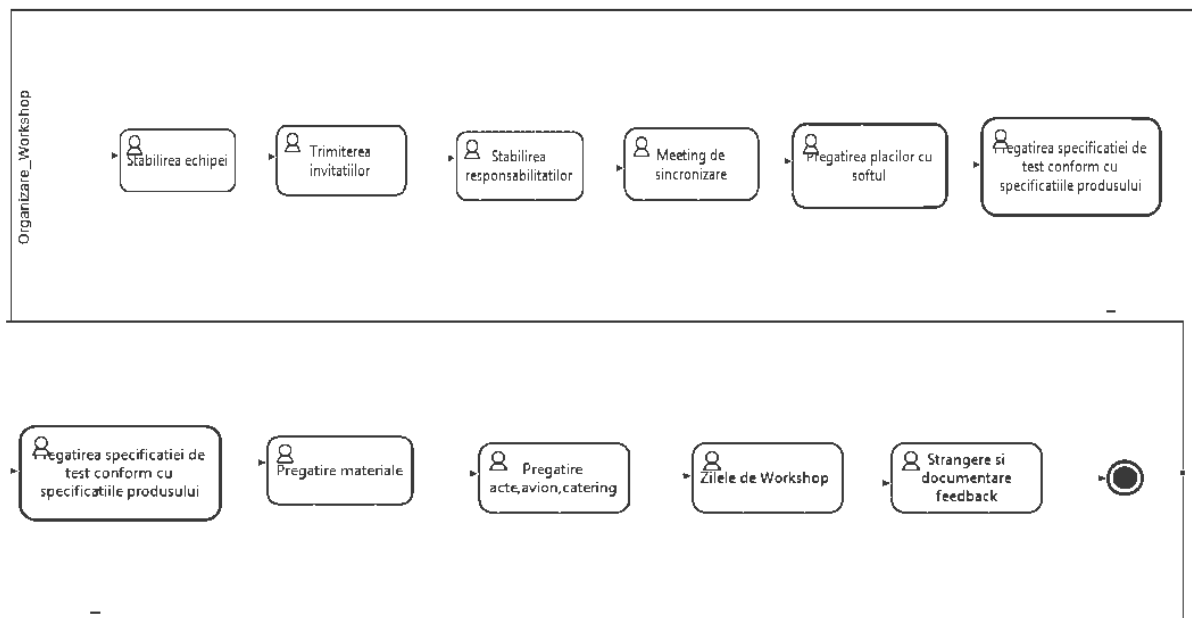


Figure 2. The First Process Version Model

The first version of the analyzed business process includes the following activities:

1. Establishment of the negotiation-presentation team (debates in the company's location with virtual negotiations with the client);
2. Sending the invitations (via e-mail);
3. Establish the responsibilities debates (in the company's location with virtual negotiations with the client);
4. Develop the synchronization meeting between the client and the negotiation-presentation team debates (virtual meeting with the client);
5. Preparing, in the company's location, the product that will be tested at the client location (in the case study the product is the last version of a software required by the client);
6. Preparation of the testing specification in accordance with the client requirements (virtual meeting and debates with the client);
7. Preparation of the materials needed for the presentation (in the company's location);
8. Administrative issues preparation (documents, travel and subsistence arrangements etc.) in the company's location.

After these activities, the workshop is developed (9) in the client location and after the event the feedback collected are analyzed (11). For each activity there are resources allocated and for each task that has to be accomplished is assigned a specific duration (and a maximum duration that is not allowed to be overtaken). The simulation scenario take into account the number of instances (started elements or activities that will be developed in parallel which was ten in our case study, see Figure 3), the simulation duration was one month and the resources and availability calendar (12.06.2012 to 13.08.2012, simulation duration 62 days).

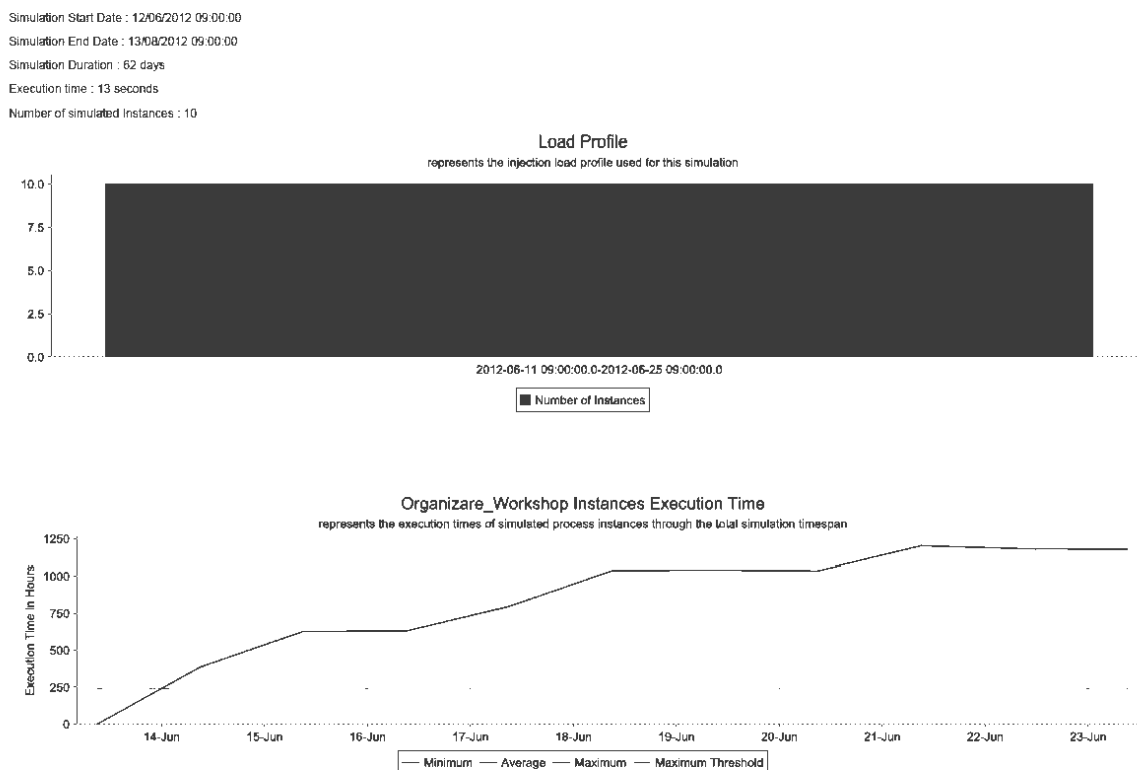


Figure 3. The First Process Version Simulations Result

According to the process simulation result (Figure 3), the optimal period of time when the workshop can be organized is from 14.06.2012 till 17.06.2012. The result is determine by the average time consume is less than 750 hours, value accepted by the management team of the company.

In the second phase of optimization, we take into consideration the possibility of executing parallel activities in order to reduce the average time. Figure 4 and 5 show the second version of the workshop process modeling and simulation. Activities 5, 6, 7 and 8 are developed in parallel (Figure 4). According to the process simulation result shown in Figure 5 the average time consume is less than 750 hours, and the optimal period of time when the interactive workshop can be organized is from 14.06.2012 till 16.06.2012; the average time consume is less than 500 hours.

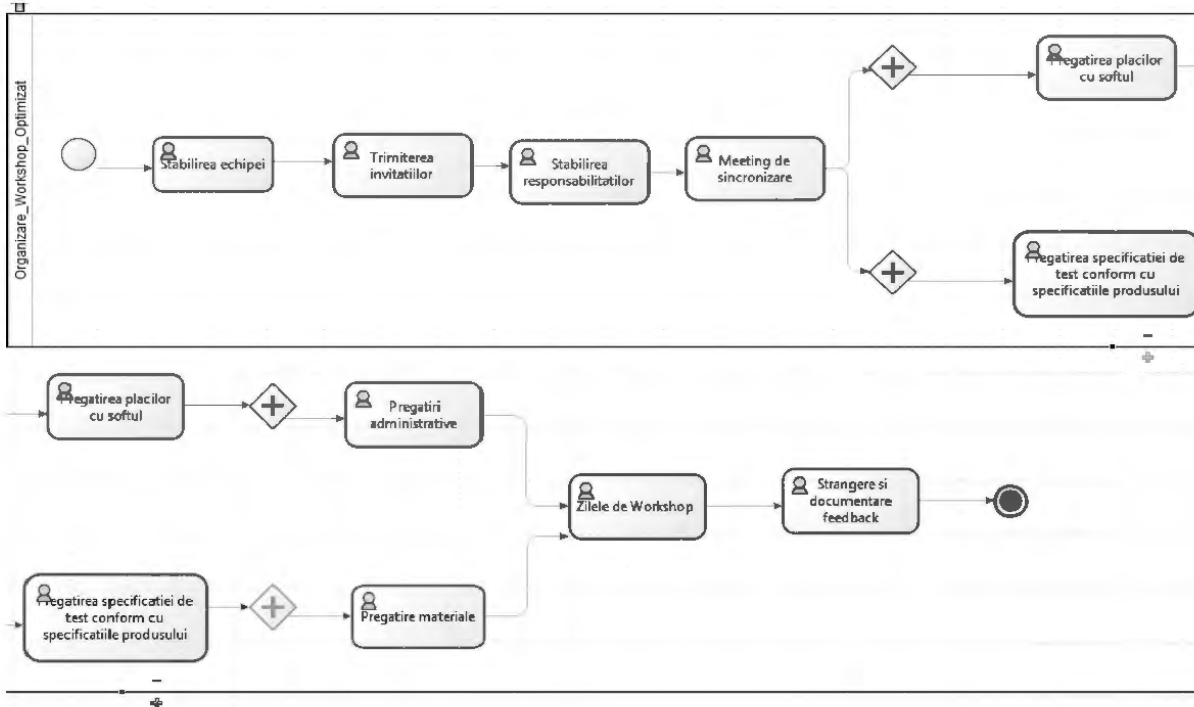


Figure 4. The Second Business Process Model

Simulation Start Date : 12/06/2012 09:00:00  
 Simulation End Date : 30/07/2012 03:00:00  
 Simulation Duration : 48 days 6 hours  
 Execution time : 14 seconds  
 Number of simulated Instances : 10

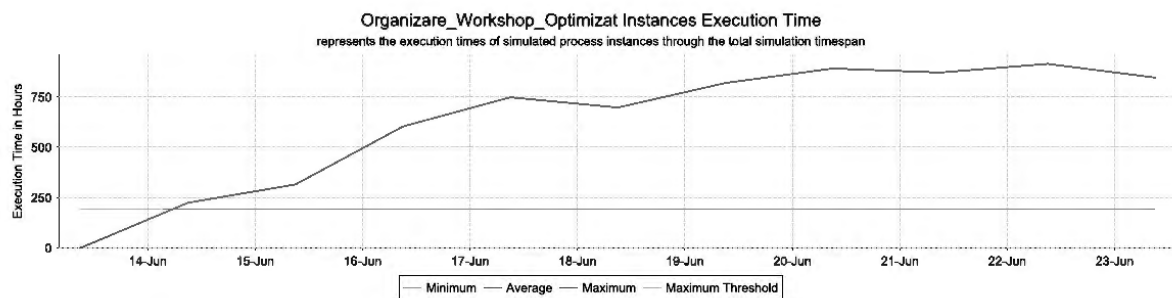
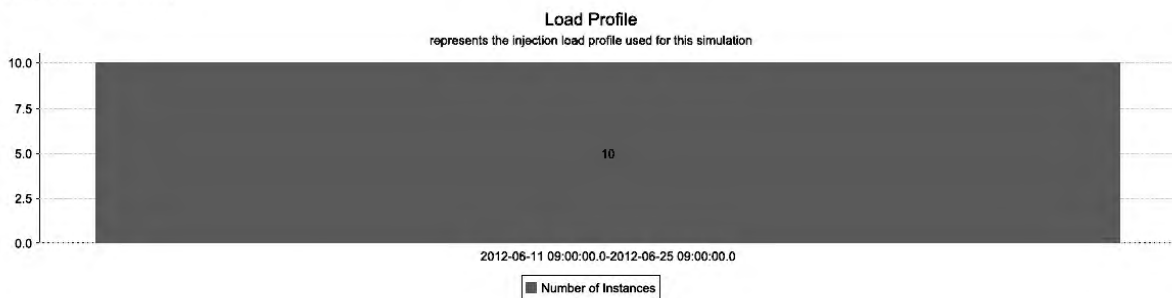


Fig. 5. The Second Process Version Simulations Result

## Conclusions

The presented research and the proposed methodology have been inspired by the Business Process Management (BPM) project approach. The core of the BPM project is the modeling and simulation activities that can support the decision making process in the case of any managerial team (related to a specific process).

The proposed methodological approach was tested in the case of a project meeting (workshop) for a product software improvement that has to be organized in the client location (most of the interrelations client-company are developed in the virtual space). For practical reasons, two processes have been model and simulation. First, a simple linear process have been define and simulated. Second, the first version has been optimized by considering some parallel activities. The simulation has identified the optimal solution. Through this case study, we have tested and validated the proposed methodology. In addition, we have found that Bonita Studio software solution used for the Business Process Management improvement/optimization has been proved as an efficient tool to support the decision-making process and resources optimization in the framework of the proposed methodology.

The research limitations are related to the complex and complete definition and description of the process and its related activities (initial data identification and clear description in some certain-uncertain conditions that may occur in the organizations). The proposed approached is based on an open source software and can be easy applied in any organization. The methodological approach is an efficient solution for the project managers' work and it can be extended to all business processes in a company.

## References

**Chan, K. C. C. and L.M.L.Chung**

2002

"Integrating process and project management for multi-site software development," *Annals of Software Engineering*, vol. 14: 115–142.

**Dayal, U.**

2001

"Business Process Coordination: State of the Art, Trends, and Open Issues," in *Proceedings of the 27th VLDB Conference*, Roma, Italy, 2001.

**Dustdar, S.**

2004

"Caramba – A Process-Aware Collaboration System Supporting Ad-hoc and Collaborative Proesses in Virtual Teams." *Distributed and Parallel Databases*, Kluwer Academic Publisher, Netherlands, 15: 45-66.

**Lane, H. W., M. L. Maznevski, M. Mendenhall, and J. McNett, (Eds.)**

2004

"Blackwell Handbook of Global Management: A Guide to Managing Complexity". Oxford Blackwell Publishers.

**Maurer, F. and H. Holz**

2002

"Integrating Process Support and Knowledge Management for Virtual Software Development Teams," *Annals of Software Engineering*, 14: 145–168.

**Maznevski, M. L., and N. A. Athanassiou**

2006

"Guest Editors' Introduction to the Focused Issue: A New Direction for Global Teams Research." *Management International Review*, vol. 46, 2006/6: 631-645.

**Qureshi, S., and D. Vogel**

2001

"Adaptiveness in Virtual Teams: Organizational Challenges and Research Directions". *Group Decision and Negotiation*, Kluwer Academic Publisher, Netherlands, 10: 27-46.

**Van der Aalst, W.M.P., A.H.M. Hofstede, B. Kiepusziewski, and A.P. Barros**

2003

“Workflow patterns,” *Distributed and Parallel Databases*, 14(1): 5–51.

**Weske, M.**

1998

“Flexible modeling and execution of workflow activities,” in *Proceedings of the 31st Hawaii International Conference on System Sciences, HICSS 1998*, vol. 7.

**Woitsch, R., and D. Karagiannis**

2002

“Process-Oriented Knowledge Management Systems Based on KM-Services: The Promote Approach,” in *Proceedings of the International Conference on Practical Aspects of Knowledge Management (PAKM), LNAI 2569*, Springer-Verlag: 398–412.

**Zigurs, I. and S. Qureshi**

2001

“Managing the Extended Enterprise, Creating Value from Virtual Spaces.” In: G. Dickson and G. DeSanctis (eds.), *Information Technology and the Future Enterprise: New Models for Managers*: 125–143. Prentice Hall.

# More efficiency by integration computer-assisting for the technical and economical procurement offer to works in the construction industry

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## Abstract

*The purpose of this paper is to present an effective way that can be done an offer technical and financial proposal. We have emphasized the flexibility of the method studied and its advantages. Construction works by many confounding factors involved in running activities by the higher costs that may occur involving mismanagement of their computer. Software must include a decision algorithm based on a complex database and properly managed by the expert.*

**Key words:** technical bid, financial bid, efficiency.

## Introduction

Before making an investment, potential customers of a beneficiary (the Contracting authorities) hold auctions where competitors will submit an offer comprised of: qualification documents, technical proposal and financial proposal and selection criteria based on existing the company with the maximum score will win and so will make the product.

Information about public tendering is taken electronic from SEAP website ([www.e-licitatie.ro](http://www.e-licitatie.ro)) where the beneficiary public notice and / or request for proposal.

Is primarily to any offer until the deadline to submit offer which must be strictly adhered to any potential bidder. Also according to OUG 34/2006, for public procurement is a period from publication of the notice, for receipt of requests for clarification and submission of response to requests for clarification.

The purpose of this paper is to present an effective way that can be done an offer technical and financial proposal. We have emphasized the flexibility of the method studied and its advantages.

The technical proposal usually, should contain, according to data sheet requirements of the beneficiary: a detailed description of the methodology and work plan designed for executing, execution schedule physical and value for meeting those activities and tasks plan and program quality assurance system that reflected the quality of the particularities of work bids.

Information from the technical proposal must clearly identify the minimum technical specifications correspondence with the datasheet and annexes.

For financial proposal the bidder must submit the offer form with its annex, that is the centerpiece of the financial proposal, and in the related forms of the financial proposal, will highlight:

- total value of work that will be executed, the value added tax which will be highlighted separately;
- the estimate value for each category of work, the objects and general estimate;



- the value of material resources consumption ;
- the total value of consumption with labor;
- the total value of consumption for equipment;
- the total value of consumption for shipments.

These values and estimates are obtained by using a specialized foreign exchange program, which will be presented in this paper.

### Application for an offer of paper for asphaltic clothing

For a concrete construction paper, whose chart was designed according to table 1, was made an technical and financial offer assistance by a computer program.

Table 1. Works and costs

NAME OF WORKS	Cost/Month					
	2010		2011		2012	
	1	2	3	4	5	6
0	1	2	3	4	5	6
1. Building site construction	-					
2. earth moving	3.243,70	3.243,70				
3. Recovery of tubular footbridges Ø 600	2.828,87	2.828,87				
4. Recovery of tubular footbridges Ø 800	23.484,07	23.484,06				
5. Recovery of tubular footbridges Ø 1000, L = 8 m	8.621,37					
6. Recovery of tubular footbridges Ø 1000, L = 20 m	8.065,19	8.065,18				
7. Footbridge across valea Sortilor, km 6+136	54.982,25	54.982,24				
8. Superstructures			335.195,80	335.195,80	335.195,79	335.195,79
9. Safety traffic						10.140,52
10. Works reception						-
11. TOTAL (WITHOUT VAT) – LEI	101.225,45	92.604,05	335.195,8	335.195,80	335.195,79	345.336,31
12. VAT – LEI	24.294,11	22.224,97	80.446,99	80.446,99	80.446,99	82.880,71
13. TOTAL (WITH VAT) – LEI	125.519,56	114.829,02	415.642,7	415.642,7	415.642,7	428.217,02

The work consists in modernization of a road section DJ 1 \*\* R: G - R, km 2+500-7+ 550, in Sălaj county, by executing the following works:

- Scarifying and reshaping the road platform on an average thickness of 10 cm;
- Creation of a foundation layer of ballast thickness of 20 cm;
- Creation of a foundation layer of crushed stone thickness of 10 cm;
- Realization over-enlargements, where is sufficient space.
- 30 cm layer of ballast
- 10 cm layer of crushed stone
- Realization of wear layer of asphalt mixture BAPC 16 type thickness of 4 cm.
- Restoring the shoulders 2 x 0.75 m on width with the following stratification:
  - 20 cm soil compaction;
  - 15 cm layer of ballast;

Connection with roads and lateral streets (20 connections) over a length of 20 m and a width of 4.0 m and total area of 1600 sqm.

Shoulders will be 2 x 0.50 m wide and equipped with:

- Soil compacted thickness of 20 cm;
- Ballast layer thickness of 15 cm;
- Following existing footbridge are replaced with footbridge us: km 2 +746.11, Ø 800 footbridge; km 2 +857.12, Ø 800 footbridge, km 3 +674.82, footbridge Ø 800 - km 4 +777.51, footbridge Ø 1000; km 5 +095.50, footbridge Ø 1000; km 5 +730.94, Ø 800 footbridge, km 6 +258.00, Ø 800 footbridge, km 6 +709.38, Ø 800 footbridge, km 6 +920.66, Ø 800 footbridge, km 3 +674.00, footbridge Ø 600- lateral footbridge, km 3 +739.00, footbridge Ø 600 lateral footbridge;
- Dalat new footbridge with light of 3.5 m, height of free passage of 3.77 m and width of 9.98 m.

### **Technical and financial tendering**

#### **The undertook study is based on specialized software, S Deviz**

S Deviz is a currencies program that enables:: evaluation, tendering and settlement construction and installation works. This program was created to ease the work of reviewers in construction (executors, designers, beneficiaries) by removing the calculation can be performed automatically by a computer. S Deviz is continuously developed, being in tune with customer requirements, current legislation and Microsoft technologies.

Updates to the software are free for an unlimited period, once the program license is purchased, software updates are easily online.

S Deviz program consists of the following main modules and allows:

1. **Investment management module**, objects and foreign bills;
2. **Editing foreign bills module- foreign bills** editing works under 863/2008 Order using the standard foreign bills and current prices offers;
3. **Management module of foreign bills rules**;
4. **Management module of resource** (materials, labor, machinery, transportation equipment, machinery or equipment) - editing lists of equipment, machinery and equipment;
5. **Editing module of the physical chart** - editing the general graph of the investment;
6. **Management module of the materials suppliers and base price**;
7. **Editing Module of the general foreign bills** according to HG28/2008 Decision;
8. **Editing module of execution reports** (payment situations, additional order forms, notes waiver) - editing payment situations for settlement;
9. **Printing automatic module of investment reports**: automatically F1-F6 reports printed according to 863/2008 order, the general foreign bills and the target foreign bills according to 28/2008 Decision, generates the file content and layout for reporting.

For our application (investment DJ 1 \*\* G-R) will make up 5 under foreign bills: Excavation, Restoration of tubular footbridge, Dalat footbridge, over-structure and Road Safety under foreign bills.

Each under foreign bill is composed of works articles corresponding of the type and quantity of work given by the designer through the schedule and other measurement documentation submitted with the allocation of the work.

For example, at the foreign bill Superstructure for layer of ballast will use the article and the related calculation, as shown in figure 1.

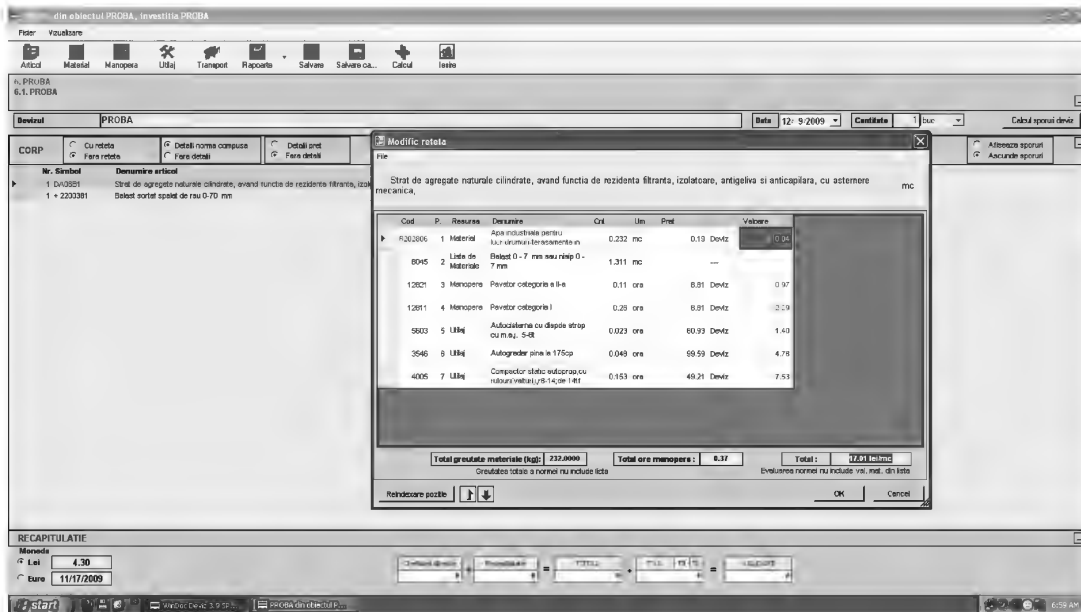


Figure. 1 The under-estimation structure in superstructure

Foreign bills articles with calculated quantities separately for each item are given by the beneficiary and must be strictly followed in the preparation of financial offers and then running. They are grouped by category of works (earthworks, body, footbridge) to facilitate the work of bidding and evaluation work.

This schedule, insert in the S Devizsoftware will generate foreign bills in figure 2.

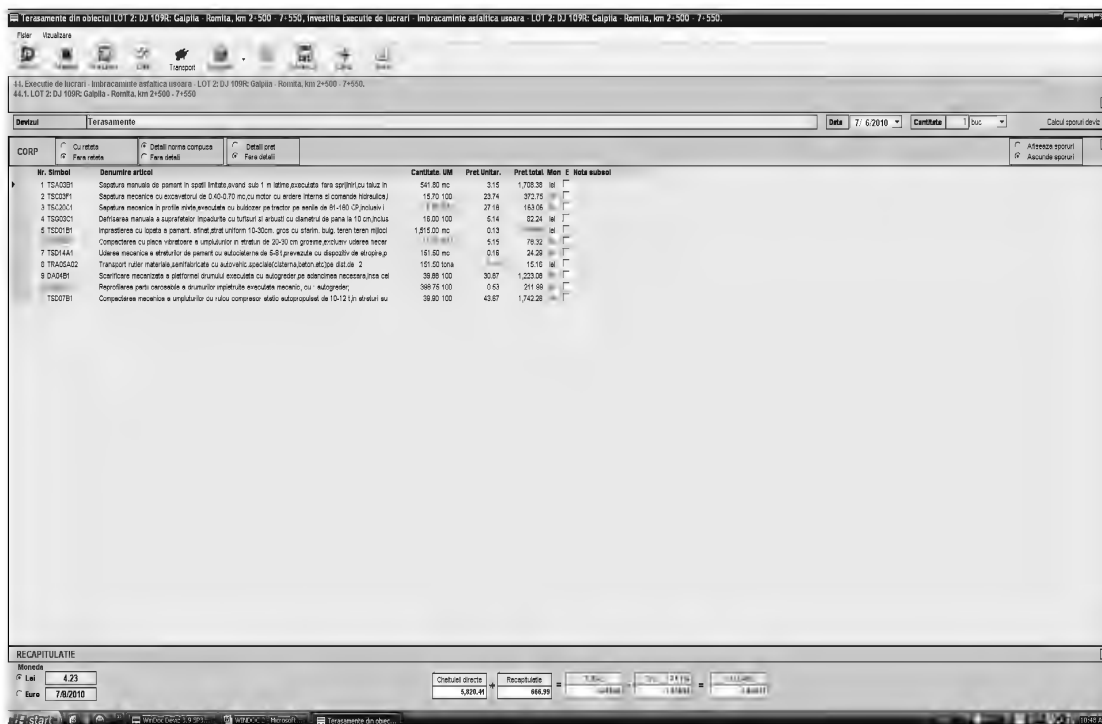


Figure. 2 Estimation earthwork

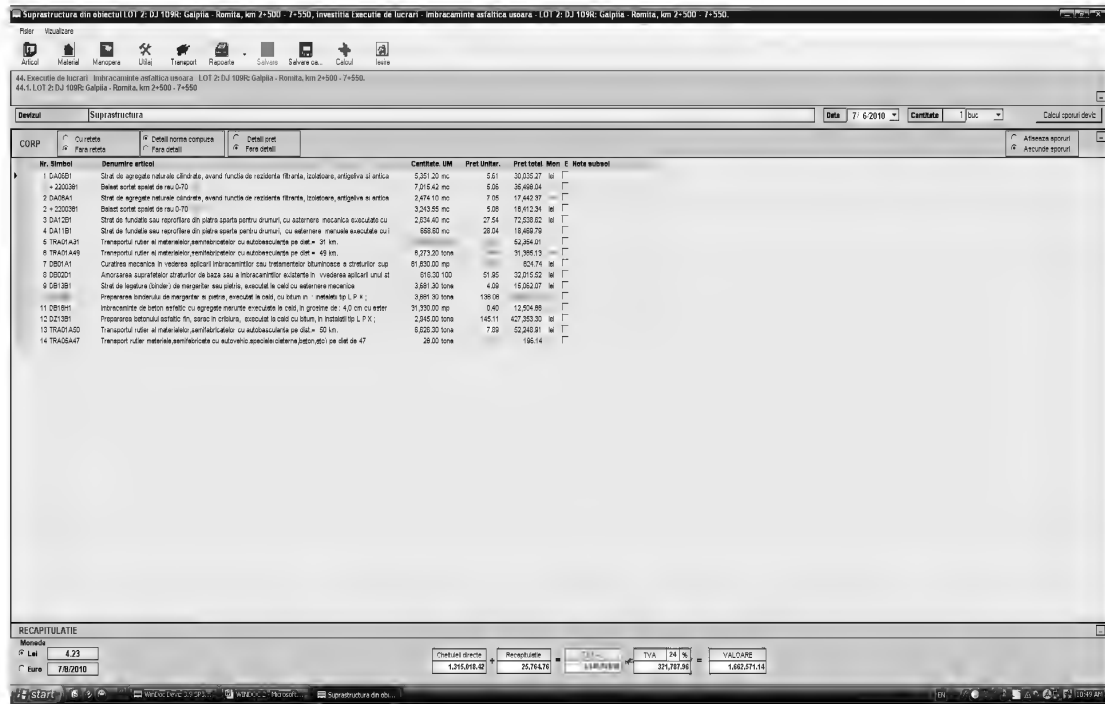


Figure 3. Estimation Superstructure

At the bottom left of foreign bills we will have the euro course and in center we will have the value of that foreign bills, composed of direct costs and the foreign bills recapitulative.

After foreign bills have been made they will generate a list of resources consisting of: materials, labor, equipment and transport, the list can view overall investment or each foreign bills in part: (figure 4, 5).

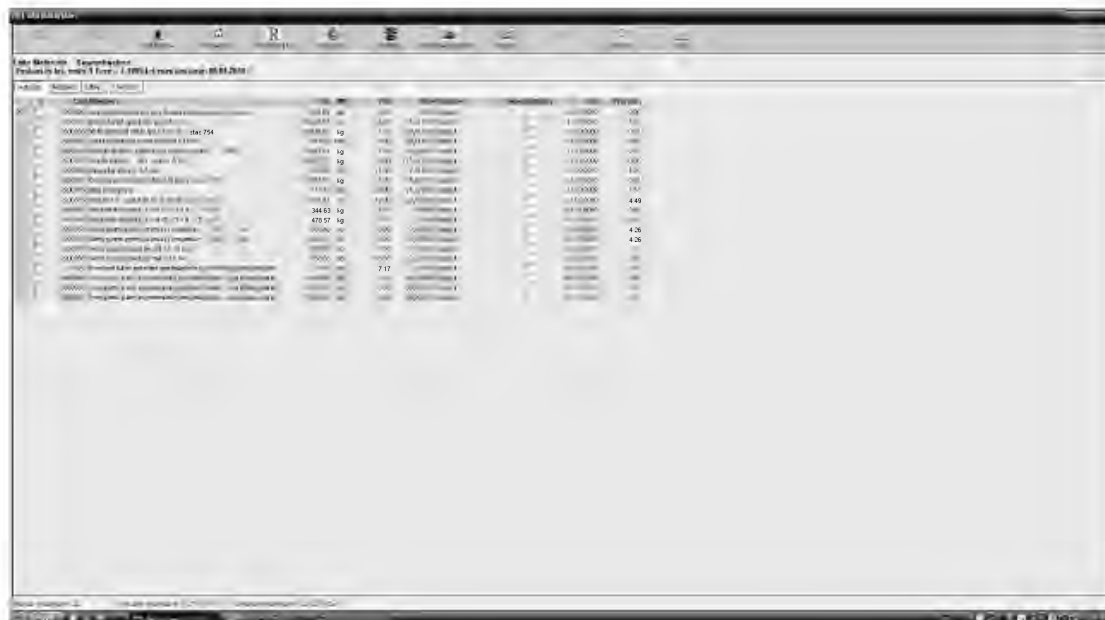


Figure 4. List of materials estimation superstructure

Cod	Denumire	Cant.	UM	Pret	Total	Data	Pret.eur
3503	Autocisterna cu dispoz. stroc cu m.a. 5-8t	247,87	ora	19,52	4.839,34	16.06.2010	4,62
3549	Autogreier gina la 175cp	367,50	ora	21,21	7.797,45		5,04
4047	Autogreieror	33,66	ora	19,52	657,60	16.06.2010	4,62
3553	Buldozer pe seriele 65-80cp	86,36	ora	23,09	2.040,02		5,46
4005	Compactor static autopropulsat cu motor (valuturi) 6-14 de 14tr	2.374,99	ora	15,85	37.619,51		3,77
4008	Compactor static autopropulsat pneumatic 1,1-18tr	328,03	ora	14,17	4.648,13	16.06.2010	3,36
7404	Incinerator frontal pe gaze - gina la 1,1-1,45	294,50	ora	23,09	6.802,05		5,46
4046	Instalatia pneumatica 40/60 la scari pe treptatoare 35-40cm		ora		14.722,15		11,92
4026	Pelte met. pt. curat. fundul dintr-un 6 cp	19,49	ora	14,17	276,95	08.07.2010	3,36
3340	Pompa rot. directie pibulum 2 tati	204,50	ora		204,50		0,24
4048	Rezervator fieror mizuri astfelce not term. fara pabator 50cp	328,03	ora	26,09	8.550,18		6,80
4034	Tanc de bitum cu Ule 20-30t		ora	5,00	2.945,02	23.06.2010	1,18
4028	Usoror fier act electric	284,50	ora		1.472,51		1,18

Figure 5. List of machines estimation superstructure

But realization of prices for these resources, the most important stage of a tender being, the lowest price often award criterion of the work will be complete list of resources for investment which will see all the resources necessary to execution of works (figure 6, 7, 8, 9, 10).

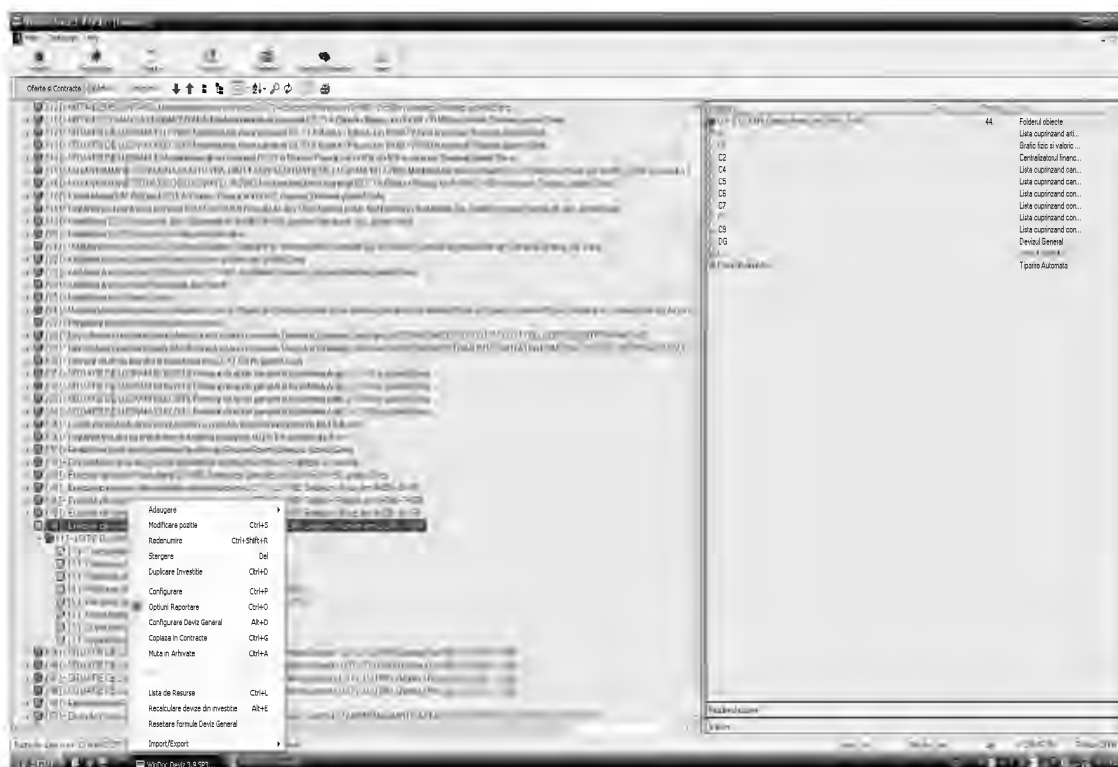


Figure 6. Configuration investment prices



Item Description	Quantity	Unit Price (€)	Total Price (€)
... 004.20	1	426.20	426.20
... 004.21	1	646.00	646.00
... 004.22	1	777.00	777.00
... 004.23	1	0.00	0.00
... 004.24	1	37.28	37.28
... 004.25	1	96.00	96.00
... 004.26	1	30.00	30.00
... 004.27	1	579.00	579.00
... 004.28	1	0.00	0.00
... 004.29	1	0.00	0.00
... 004.30	1	4.00	4.00
... 004.31	1	17.25	17.25
... 004.32	1	273.00	273.00
... 004.33	1	1100.00	1100.00
... 004.34	1	1488.00	1488.00
... 004.35	1	1444.00	1444.00
... 004.36	1	156.00	156.00
... 004.37	1	280.00	280.00
... 004.38	1	1100.00	1100.00
... 004.39	1	0.00	0.00
... 004.40	1	0.00	0.00
... 004.41	1	0.00	0.00
... 004.42	1	0.00	0.00
... 004.43	1	0.00	0.00
... 004.44	1	0.00	0.00
... 004.45	1	0.00	0.00
... 004.46	1	0.00	0.00
... 004.47	1	0.00	0.00
... 004.48	1	0.00	0.00
... 004.49	1	0.00	0.00
... 004.50	1	0.00	0.00
... 004.51	1	0.00	0.00
... 004.52	1	0.00	0.00
... 004.53	1	0.00	0.00
... 004.54	1	0.00	0.00
... 004.55	1	0.00	0.00
... 004.56	1	0.00	0.00
... 004.57	1	0.00	0.00
... 004.58	1	0.00	0.00
... 004.59	1	0.00	0.00
... 004.60	1	0.00	0.00
... 004.61	1	0.00	0.00
... 004.62	1	0.00	0.00
... 004.63	1	0.00	0.00
... 004.64	1	0.00	0.00
... 004.65	1	0.00	0.00
... 004.66	1	0.00	0.00
... 004.67	1	0.00	0.00
... 004.68	1	0.00	0.00
... 004.69	1	0.00	0.00
... 004.70	1	0.00	0.00
... 004.71	1	0.00	0.00
... 004.72	1	0.00	0.00
... 004.73	1	0.00	0.00
... 004.74	1	0.00	0.00
... 004.75	1	0.00	0.00
... 004.76	1	0.00	0.00
... 004.77	1	0.00	0.00
... 004.78	1	0.00	0.00
... 004.79	1	0.00	0.00
... 004.80	1	0.00	0.00
... 004.81	1	0.00	0.00
... 004.82	1	0.00	0.00
... 004.83	1	0.00	0.00
... 004.84	1	0.00	0.00
... 004.85	1	0.00	0.00
... 004.86	1	0.00	0.00
... 004.87	1	0.00	0.00
... 004.88	1	0.00	0.00
... 004.89	1	0.00	0.00
... 004.90	1	0.00	0.00
... 004.91	1	0.00	0.00
... 004.92	1	0.00	0.00
... 004.93	1	0.00	0.00
... 004.94	1	0.00	0.00
... 004.95	1	0.00	0.00
... 004.96	1	0.00	0.00
... 004.97	1	0.00	0.00
... 004.98	1	0.00	0.00
... 004.99	1	0.00	0.00
... 005.00	1	0.00	0.00

Figure 10. Total list of transport investment

You should work with a price based on the investment, but may award reference prices for each resource.

The realization price for a tender, will consider the law in force, for example labor will not descend to a lower unit price than the legal minimum wage. It will take into account the reality on the ground, so that when the work is contracted have to be able to run and fall in values offered, possible considering the "unexpected" that can occur, depending on the type of work.. However we also consider that the contract price will be firm, even if the work extends over 2-3 years, depending on financial possibilities of the beneficiary, and raw material prices during this period and those included in the time of the tender offer will increases.

These changes relate it directly to the bidder, and therefore must be taken into account when tendering. Beneficiary (contacted authorities) have the right to request clarification on tender prices offered, so they will be justified. Figure 11 shows the settings file reporting. In this section, will usually choose to work substantive issues such as: company logo, signature on the summary and all statements, VAT amount, number of decimal places of work or posted, display or not of suppliers, page header, and others.

Will follow editing related financial proposal forms, keeping records of reporting after completion of the transactions described above, which shall consist of:

- C1 – Physical and value graphic for work execution;
- C2 - Financial synoptic of objects;
- C3 - Financial synoptic categories of works;
- C4 – Financial synoptic of general investment;
- C5 - The list of quantities of work;
- C6 - The list of consumption of material resources;
- C7 - The list of consumption with labor;
- C8 - The list of operating hours the consumption of construction;
- C9 - The list of transport costs, presented in the Annexes.

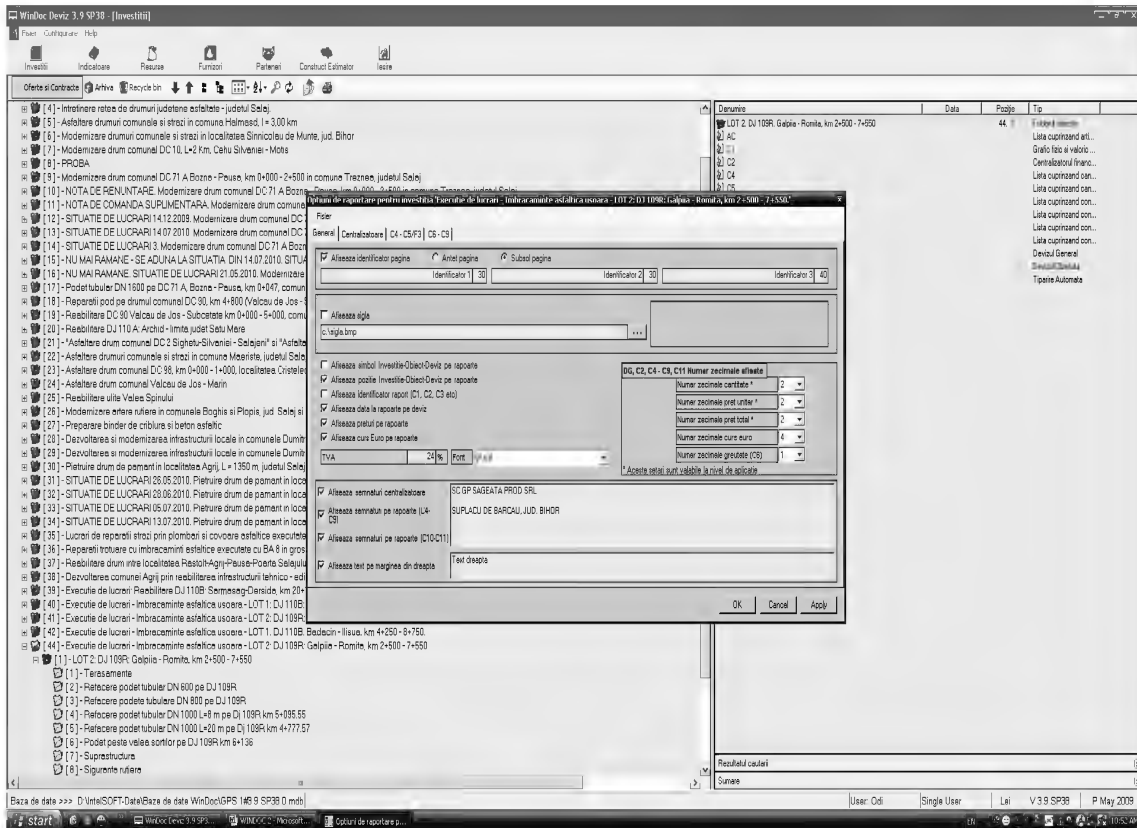


Figure 11. Settings for folder reporting

## Discussion and conclusions

Procurement process represents a sequence of steps, after going through obtained product, service or work as a result of awarding a public contract.

A key step in this procurement process is to develop financial offer for participation in public auction by a computer system.

Any information system can be defined as a set of data, information, information flows and managing streams and circuits, treatment procedures and means of information designed to help establish and achieve organizational objectives.

S Deviz program contains a database that registers all authentication operations, registration of works, the registration of suppliers and prices and other data necessary for the offers and all situations works in construction, the program contains all options necessary for the efficiently and quickly work of operator.

It is a program designed to contribute significantly to organization achieving, to the company that will be use. This program runs under any Windows operating system, is simple to use, convenient and does not require the purchase of large expenses. And with the improvement program at some time, will appear new versions of that course will be better and can serve several types of activity.

Estimates situations outside work could be performed and control their programming activities, which can compare with the original scheduling date and can actually prepare status reports and a comparison between the real situation and the corresponding initial offerings.

If the growing number of similar programs, will be taken to develop new versions of the program, which will lead to greater competition, so the program will also include enhanced features and new ones that will increase the number of users wick will want to use.



An obvious advantage of introducing automatic currency programs and planning activity lies in the fact that it can simulate several variants of their deployment, to obtain the optimal, depending on certain criteria: availability, cost, time of execution. In today an effective project management is done using software products that provide relevant information in assessing, monitoring and control of these.

## References

**P.-E Josephson, Y Hammarlund,**

1999

„The causes and costs of defects in construction: A study of sevenbuilding projects”, Automation in Construction, Volume 8, Issue 6, Pages 681–687

**Popa, H. L.,s.a**

2002

„Manual de Inginerie Economică. Management Strategic”, Cluj-Napoca: Editura Dacia,

\*\*\* <http://www.deviz.ro/elearning/windoc/capitolul1.htm>

\*\*\* <http://www.fonduri-ue.ro/>, HG Nr. 28 din 9 ianuarie 2008

\*\*\* <http://legestart.ro>, Ordinul 863 din 2 iulie 2008

\*\*\* <http://www.deviz.ro>

# Adopting the Balanced Scorecard in organizations from Romania - A quantitative study exploring the opportunity

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## Abstract

**Purpose** – Building on the most recent developments and trends in management practice in Western countries, our paper aims to explore the opportunity of adopting a popular performance management framework - the Balanced Scorecard (BSC) - in organizations from Romania.

**Methodology/approach** – The study is based on a primary research (survey with 541 respondents) exploring the familiarity with, knowledge about and usage of the BSC by Romanian managers and professionals.

**Findings** – Results reflect that a high degree of awareness and knowledge exists with respect to the BSC concept, as well as positive attitudes towards its adoption. Notwithstanding these attitudes and intentions, a low degree of actual use of the BSC and performance management practices in Romanian organizations exists.

**Research limitations/implications** – While benefiting from a high number of respondents, we acknowledge that the results of the quantitative research undertaken may not be extrapolated to reflect a country-wide situation.

**Practical implications** – The study offers practical evidence with regards to the opportunity of adopting complex management practices and systems, such as the BSC, in Romanian organizations.

**Originality/value** – Our study represents one of the first major studies in the area of BSC and performance management in Romania, setting some outlook for both academic research and practical initiatives in the field.

**Key words:** Balanced Scorecard, performance management, Romania

## Introduction

The „Management Tools & Trends 2011” study from Bain & Co. revealed that, for the first time in the 13 years since this research has been conducted, firms in emerging markets are using more management tools (e.g. benchmarking, strategic planning, open innovation) than firms in more developed markets. This finding indicates that while in Western organizations management practices are in a rather established momentum, in organizations from emerging markets, more radical advances are expected.

Among these management practices is the use of the Balanced Scorecard (BSC). In fact, according to the Bain & Co. study, the Balanced Scorecard is the 6th most used management tools at global level. The concept was introduced by Robert Kaplan and David Norton in 1992 and has become one of the most popular organizational performance management systems, with more than 60% of Fortune 1000 companies using it (Niven, 2009).

In this context, we aim to explore whether professionals from Romania are aware and knowledgeable of the Balanced Scorecard as a performance management framework and what per-

ceptions they have towards it. Also, we look into whether the BSC is being already implemented in organizations from Romania and what are the avenues for the future with regards to adopting and using the BSC. In what follows, the methodology of our research is presented, followed by a discussion on the findings of the primary research, to conclude with some outlook for future research.

## **Methodology**

Secondary research was used to explore the Balanced Scorecard literature, in order to gain insights with regards to the adoption of the BSC in Western organizations since its advancement at the beginning of the nineties. Findings enabled the development of the primary research tool, a questionnaire aimed at collecting data with regards to perceptions and adoption of the BSC in organizations from Romania.

Thus, in terms of the primary research, the method used was the survey, the instrument being the questionnaire. The tool contained 38 questions (both closed and open) exploring the degree of understanding, familiarity and use of the Balanced Scorecard in organizations from Romania. The survey (non-probabilistic sampling) was conducted online, via a professional survey platform, and was open during November 2010 – April 2011. The questionnaire was launched to a large number of organizations from Romania.

The research was supported by Acumen Integrat, a Romanian company offering services in the area of performance management and Junior Chamber International (JCI), a non-governmental organization. The dissemination of the survey to potential respondents was done with the support of these two organizations by the following means: newsletter sent to members of the online community of [www.KPIs.ro](http://www.KPIs.ro), a performance management platform operated by Acumen Integrat, invitations sent by email to JCI members, press releases and discussions launched on social media platforms. All three authors participated at this research as academics or as part of the Acumen Integrat team.

In total, 541 people (i.e. Romanian professionals from a variety of fields and organizations) responded to the launched questionnaire, with 403 respondents completing the survey by answering to all the questions (i.e. some of the questions were optional). In terms of respondents' profile and demographics, most of them represent Operational Managers (22,6 percent), General Managers (8,1 percent), human resources professionals (8 percent), economists (6,9 percent), Project Managers (4,6 percent) and consultants (4,6 percent); most of them are located in Bucharest (35,5 percent), Cluj Napoca (12,7 percent) and Timisoara (3,3 percent) and activate in industries such as IT (8,8 percent), manufacturing (8,3 percent) and education & training (7,8 percent). In terms of organization profile, most of the participants in the study activate in organizations with less than 50 employees (36,5 percent), whereas 21,7 percent of the respondents activate in mid-sized organizations (100-500 employees) and 20,8 percent in large organizations (more than 1000 employees).

### **The Balanced Scorecard concept in management and strategy literature**

The Balanced Scorecard is probably the most popular and the most discussed framework in the context of measuring and managing organizational performance. The BSC concept has been advanced at the beginning of the nineties and has been further on taken in both academic research and practice. According to De Wall (2003), the Balanced Scorecard is the most successful tool used for performance management and its assimilation in a short period of time has been impressive.

In its initial form, the Balanced Scorecard was the result of a research project undertaken between 1990 – 1991 in order to capture what are the aspects or dimensions that most successful companies measure. This research concluded with the advancement of the BSC concept by Robert Kaplan and David Norton in 1992. The argument was that the financial indicators reflect past events, which is acceptable for companies that were activating in the industrial age, and for whom investments in capability development and customer relations were not critical for success. Nevertheless, these financial measures are not appropriate for companies in the informational

age that need to create value through investments in employees, processes, technology and innovation. And this is the belief that stood at the foundation of the Balanced Scorecard, a framework for measuring and improving organizational performance with key performance indicators grouped in four main perspectives (Kaplan and Norton 2000):

- Financial perspective: *How can we satisfy the financial expectations of the shareholders?*
- Customer perspective: *How do our customers perceive us?*
- Internal processes perspective: *What processes should we excel at?*
- People, learning and growth perspective: *Can we continue to improve and create value?*

The timing for the BSC could not have been more suitable: in 1991 Robert Eccles published the "Performance measurement manifesto" in Harvard Business Review. In this paper, he predicted a revolution in performance measurement for the years to come, when traditional financial metrics were argued to be complemented by non-financial measures, with the BSC being a catalyzer of this revolution.

While first proposed as a performance management tool, the BSC later on had an evolutive development, being advanced as performance management system that offered the framework for strategic planning, budgeting and resource allocation (Kaplan and Norton 1996) and further on as strategic management and controlling system (Kaplan and Norton 2000).

While the benefits of using the BSC have been extensively promoted, it is interesting to note that some critics have been advanced, as well. Probably the most prominent critic of the BSC is Norekkliit, a Danish researcher that argues (2003) that the literature on BSC published by Kaplan and Norton resembles a management guru text, that attracts attention more by the prestige of the promoters, than the rigor and expertise of a genuine academic research. Another critique is generated by the traditional perspectives of the BSC. Researchers such as Nelly, Adams and Kennerley (2002) and Rillo (2004) argue that the BSC focuses only on shareholders and customers, not taking into consideration other important groups such as suppliers, partners or competitors. Finally, with respect to more technical issues, Anand, Sahay and Saha (2005) argue that it is difficult to create a balance between financial and non-financial measures in using the BSC, and that selecting the performance measures is not a systemic process and does not comport scenario analyzes, for example. Mayer (2002) adds that the BSC methodology does not offer guidance as to how to combine the different performance measures in an overall performance evaluation.

### **The Balanced Scorecard in organizations from Romania (2010 - 2011) – findings from the quantitative research**

#### **Awareness and knowledge of the Balanced Scorecard**

This being a first study to address the Balanced Scorecard concept in organizations from Romania, we first focused on gaining insights with respect to whether there is awareness of this concept among Romanian professionals and the level of knowledge that exists. We have found that there is a high degree of awareness, with more than 80 percent (more specifically, 81,5 percent) of the respondents being aware of the existence of the concept; nevertheless, only 8 percent of the respondents appreciate having profound knowledge with respect to this concept, whereas 74,1 percent state they desire a greater familiarization with the concept.

So, we can remark that there is awareness with respect to the BSC, Romanian professionals being aware of the existence of this concept, but in terms of how deep their knowledge is, we can appreciate a rather incipient stage of this knowledge.

In terms of how Romanian professionals perceive the Balanced Scorecard, most of the respondents associated the BSC with the concept of performance improvement: 62,9 percent of the respondents would recommend the adoption of the BSC for the main reason of measuring, monitoring and improving organizational performance. This reflects that Romanian professionals believe that there is a need to implement articulated frameworks, such as the BSC, for improving the performance of the organization. It is worthwhile noting a respondent perception in this respect:

*“The BSC translates the organizational strategy into a system of performance indicators that can generate managerial decisions towards improving organizational performance. It helps you define, implement and measure performance.”*

### **Use of the Balanced Scorecard**

The extent at which the BSC is used in Romanian organizations is a relatively low one: 6,3 percent of the respondents state their organizations use the BSC at international level, 6,1 percent at national level and 4,9 percent use the BSC both at international and national levels. Among the organizations mentioned by our respondents to be using the BSC are: AIESEC, Coca-Cola, ING Bank, Opportunity Microcredit România, P&G, Petrom, PhillipMorris, Rompetrol and Velux. We can remark here that most of these organizations are actually branches of international companies.

Nevertheless, a significant rate (42,8 percent) of the organizations that do not use the BSC state having interest and / or need in this respect for a future adoption of the BSC. Another 18,7 percent of the respondents state that their organizations do not use the BSC and that they believe there is no interest or need and a very small proportion - 2,6 percent - state having used the BSC, but having abandoned it. The reasons mentioned for not using the BSC are mainly related to: the use of other tools for management and strategy execution, the fact that the costs compared to benefits may not worth it, and the effort for adopting and using the BSC may be too large.

It is interesting to note some of the characteristics of organizations from Romania that have implemented the BSC:

- On average, they use BSC for 3 years, with more than 30 percent of them for more than 5 years;
- In 44,1 percent of the organizations, the promoter of the BSC has been the General Manager; other often mentioned promoters have been the Strategy Manager and the HR Manager;
- Organizations use the BSC mainly at organizational level (i.e. the whole company), with fewer percentages of those using the BSC at functional or department level and even fewer at individual level. This reflects the incipient stage of using the BSC, where the BSC is used mainly at strategic level and not at all organizational layers;
- In terms of BSC practices, what was mentioned was the use of KPI lists grouped by perspectives, the employment of periodic meetings for strategy implementation evaluations, and the use of concepts such as mission, vision, strategy maps;
- The performance reports that are part of the BSC framework were mentioned to be presented and discussed in most of the case monthly (more than 40 percent);
- Performance results are communicated to top management (56,3 percent), but also to employees within the organization (50 percent), which reflects a high degree of transparency;
- In terms of technology, 59,4 percent of the respondents use Microsoft Office for performance monitoring and reporting, which is a technology choice that involves a rather good costs per benefits ratio. Other technologies mentioned were standard solutions such as SAP Business Objects, Hyperion Cognos, SAS etc., and only 12,5 percent use a custom made software solution. Microsoft Office is in general considered to be a good option especially in the first stage of adopting the BSC due to its versatility and can be used to calibrate expectations from future more complex solutions.

In terms of what are the perspectives of the BSC that are used in organizations from Romania, the most often mentioned were:

1. Internal processes (81,3 percent of the respondents using the BSC)
2. Financial perspective (71,9 percent)
3. Clients perspective (62,5 percent)
4. People, learning and growth perspective (59,4 percent)

Other perspectives that were mentioned are: Suppliers and other relevant entities (18,8 percent) and Environment and community (15,6). This finding reflects that the common BSC perspectives - the four traditional Kaplan and Norton - are mostly used, but there is also an opening to new perspectives.

### **BSC challenges**

Most of the respondents (57,6 percent) mention the lack of knowledge in the field as the most important challenge in using the BSC. Other obstacles that were mentioned are:

- A poor or limited understanding of the potential benefits that can be drawn from using the BSC;
- The time (too large) that adopting the BSC requires;
- The investments (people, financial resources etc.) required;
- The difficulty to integrate the BSC with other systems or tools used in the organization;
- Technology support (expensive or complicated to work with)

### **Conclusions and future research**

Our primary research (a survey launched during November 2010 and April 2011) revealed that there is a rather high level of awareness of the Balanced Scorecard framework among professionals from organizations in Romania, but a rather incipient level of extended knowledge and an even lower level of actual use of the BSC framework. Even where complex systems such as the BSC are in use, practices and technology seem to be at an incipient level of development.

Nevertheless, combined with a high level of expressed interest towards this concept, these findings enable us to foresee an expansion of performance management in Romanian organizations in the years to come, catalyzed also by recent legal developments (e.g. the new work legislation that emphasizes on the need to use performance indicators for individual performance evaluations).

We believe academic research can play an important role in enhancing adoption of the BSC and other similar frameworks in organizations from Romania, and in-depth case studies can be conducted in order to explore best practices in using the BSC and solutions to overcome the common challenges in adopting the BSC, among others.

### **Acknowledgements**

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### **References**

**Anand, M., B. S. Sahay, B. S. and S. Saha**

2005

“Balanced Scorecard in Indian Companies.” *Vikalpa*, 30(2): 11-25.

**De Wall, A.**

2003

“The future of the balanced scorecard. An interview with Professor Robert Kaplan.” *Measuring Business Excellence*, 17(1): 30-36.

**Eccles, R.**

1991

“The performance measurement manifesto.” *Harvard Business Review*, January-February 1991: 131-137.

**Kaplan, R. S., and D. P. Norton**

1992

"The balanced scorecard: measures that drive performance." *Harvard Business Review*, 70 (10): 71-79.

**Kaplan, R. S., and D. P. Norton**

1996

"The Balanced Scorecard: Translating Strategy into Action." Harvard Business School Press, Boston, MA.

**Kaplan, R. S., and D. P. Norton**

2000

"*Having trouble with your strategy? Then map it*" *Harvard Business Review*, 78(5): 167-176.

**Meyer, M.**

2002

"Rethinking Performance Measurement – beyond the Balanced Scorecard." Cambridge University Press, Cambridge, UK.

**Neely, A., C. Adams, C. and M. Kennerley**

2002

"Performance Prism: the scorecard for measuring and managing business success." Financial Times Prentice Hall.

**Niven, P.**

2009

"Driving Focus & Alignment with the Balanced Scorecard."

<http://www.epmreview.com/Resources/Articles/Driving-Focus-Alignment-with-the-Balanced-Scorecard.html>.

**Norreklit, H.**

2003

"The Balanced Scorecard: what is the score? A rhetorical analysis of the Balanced Scorecard." *Accounting, Organizations and Society*, 28: 591-619.

**Rigby, D. and B. Bolideau**

2011

"Management Tools & Trends 2011."

[http://www.bain.com/Images/BAIN\\_BRIEF\\_Management\\_Tools.pdf](http://www.bain.com/Images/BAIN_BRIEF_Management_Tools.pdf).

**Rillo, M.**

2004

"Limitations of the Balanced Scorecard" Proceedings of the 2nd International Conference on Business Administration, University of Tartu, College of Parnu.

# Functional modeling of an assembly line using IDEF0 standard

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## Abstract

**Purpose** – Inside this paper, using the same modeling method, it is wished to identify the structure and the activities of one workstation depending of its supply methods.

**Methodology/approach** – Starting from the main technical and managerial characteristics of an workstation, in which are assembled several types of products with resembling composition structures, are made 3 variants of model, depending of the type of workstation supply: supply on stock, supply in Strike Zone and synchronous supply.

**Findings** – The functional modeling of the assembly workstation with the help of IDEF0 standard, applying three supply methods, lead to the following findings: to determine the activities influenced by the supply method; the developed functional models can be used as tools to describe the supply of the assembly workstation; the made functional models can be extended and extrapolated for other similar workstation of an assembly line.

**Research limitations/implications** – this study is valid just for the assembly workstation.

**Practical implications** – This study represent a methodology of functional analysis on a workstation of a assembly line.

**Originality/value** – The study can be the simulation of the functioning of the line in order to analyze the influence on the considered supply methods on the workstation performance indicators.

**Key words:** IDEF0, modeling, supply.

## Introduction

The economic engineering is defined as a set o knowledge, principles and practices that are interconnected with the analysis, design and implementation of the operations inside of an enterprise. The principles and the practices of an enterprise are: theory, modeling, design and implementation. The modeling supplies a mechanism of testing of hypothesis.

The enterprises want to increase the production parameters, such as o bigger productivity, shorter production time, lower work in progress and a better use of resources. Through modeling, managers and engineers can evaluate the consecution of the production process depending on the different conditionings or can make an “what if” analysis to better identify the operation policies that must be implemented. Modeling helps to a better understanding of the operating mode of the system, to minimize the costs and the risks of failure of the project in the present conditions of functioning of the project.

In the existing treatise are multiple methods of modeling of systems that had been used to model and simulate production systems. Exists two categories of such methods:

- formal methods: Petri net theory, state diagram, activities diagram etc.;
- descriptive methods: IDEF, ARIS, GRAI, MERISE, SADT etc.



Inside this paper, using the same modeling method, it is wished to identify the structure and the activities of one workstation depending of its supply methods. The functional modeling of the station uses IDEF0 standard because this is easy to apply and interpret by people with less knowledge in modeling.

Considering that in the design of a workstation is prioritized the use of well defined functional modules, by functional modeling, these can be created so as to include different elements depending on the tested supply method. Therefore, it can be isolated the impact of the supply method on the other activities of the workstation, making easier the implementation of changes.

By functional modeling it is wanted to obtain also the hierarchical levels of the workstation, to determine the transfer of information between its components depending on the method of supply used.

### **Research problem**

The study is made on a, six workstations multi-product, assembly line, with mainly manual activities. In this study is analyzed only one workstation, workstation 4.

In this study the models are made by a functional modeling and are analyzed the activities of this workstation for three possible to apply supply methods: supply based on stocks, supply in Strike zone and synchronous supply.

The supply method based on stock assumes that in the workstation is created a stock for each type of part that must be supplied. This stock varies as level depending on the frequency of delivery and the takt time. Depending on the type of product assembled, the operator takes the needed parts from the storage and transports them on platforms in the stock area near the workstation. The parts of big dimensions remain on the platforms, and the small ones are placed in the dynamic racks.

The method of supply in Strike zone has as starting point the supply based on stock, but in it are reduced the useless movements of the operator by adequate placing of parts. Therefore, the operator can receive the parts in the workstation on tilted rollers, conveyors or dynamic racks, which are placed on its sides or in front of it, in an optimum ergonomic area, named Strike zone.

This method needs the use of an integrated management system of the assembly line, which has to do the link between the production program of the line and the supply flows. The logistic operator receives the needs of parts to supply in the form of a hourly tranche delivery program, not being needed anymore the traveling to the stock area near the workstation for information gathering.

The synchronous supply method is applicable by implementing the integrated production management systems. The information managed by this system is used to synchronize the flows of supply and production. Therefore, the parts needed for the assembling product arrive in workstation in the needed moment of their assembling.

The flow of information and material is close to the one from the method Strike zone. The new element is integrating a workstation of logistic preparation to synchronize the supply flows with the production program of the line. Can be used two techniques of synchronous supply: picking and kitting.

To represent in functional models the workstation in this situation in which are used the three supply methods it will be used the IDEF0 method. The IDEF Standard (Integration DEFINition) has been made by US Air Force, at the beginning of the 80's. In nowadays are developed several IDEF methods, each of them being good to describe one particular perspective of an enterprise. The IDEF0 method is used to do the functional modeling of a process (or activity).

## Methodology

The IDEF0 method uses the principle subordinated to abstraction: decomposition (e.g Rumbaugh J., BIAHA M. Premerlani W, Eddy F, 1991), which is a breaking of each activity, in finer details, Figure. 1, and continues to the convenient level of detailing.

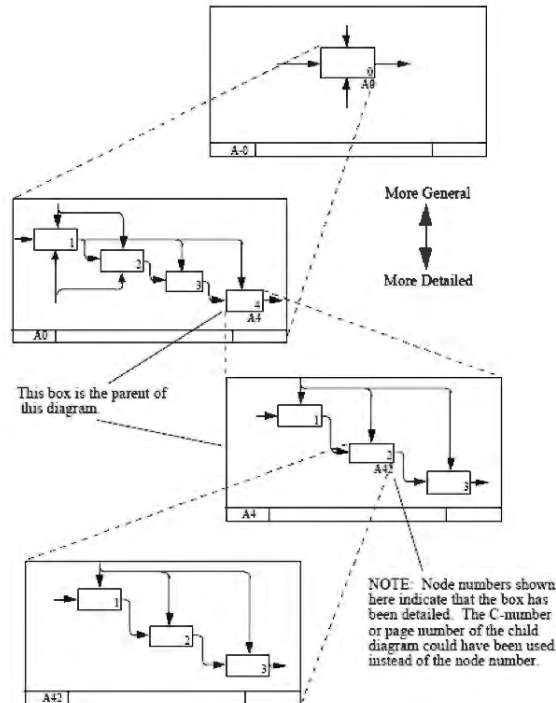


Figure. 1. Decomposition of activities using IDEF method

The method operates on the following five elements, Figure.2:

- activities (functions), represented by rectangles;
- inputs, represented by arrows that enter in the left side of the activity;
- outputs, represented by arrows that exit a activity;
- restrictions of controls on a activity, represented by arrows that enter in the superior side of the activity;
- mechanisms, represented by arrows that enter in the lower side of the activity.

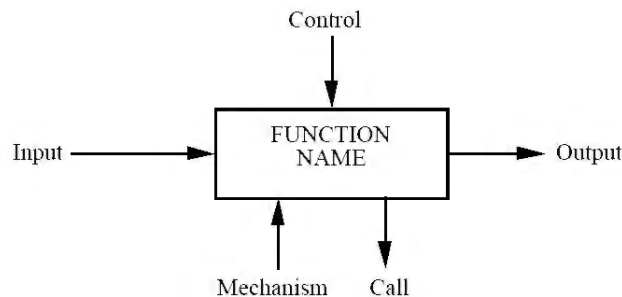


Figure. 2 Elements of IDEF method

The decomposing of the processes of the workstation starts in a higher level, noted A0. The made model, Figure. 3, has the following elements: input – demand of a certain type of assembled product and the parts that are to be assembled into de requested product, mechanism - workstation, personnel and means of transport for supply, control - methods, rules and instruc-

tions of operating for the workstation and cost, and as output – performance indicators and products.

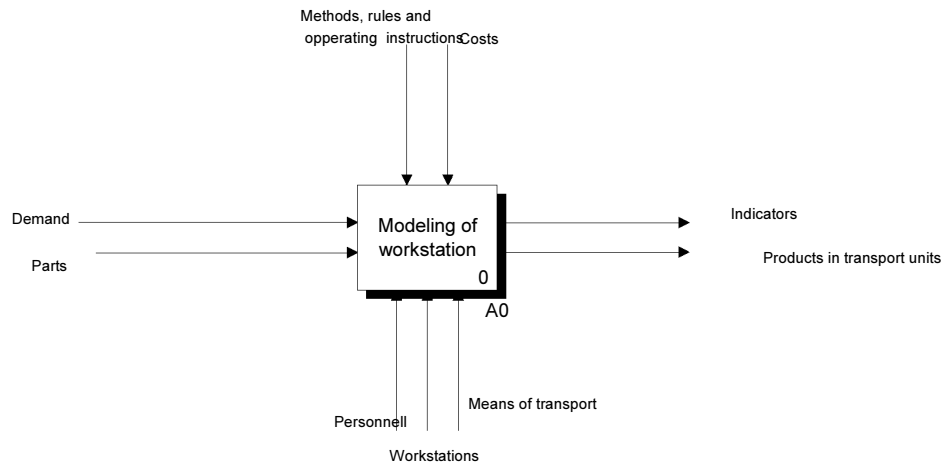


Figure. 3 The model of the workstation

The first level of decomposition of the functional model of the assembly process made on the workstation is presented in Figure 4, and the made activities are:

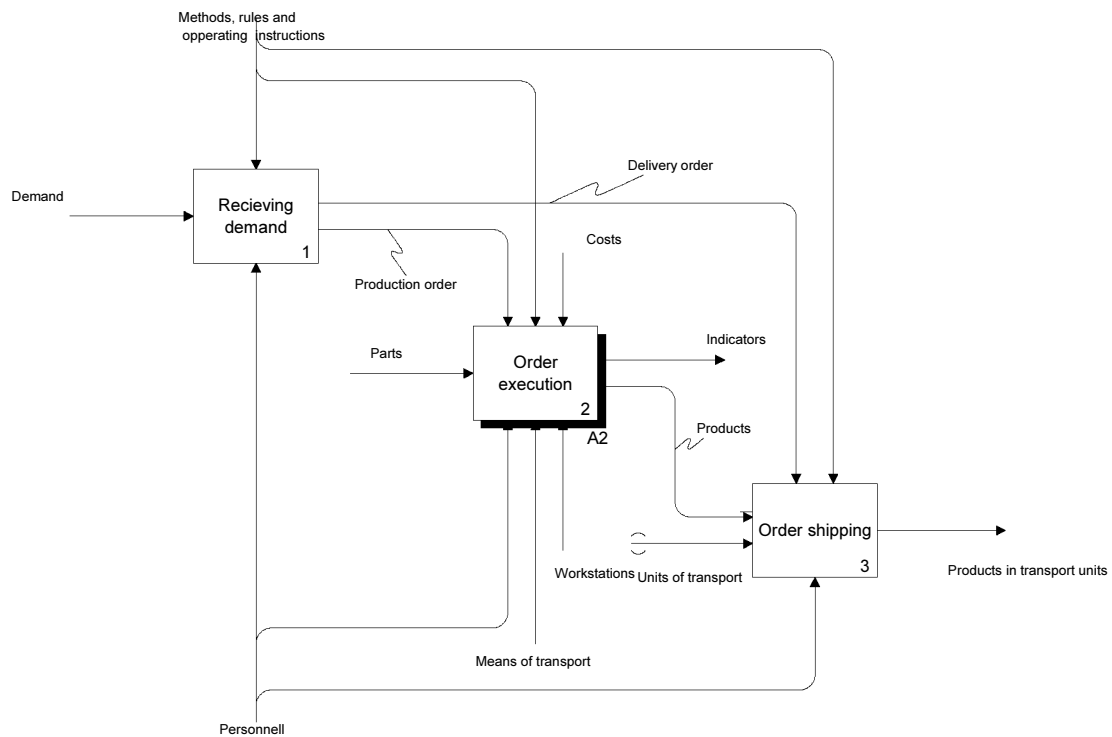


Figure.4 First level of decomposition of the assembly process

- A1 – receiving demand: activities that process the received demand from the client and have as output the manufacturing order to activity A2 and delivery order sent to activity A3 – order shipping;
- A2 – order execution: activities by which the parts are assembled in products;
- A3 – order shipping: activities by which the delivery order received from activity A1 triggers the release from storage of products to the client.

The activities A1 – receiving demand and A3 – order shipping are made in the same way, regardless of the workstation supply method. Therefore, only A2 activity – order execution will be decomposed in the second level, Figure 5.

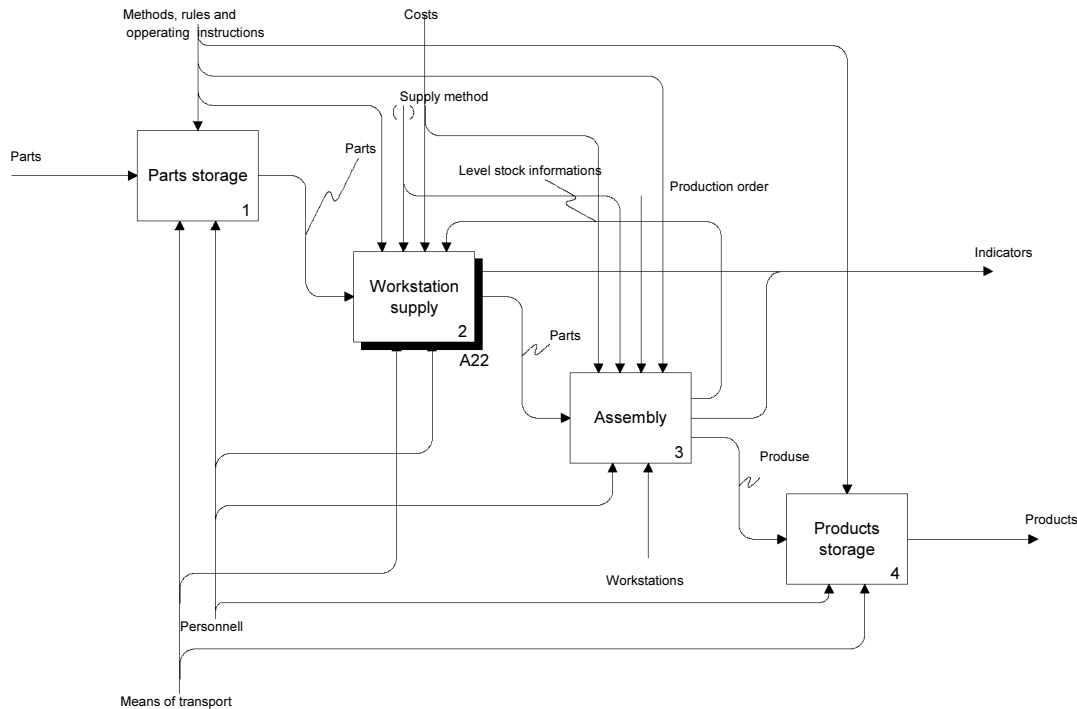


Figure.5 Second level of decomposition – activity “Order execution”

The steps detailing in this activity is presented in the order flow browsing parts:

- A21 – Parts storage: activities of storage of parts that arrive from the suppliers in transport units and that have as output parts in smallest packaging;
- A22 – Workstation supply: activities of preparation, transport and storage of parts in the workstation;
- A23 – Assembly: activities by which the parts stored in the workstation are assembled after receiving the manufacturing order;
- A24 – Product storage: activities of storing of products resulted after assembly.

Activities A21, A23 and A24 – parts storage, assembly and product storage, are made in the same way for all the supply methods considered for this study. The difference between the methods of supply, consequently also between the functioning models is given by activity A22 – workstation supply.

When to supply the workstation is used the method based on stock, the activity A22 is made as following, Figure. 6:

- the logistic operator (personnel) analysis the information linked with the level of stock of parts needed for the workstation and makes the list of supply necessary (activity A221);
- according with this list of supply necessary, in step Preparation of transport (activity A22), are chosen the needed boxes with parts, in the wanted quantity. This boxes are placed on transport platforms;
- from the area preparation of transport, the transport platforms are transported (activity A223) to the storage area associated to workstation;
- the storage (activity A224) is made in an area as close as possible of the workstation and includes: placing transport platforms in the designated areas for stock (the ones for big parts) and placing the boxes for the small parts in the dynamic rack.

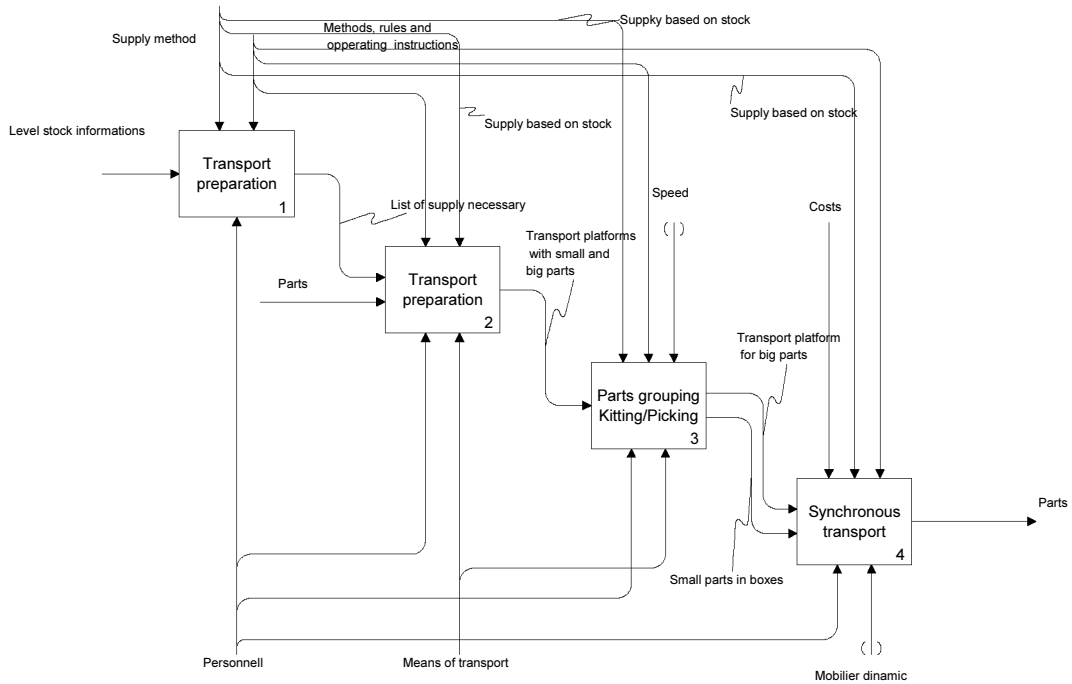


Figure.6 Third level of decomposition – activity “Workstation supply – method based on stock”

When for the supply of the workstation is used the method Strike zone, the activity A22 is made as following, Figure. 7:

- the logistic operator (personnel) receives the need of parts from the integrated system of production management and prepare the transport platforms with parts (A221);
- depending on the size of parts, the transport platforms are sent (A222) to the following areas: big size – to the area of intermediate storage, small and medium size ones – the workstation storage area;
- in the intermediate storage area it is done the loading of the transport conveyor (A223) to bring the big size parts in the working area.
- the storage of parts (activity A224) is done in the work area of the workstation (Strike zone) and includes: placing of the boxes for small components in the dynamic racks. The big size parts are brought by the transport conveyors (as seen in A223).

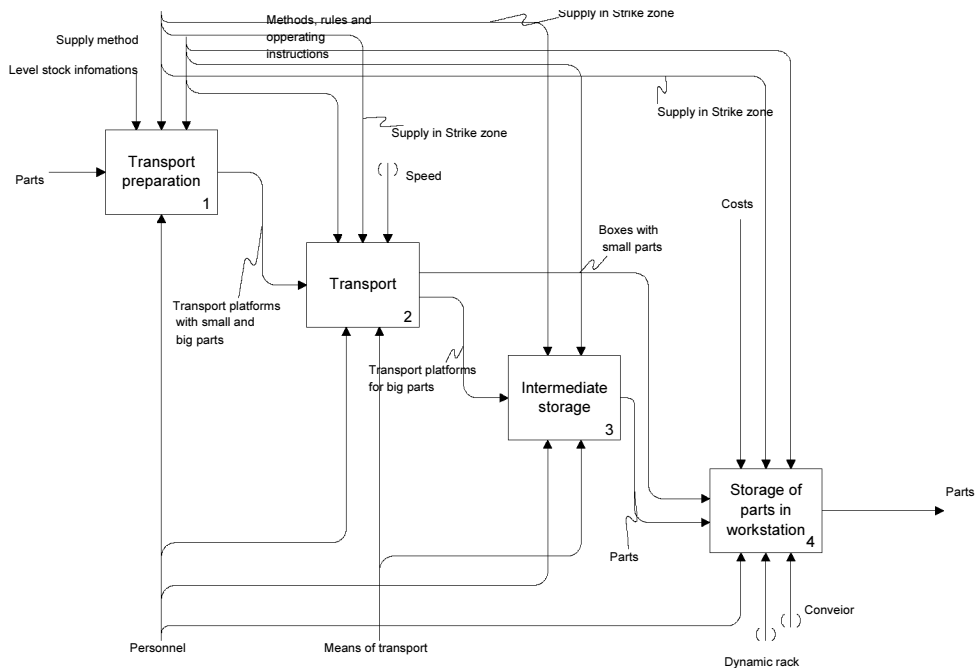


Figure.7 Third level of decomposition – activity “Workstation supply – method Strike zone”

When to supply the workstation is used the Synchronous method, activity A22 is done as following, Figure. 8:

- the logistic operator (personnel) receives the need of parts from the integrated system of production management and prepares the transport platform with parts (A221) for two areas: kitting/ picking area and workstation;
- depending on the size of the parts, the transport platforms are sent (A222) to the following areas: big size ones and some of small size ones – to kitting/ picking area, the ones of small size – to the storage area near the workstation;
- the grouping of parts (A223) is done according with the production program. The grouping consists either in forming of kits specific to one product, either in placing them in picking trolleys in the order of assembly;
- the synchronous transport (A224) provides the transport of kits directly to the workstation and of the picking trolleys in the vicinity of the station (in the storage area), in the order given by the production program;
- the storage of parts (activity A225) is done in the workstation area and includes: placing picking trolleys and placing of the boxes for small parts in the dynamic rack.

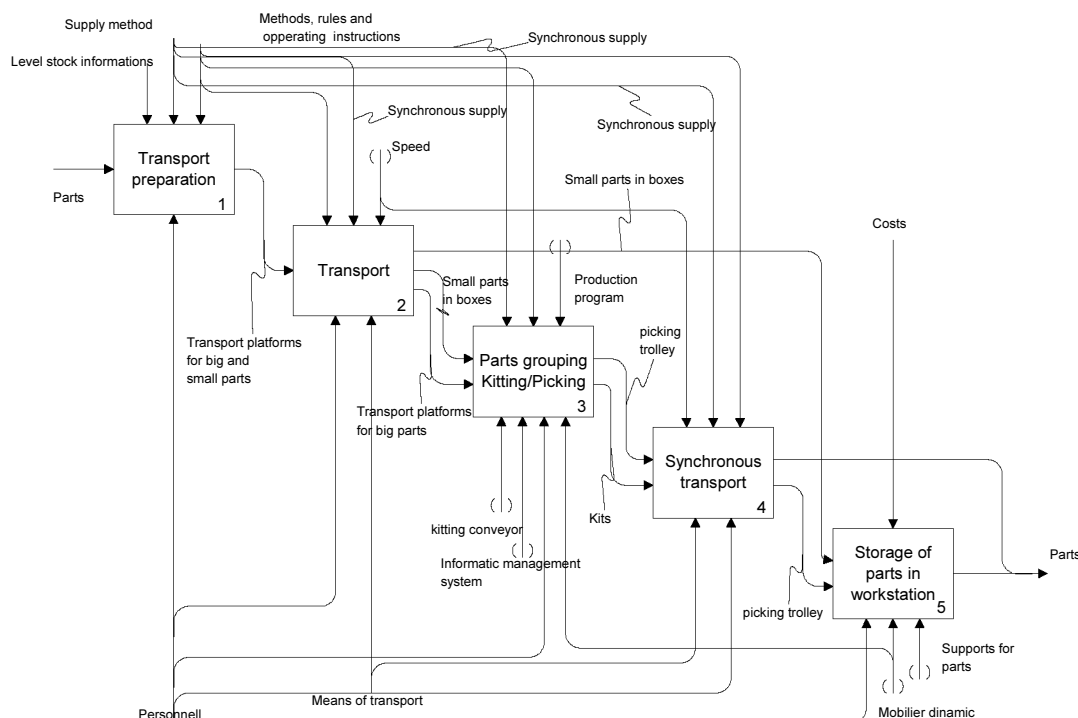


Figure.8 The third level of decomposition – activity “Workstation supply – method synchronous”

## Discussion and conclusions

This study represent a methodology of functional analysis on a workstation of a assembly line, methodology based on abstraction, based on the decomposition of activities in fine details, until reaching a degree of detailing needed.

The functional modeling of the assembly workstation with the help of IDEF0 standard, applying three supply methods, lead to the following findings:

- to determine the activities influenced by the supply method is sufficient to decompose them to the third level of details;
- the developed functional models can be used as tools to describe the supply of the assembly workstation, in them being detailed and standardized the way of making the associated processes of the studied supply methods;

- the made functional models can be extended and extrapolated for other similar workstation of an assembly line.

The study can be continued by the functional modeling of the entire assembly line and by the simulation of the functioning of the line in order to analyze the influence on the considered supply methods on the performance indicators, as: the number of needed operators to service the line, the level of work in progress, the length of the production cycle, the production cost.

### References

„Integration definition for function modeling”, Federal Information Processing Standards Publications, 1993

**Rumbaugh J., BIAHA M. Premerlani W, Eddy F.,**  
1991

“Object Oriented Modeling and Design”, Prentice Hall Publishing House, January, New Jersey  
1991

# Management Oriented Towards Shareholders

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## Abstract

**Purpose** – At an extreme are managers oriented towards shareholders, at the other extreme are managers oriented towards the entity (organization) who follow the interest of all parties, or their own. We seek to describe these orientations of managers and the types of shareholders that exist.

**Methodology/approach** – We seek to describe several factors that influence the managers and the shareholders: the nationality, the culture, the economic and social background.

**Findings** – We found that there are major differences between shareholders from different countries with social, economic and culture differences. The interests of management and the interests of shareholders are generally different, but there can be situations in which they align.

**Research limitations/implications** – From managers there is required that they offer performance that can be measured. They have sales targets, and so on. But it is observed that they sometimes offer bad performance, manipulate the share prices or bribe the auditors.

**Practical implications** – Shareholders have the interest that the company goes from good to better, maximizing the profit, because this creates value for the company. Shareholders must understand that they take the risk of having management that does not behave as expected.

**Originality/value** – If the portfolio of the shareholders is diversified there is less risk associated to the behaviour of the management of a certain company in which they own stock.

**Key words:** management, shareholders

## Introduction

In modern life of global business there can be observed an increased tendency of separation between management and shareholders (or company owners) as Shu (1975) describes. Is this in the interest of the shareholders as well? Giving more freedom to managers is in their interest but what about the interest of the shareholders? Who will take care of it? According to Donaldson (1963) differentiate managers that have a shareholders interest and another interest (probably their own, of the organization, or of the employees). Managers can have an interest focused on the shareholders or the owners of the company they work for, i.e. they follow the shareholders financial objectives. They listen to what the shareholders have to say and follow their lead. Also managers can have an interest that is common to all parties involved or of their own.

In the management of top Eastern (Japanese) companies what matters more importantly is the market insight, according to Oldman & Tomkins(1998). Thus it is relevant to establish, based on the market, the production costs and finally compare them with the obtained costs or with the expected costs. For the shareholders the costs are better to be kept under control. In the Western companies what prevails is the process-driven insight. Managers are oriented towards the use of technology at its available cost and will take into account costs and make a market insight later in the design of the management system. Hiromoto (1991) compares the Western process-oriented business model to the Japanese market-oriented model. In the Western approach constraints are used as given while in the Eastern approach they are imposed early in the management system



design based on the market. Constraints should be formulated by higher authorities like the shareholders. We believe that modern business requires moving constraints.

### **Shareholders Interest in Mergers and Aquisitions**

Mergers mean growth, and it is in the interest of shareholders, because it means an increase in revenues for the company that goes through such a process. When the management makes such a merger decision, cultural aspects of the company can change, management teams can change, which can bring reluctance from the side of the shareholders. If this merger is done at a larger scale, in West Europe for example, the purpose is to offer a new identity, a European identity.

The literature uses as case studies examples from practice that are related to turnaround situations. The examples relate to situations where companies were in trouble. Starting with the seventies to the nineties, some authors, Altman (1968 and 1994), Baden-Fuller & Stopford (1994), Bibeault (1991) and Fruhan (1985), writing on strategy have been concerned with such turnaround situations and also with the management of change which is originated from the same line of influence.

### **Management Insight. Target Costing**

In this research we compare Target Costing with traditional Western approaches. Target costing is part of the cost management system. It is a pricing method in which a desired profitability is obtained by setting the product price with the help of research and development, engineering, production. Cooper and Slagmulder (1997) wrote extensively about target costing. They developed a model which was later extended. Target costing involves, first, setting of the price that is required and second, the achievement of that price. Prices are set early in the process where significant modifications and reductions can still be made. Target costing has been linked with contingency theory from the management literature. Contingency theory states that there is no best way to lead an organization. The influence of the environment counts heavily. Thus you cannot say that Eastern or Western cost management approaches are better.

The problem is what are the shareholders' interests, especially when they have diversified portfolios, own index funds positions, and are themselves consumers and citizens, and have an overall view on the short term or on the long term. The fact that the shareholders' interest does not resume to the price of the stocks is not an unknown thing. According to Scully M. (2005), for example, the fact that the price of the stock increases on the short term may appear to be in the interest of the shareholders but if buying the company is a "killer" for the industry it can be in conflict with the diversified portfolio of the respective shareholder. The idea of a diversified portfolio is that the risk is spread along various investments so that if an investment decreases other investments compensate for the loss.

Oldman & Tomkins(1998) propose a contingency costing model that involves: Continuous Process Improvement, Continuous Market Innovation, Product Pruning, Radical Innovation. For Continuous Market Innovation, the authors give as example market-driven, non-turnaround companies like Toyota and Nissan. With Product Pruning, the authors wish to represent traditional turnaround Western companies in which the management type is technology-driven/process-driven. The differences between Continuous Market Innovation and Product Pruning is the base for debates on Japanese versus Western approaches.

In the model proposed by Oldman & Tomkins(1998), the Continuous Process Improvement is for businesses that apply forward thinking to cost reduction, businesses that have mature products with very long life cycles.

The general role of the managers is well known: they are supposed to make the company grow, stay on profit, and increase sales. According to Vaknin (2005) the managers rarely do this. They act in their own interest. The same author puts this question: "Why do the shareholders tolerate bad functioning of the management as long as the stock prices of the company are increasing?" The fact that the shares of the company increase in value can be only temporary. What matters is what happens on the long run. Many business leaders advise their managers to stop worrying

about the ups and downs of the company on the short term and focus on making the company stronger on the long run.

Vaknin (2005) says nothing is happening randomly. The behaviour of the managers (manipulation of stock prices, lack of performance in places where is most visible like in public relations, the insider trading problem, and high remuneration packages) is before known by the shareholders and even encouraged.

### **Radical Innovation**

According to Oldman & Tomkins (1998), Radical Innovation, one of the four elements of the model proposed, refers to turnaround businesses with short-term cost control. These businesses are constantly in search of radical innovation that moves away from the pruning of the products that already exist in the portfolio of the company.

According to Zeev (2010), the Principal Agent problem refers to the fact that managers that are put in their positions by shareholders have other interests than those of their employers.

Schumpeter (1934) affirms that the small entrepreneurial firms are the most innovative. But writings on this have been inconclusive. It was also said that mature firms that have resources of all kinds (including human), capital, even large amounts of capital, can appropriate innovations from the small start-ups. We note that larger companies can be very innovative on their own. Large companies also have the option of buying smaller innovative start-ups and acquiring their innovative technology or they can replicate the innovative technology internally. They have the option of continuing the innovation started by the smaller company.

The Industrial Research Institute makes an annual survey which rated one of the top challenges "making innovation happen" in the U.S. Industrial Research Institute counterparts in the Western part of the world and also in the Eastern part of the world have also rated "making innovation happen" in the top of the challenges.

### **References**

**Altman, E. A.**

1968

"Financial Ratios, Discriminant Analysis and the Prediction of Corporate Failure", Journal of Finance

**Altman, E. A.**

1994

Corporate Financial Distress, Wiley, 1994

**Baden-Fuller, C. and Stopford, J. M.**

1994

Rejuvenating the Mature Business, Harvard Business School Press, 1994

**Bibeault, D.**

1991

Corporate Turnaround: How Managers Turn Losers into Winners, McGraw Hill

**Cooper, R. and Slagmulder, R.**

1997

Target Costing and Value Engineering, Productivity Press, New York, NY

**Donaldson, G.**

1963

"Financial Purposes: Management vs. Shareholders", Harvard Business Review, XLI, (May-June)

**Fruham, W.E., Jr.**

1985

Revitalizing Business: Shareholder/ Work Force Conflicts, Boston, Harvard Business School

**Hiromoto, T.**

1991

“Restoring the Relevance of Management Accounting”, Journal of Management Accounting Research

**Hiromoto, T.**

1993

“Activity-based Costing”, in JAA, A special Committee Report of Japan Accounting Association, How Cost Management Systems should be structured under the New Business Environment

**Oldman, A. and Tomkins, C.**

1998

“Cost Management: East is East and West is West or Are We Evolving to a Common Future?”, Second Asian-Pacific Interdisciplinary Research in Accounting Conference Program

**Schumpeter, J.**

1934

The Theory of Economic Development, Cambridge, MA, Harvard University Press

**Scully, M.**

2005

Maximizing the Shareholder Value: “What are the shareholders’ Interests?”, <http://www.caseplace.org/d.asp?d=2797>

**Shu, S. Lao**

1975

“Managers Oriented Towards Shareholders versus Managers Oriented Towards Entity”, Vol. 31, No. 6, Financial Analysts Journal

**Vaknin, S.**

2005

“Conflict Between Managers and Shareholders”, <http://www.webpronews.com>

**Zen, O, ben Mordehai**

2010

“Aligning the CEO interests with the Shareholders interests”, <http://www.managementexchange.com/hack/aligning-ceo-interests-shareholders-interests>

# Efficiency and productivity analysis decision making units from two different geographical areas

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## Abstract

**Purpose** – This paper presents a comparative study on the efficiency and productivity in the area northwest of Romania and the North Rhine Westphalia in Germany. This comparative study aims to identify the efficiency and productivity that exist in the large enterprises of machine building industry, in both areas in a global economic crisis period.

**Methodology/approach** - As research tools in the study has been used Data Envelopment Analysis and Malmquist productivity index method.

**Findings** – The interpretation of the results revealed that both companies in Romania and in Germany have had an atypical evolution of efficiency and productivity data having great variations in the period.

**Research limitations/implications** – The results of this study highlight the efficiency and productivity which have registered large enterprises of construction machinery industry in the period 2005-2010.

**Practical implications** – Identifying the positive or negative evolution of the efficiency and productivity is for managers a starting point in developing existing strategies to reduce inefficiency and increase efficiency in the production process.

**Originality/value** – Importance of the results obtained in the research appears from the fact that on the market increased economic productivity is regarded as a competitive advantage.

**Key words:** Efficiency, Productivity, Malmquist index.

## Introduction

Measuring a firm or an economy activities performance is an issue that has been and is currently discussed in many organizations studied by worldwide researchers. Currently there are variety methods that measure some performance aspects, of which the most used are those that identify the efficiency and productivity of the studied part. These tools provide an answer to the question "How well are resources used (inputs) in an organization to achieve a certain level of results (outputs)?".

Methods of measuring efficiency and productivity are applied in wide range organizations, called in the literature units to make decisions (DMU) as it pertains to all productive entities. Whatever the field of activity, DMU seeks to be effective and steadily seeks to increase their productivity in order to have competitive advantages and provide high customer satisfaction. The pace of technology innovation and emphasis human resource development are essential problem treated with great importance especially for large manufacturing companies, whose aim is to use inputs so as to obtain the highest level of outputs.

Machinery industry is considered the main branch of manufacturing industry and increasing productivity within it leads to economic development of human society. In the machinery industry there are companies that deal with the cars manufacture, machinery and equipment and the manufacture of motor vehicles and their components. In Romania, machinery industry has an

important role to increase export competitiveness which can be achieved by formulating strategies that increase productivity and reduce costs. Romania's foreign trade provides a relevant image of the industry competitiveness being the sector in economy with the largest contribution to external economic exchanges, according to the Ministry of Economy, Trade and Business Environment.

N-V area is considered as the most economically attractive after the South area, which includes the capital city Bucharest, from all over Romania. This is because the labor market and wages, foreign investment, the private, market competition and modern technology inputs. This area is developing, with significant growth in recent years in sectors like construction, textile industry, machinery and equipment industry.

North Rhine Westphalia is the most populated area in Germany and is considered one of the important economic areas of the world. This area is the most important industrial center in Germany. Lately this area has undergone many changes in terms of economic industrial sectors. North Rhine Westphalia is the oldest tradition zone in the mining industry, steel production, mechanical engineering, chemical and paper and textile industry.

Efficiency of decision-making units can be measured taking into account frontier production technology and a given level of output and input price. In this context, the decision is likely to be allocative technical effective and efficient, but scale of operation could not be an appropriate one. In this case, you can improve efficiency of the scale for the company-wide to be effective. A unit that has a technology-based production with constant efficiency on a global scale, it is effective at the scale automatically. Efficiency at the scale is a simple concept and easy to understand in the case of a single input and a single output, but it is more difficult to understand in the case of multiple-input and multiple-output.

Measuring productivity and productivity change can be seen as part of decision-making performance measurement unit. Productivity is essentially a level concept and productivity measures can be used to compare performance of decision units, at some point of time. Productivity changes relate to movements of productive performance within a company or an industry over a long period of time.

The analyzed problem refers to the efficiency and productivity identification that exist in the large enterprises of machine building industry in the northwest of Romania and of the North Rhine Westphalia in Germany. Enterprises are seen as production systems that use multiple inputs to produce multiple outputs, without being limited to these variables.

### **Research Method**

As research tools in the study has been used Data Envelopment Analysis (DEA), which is a nonparametric method frequently used in economic research to estimate production frontiers (manufacturing efficiencies), and Malmquist productivity index method. The advantage of these index is a quantitative assessment of the overall productivity of a DMU, and the decomposition of productivity. In recent years, Malmquist index has become the standard DEA approach to measure dynamic productivity, which has many advantages (Oliveira et al. 2009). More research topics have been studied with Malmquist index model (e.g., Lv et al. 2012; Seo et al. 2010; Asmild et al. 2004; Färe et al. 1992). As a non-parametric method, a Malmquist index allows for decomposition in terms of technological progress and efficiency change, which can help give insights into the root sources of productivity change.

DEA is a non-parametric method that utilizes the linear programming approach. It aims at establishing linear partial space which can absorb extreme data and be observed without any limitation on the production technology. If the sum of the production elasticities in the programming approach is 1, it is considered that there is Constant Return to Scale (CRS). In this case, the scale efficiency is considered to be equal to the pure efficiency. In case, there is a difference between the technical efficiency indexes of CRS and VRS (Variable Return to Scale) for any economic unit, it indicates that the economic unit suffers scale inefficiency and the scale inefficiency can be calculated through the difference between the CRS and VRS technical

efficiency levels (Armagan et al. 2008, Coelli and Rao 1998). The efficiency of a firm, or a decision making unit (DMU) as firms are called in most DEA literature, using  $n$  different inputs to produce  $m$  outputs, is measured as the ratio between the weighted outputs and weighted inputs. Once the frontier is constructed, the measure of efficiency for any DMU is derived by comparing Euclidean distances from points on the frontier, with corresponding distances from the axis to points which are below the frontier. DMUs that lie on the frontier are efficient, while DMUs under the frontier are considered inefficient, since they use the same level of inputs but produce less output, or have the same output but employ more inputs (Ray 2012).

Malmquist productivity index (MPI) measures the change in the total factor productivity between two data point, by calculating the relative distances of each data point of the regions according to the common technology. Distance functions can be treated as input-oriented functions and output-oriented functions. Input-oriented distance function means the production technology that considers the minimum proportional shrinkage of the input vector, when the output vector is the data. As for the output-oriented distance function considers the maximum proportional increase of the output vector, when the input vector is the data. We start by considering firms which use  $n$  inputs to produce  $m$  output. Denote  $x \in R_+^n$  and  $y \in R_+^m$  as, respectively, the input vector and output vector of those firms. Then, the output distance function at time  $t$  can be defined on the technology  $P^t = \{(x^t, y^t) : x^t \text{ can produce } y^t\}$  as:

$$D_o^t(x^t, y^t) = \inf\{\theta : (x^t, y^t/\theta) \in P^t\} \quad (1)$$

The distance function is defined as the reciprocal of the maximum proportional expansion of the outputs vector  $y^t$ , given the level of inputs  $x^t$ , so that the new observation  $(x^t, y^t/\theta)$  is at the frontier of period  $t$ . This function characterizes completely the technology in such a way that  $D_o^t(x^t, y^t) \leq 1$  : if and only if  $(x^t, y^t) \in P^t$ . Furthermore,  $D_o^t(x^t, y^t) = 1$  if and only if the observation stands at the limits of the frontier, which occurs when the observation is efficient (Chen and Yu 2012). With the help of distance functions, a Malmquist index in the  $t$  period can be shown as (Caves et al. 1982):

$$M^t = \frac{D_o^t(x^{t+1}, y^{t+1})}{D_o^t(x^t, y^t)} \quad (2)$$

The index shown in relation (2) measures the productivity changes caused by the change in technical efficiency between  $t+1$  and  $t$  periods, under  $t$  technology. On the other hand, technical changes from between  $t+1$  and  $t$  period can also be measured under the technology of the  $t+1$  period. In this case, Malmquist productivity index can be written as follows:

$$M^{t+1} = \frac{D_o^{t+1}(x^{t+1}, y^{t+1})}{D_o^{t+1}(x^t, y^t)} \quad (3)$$

The change in the efficiency is the proportion of the technical efficiency (EFFCH) in  $t+1$  period to the technical efficiency in  $t$  period (4):

$$EFFCH = \frac{D_o^{t+1}(x^{t+1}, y^{t+1})}{D_o^t(x^t, y^t)} \quad (4)$$

In (5), the change in the technology (TECH) between two periods  $y^{t+1}$  and  $y^t$  is explained:

$$TECH = \sqrt{\left(\frac{D_o^t(x^{t+1}, y^{t+1})}{D_o^{t+1}(x^{t+1}, y^{t+1})}\right) \cdot \left(\frac{D_o^t(x^t, y^t)}{D_o^{t+1}(x^t, y^t)}\right)} \quad (5)$$

The Malmquist productivity index (MPI) is defined as the geometric mean of two distance-function-based Malmquist productivity indices, so it is possible to break it down into the following catching-up effect and technical change:

$$M_D(x^t, y^t, x^{t+1}, y^{t+1}) = EFFCH \times TECH \quad (6)$$

The efficiency change measures the catch-up effect and it reflects whether or not a movement towards or away from the frontier has occurred at period  $t$  and  $t+1$ . Moreover, the EFFCH can be rearranged as below:

$$EFFCH = PECH \times SECH \quad (6)$$

where PECH denotes pure technical efficiency change and SECH means scale efficiency change. And the technical change component measures the firm-specific effect of the shift of the technology frontier (Seo et al. 2010), which indicates whether or not DMUs belongs to the frontier have improved or worsened from period  $t$  to period  $t+1$ . A value for the Malmquist index greater than one indicates that productivity growth is positive while in the opposite case, productivity growth becomes negative.

## Results

Efficiency and productivity analysis was performed on large enterprises (over 250 employees) in the two areas mentioned above, in the period 2005-2010. In the study were considered only companies that were founded before 2005 and have not recorded losses in the analyzed period. The used program to calculate indicators of productivity and efficiency frontier was DEAP 2.1. (Data Envelopment Analysis Computer) developed by the Centre for Efficiency and Productivity Analysis of the University of New England.

The present research considered a rate of 20% of large enterprises whose activity is being conducted in the machinery industry in the northwest of Romania and the NRW area of Germany. Annual information on each company's activities have been taken from the website of the Ministry of Finance in Romania and the Office of North Rhine Westphalia Statistics (LDSN-W 2011). Using these data Malmquist productivity index have been calculated for the areas studied on the period of 6 years.

In Table 1 are to be found the values of the indices Malmquist productivity for the area of N-V of Romania, and in Table 2 are given index values for the area North Rhine Westphalia in Germany. For easier interpretation of results, these indices are to be found represented graphically in Figure 1 and Figure 2. In these figures you can see that the machinery industry in the two areas recorded low level of productivity in the years 2008 and 2009, meaning that the world economic crisis has made its presence felt in Romania, which is a developing country, and in Germany, which is a developed country. However, the zone of N-V of Romania has had a smaller interval in which oscillated productivity values as compared to the interval of the area comparison, which may mean that Romania has suffered more easily crisis than Germany.

## Discussion and conclusions

Identifying the positive or negative evolution of the efficiency and productivity is for managers a starting point in developing existing strategies to reduce inefficiency and increase efficiency in the production process. Human resources and technology are key elements of productivity growth. The results of the study show the efficiency and productivity that were recorded by the enterprises in the analyzed period. Productivity is viewed as a competitive advantage, so companies that have increased productivity, even in a time of crisis, are based on modern management and performance.

As the results of the study it is found that the area of N-V of Romania took a variation of productivity easier compared to the North Rhine Westphalia in Germany, the last reaching minimum values close to 0 in the years 2008 and 2009. This can be explained by the facts that in periods of crisis developing countries are less affected compared to developed countries.

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## References

**Asmild, M., C. V. Paradi, V. Aggarwall, and C. Schaffnit**

2004

Combining DEA window analysis with the Malmquist Index approach in a study of the Canadian banking industry. *Journal of Productivity Analysis*, 21, 67–89.

**Armagan, G., A. Ozden, and S. Bekcioglu**

2008

Efficiency and Total Factor Productivity of Crop Production at NUTS1 Level in Turkey: Malmquist index Approach, *Quality & Quantity Journal*, 44, pp. 573-581.

**Caves, D. W., L. R. Christensen, and E. W. Diewert**

1982

Multilateral comparisons of output, input, and productivity using superlative index numbers. *Economic Journal*, 92, 73–86.

**Chen, P.C., M. M. Yu**

2012

Total factor productivity growth and directions of technical change bias: evidence from 99 OECD and non-OECD countries, *Decision Support Systems*, <http://www.sciencedirect.com/science/article/pii/S0167923612001145>

**Coelli, T.J., and D.S.P. Rao**

1992

A Cross-Country Analysis of GDP Growth, Catch-up and Convergence in Productivity and Inequality, Centre for Efficiency and Productivity Analysis (CEPA), Working Paper Series, No: 05/1998, Australia.

**Färe, R., S. Geoskopf, and C. A. K. Lovell**

1992

Productivity change in Swedish pharmacies 1980–1989: a nonparametric Malmquist approach. *Journal of Productivity Analysis*, 3, 85–101.

**Landesamt für Datenverarbeitung unde Statistik Nordrhein-Westfalen**

2011

Statistisches Jahrbuch Nordrhein-Westfalen. Düsseldorf: LDS.

**Lv, W., X. Hong, and K. Fang**

2012

Chinese Regional Energy Change and its Determinants Analysis: Malmquist Index and Tobit Model, *Annals of Operations Research*, <http://www.springerlink.com/content/83n75u5n41vt961j/>

**Oliveira, M. M., M. Gaspar, J. P., Paixao, and A. Camanho**

2009

Productivity change of the artisanal fishing fleet in Portugal: a Malmquist index analysis. *Fisheries Research*, 95(2–3), 189–197.

**Ray, S.**

2012

Measuring and Decomposing Sources of Productivity Performance in India's Paper and Pulp Industry under Liberalized Regime: A Nonparametric Approach, *International Journal of Economic Sciences and Applied Research*, Vol. 5. No. 1, pp. 147-171.

**Seo, D., A. M. Featherstone, D. L. Weisman, and Y. Gao**

2010

Market consolidation and productivity growth in U.S. wireline telecommunications: stochastic frontier analysis vs. Malmquist index. *Review of Industrial Organization*, 36, 271–294.



## Annex: Tables and figures

Table 1. Malmquist productivity index for N-V area of Romania

<b>Year</b>	<b>EFFTH</b>	<b>TECHCH</b>	<b>PECH</b>	<b>SECH</b>	<b>TFPCH</b>
2006	0.921	1.136	0.965	0.954	1.046
2007	2.152	0.349	1.582	2.624	1.449
2008	1.776	0.414	1.424	1.247	0.736
2009	0.475	2.488	0.692	0.687	1.182
2010	1.287	0.891	0.685	1.894	1.155

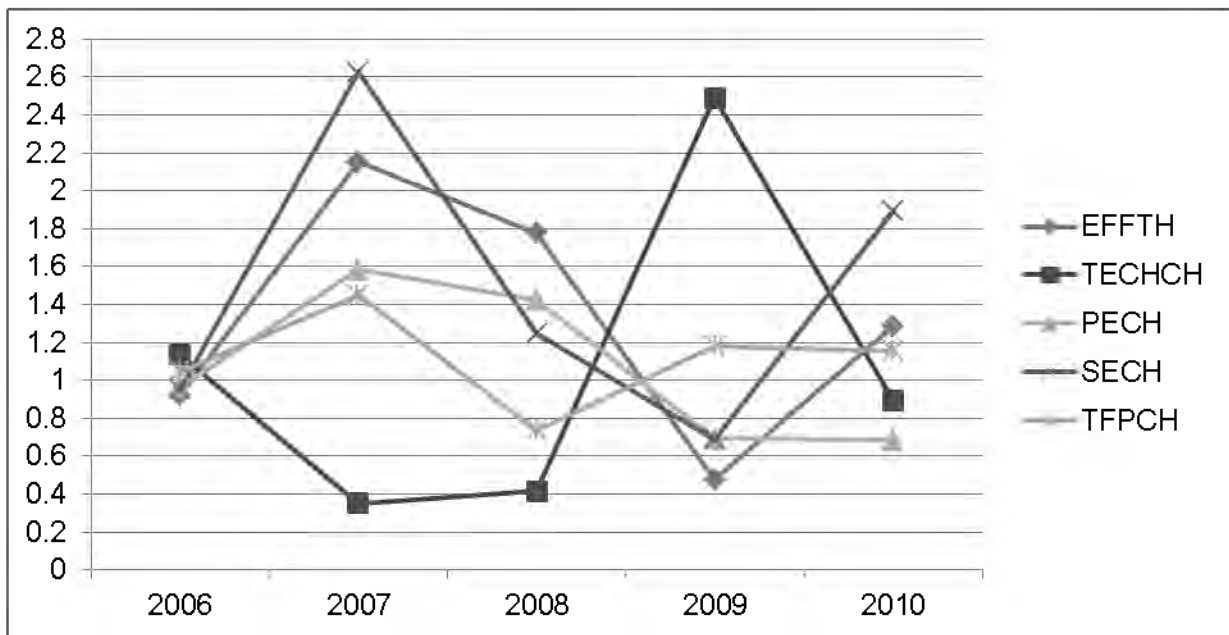


Figure 1. Malmquist index and its component for N-V area of Romania

Table 2. Malmquist productivity index for North Rhine Westphalia area of Germany

<b>Year</b>	<b>EFFTH</b>	<b>TECHCH</b>	<b>PECH</b>	<b>SECH</b>	<b>TFPCH</b>
2006	5.905	0.020	2.033	3.116	0.196
2007	0.050	6.437	0.439	0.011	4.322
2008	0.452	1.186	0.796	0.568	0.536
2009	4.980	0.010	1.970	2.731	0.587
2010	0.050	5.811	0.528	0.091	2.447

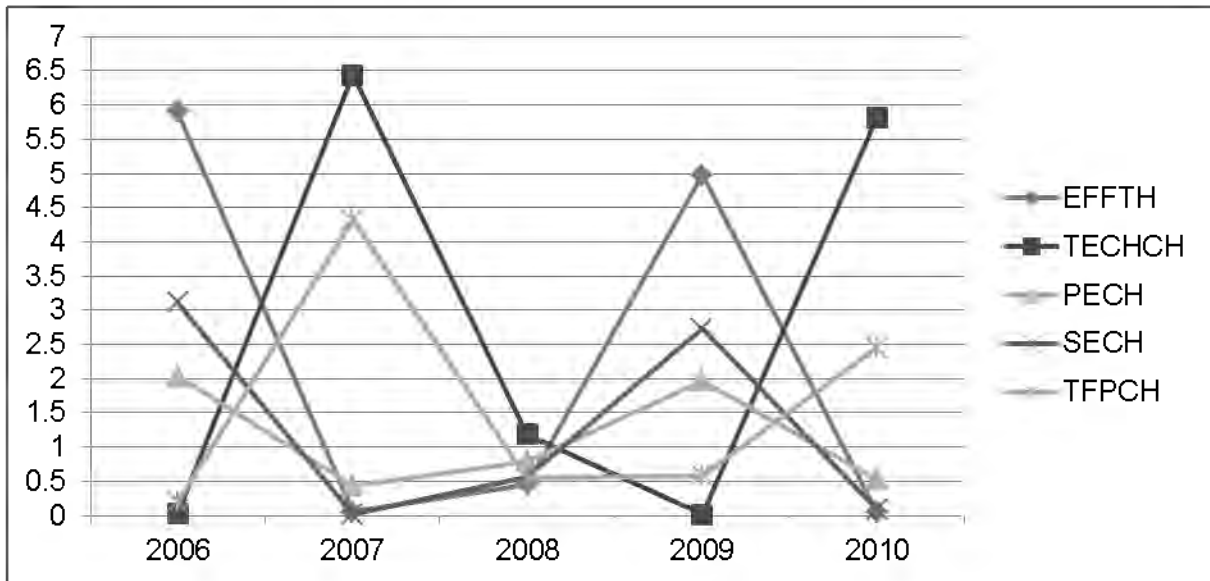


Figure 2. Malmquist index and its component for North Rhine Westphalia area of Germany

# Project – Innovative Integrated Network for The Entrepreneurial and Ecological Development of Human Resources In Organisations

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## Abstract

**Purpose** – The paper reviews the development of an innovative integrated network for the ecological and entrepreneurial development of human resources through holistic strategies organizations from the perspective of innovation, of life long education, of the role of scientific and other types of knowledge, having a scientific base for the management of transition towards an European society based on knowledge.

**Methodology/approach** – We rely on a profound understanding of the interdependent and complex socio-economic challenges that the organizations have to face in the process of European integration and the European Union, in domains such as: jobs, economic growth, development and preservation of social cohesion, quality of life and global interdependence.

**Findings** – We believe that involvement with assumed responsibility of our colleagues and staff will lead to an innovative integrated network for sustainable human development.

**Research limitations/implications** – The project will be based on the development of the innovative team which currently applies creative holistic methods and practices rapid learning while developing and applying strategic researches/projects.

**Practical implications** – The present paper outlines ways to develop an “implementation field” in the network specialized in strategic domains of activity for the ecological and entrepreneurial development of human resources in organizations and for the members of the network.

**Originality/value** – The paper represents a starting point for developing 10 starter innovation/research/education teams specialized for/in firms/organizations.

**Key words:** innovation, ecological and entrepreneurial life long education, human resources

## Introduction

The concept of ecological and entrepreneurial university focuses upon the sustainable/harmonious development, a process that simultaneously aims at economical, social, environmental and cultural aspects (<http://www.recadd.ro/ro/forum/Documente/1672-Universitatea-eco-antreprenorial%C4%83>). The ecological and entrepreneurial university is a project within the Innovation Europe ([http://ec.europa.eu/europe2020/index\\_en.htm](http://ec.europa.eu/europe2020/index_en.htm)), a project that intends to constitute a network of partners interested in offering a chance to the specialists of the community. This concept is being developed within “Petru Maior” University of Tîrgu-Mureș and partner universities.

## The aim of the project

The strategy defines where the EU wants to be by 2020 through five headline targets: 75% of the EU population aged 20-64 should be employed; 3% of the EU's GDP be invested in R&D; the "20/20/20" climate/energy targets should be met. The share of early school leavers should be under 10% and at least 40% of the younger generation should have a tertiary I education

attainment or equivalent. At least 20 million people should be lifted out of poverty and social exclusion. These targets are interrelated and critical to our overall success and require concerted efforts across Member States, supported by EU-level actions (Council of the European Union, 2012).

Development of an innovative network for ecological and entrepreneurial development of human resources through holistic strategies organizations in Romania, from the perspective of innovation, of life long education, of the role of scientific and other types of knowledge, having a scientific base for the management of transition towards a European society based on knowledge (based on a profound understanding of the interdependent and complex socio-economic challenges that the organizations in Romania have to face in the process of European integration and the European Union in the process of integration of new member countries, in the domains: competitiveness, jobs, economic growth, development and preservation of social cohesion, quality of life and global interdependence).

The objectives of the project are:

- *Development of 10 starter innovation/research/education teams specialized for/in firms/organizations* - focused on holistic strategies and strategic projects meant for ecological and entrepreneurial development of human resources in organizations - which develop itself progressively in 3 years as competitive local/regional/national network in European context, encouraging the implication of certain foreign specialists (including Romanians) interested in Romanian phenomena or in comparative approaches in which Romania is present, forming new generations of researchers specialized in the European issue of competitiveness, disseminate the achieved experience (in the international literature, in recognized magazines or ones from the main flux), has an editorial politics adequate for the information of specialists and of the Romanian public, practice creative holistic and rapid learning methods (with the INOVATOR Group), monitors the development process.
- *Interdisciplinary researches on European socio-economic themes* (researches for identifying the domains of large interest at local/regional/national level - useful for opening multiple perspectives, necessary for the understanding of complex problems, comparative over-border researches in order to offer an efficient working instrument and important opportunities for over-border and over-regional learning, including on-line, to the comparative and estimative researches meant to underline the position of the Romanian organizations in European and international context, the regional/community diversity inside the country and the organizational practices of development at the local/regional/national/European level) in the field of ecological and entrepreneurial development of human resources at the level of the organization - which is meant to produce an added value of distinct importance.
- *Development of an 'implementation field' in the network specialized in strategic domains of activity* (complex site in public circuit and free access in the internet, socio-economic forums/manifestations of debates on general and specialized themes, knowledge base, complex activities in the network permanently offering/developing solutions and innovative models which render local/regional/national synergies in European and international context - classic and online) - for the ecological and entrepreneurial development of human resources in organizations and for the members of the network.

The thematic areas of the interdisciplinary comparative/estimative researches endorse, according to Blaga, P. (2012) and to Blaga and Tripon (2011) are:

- *the correlated with the economic growth, jobs, in a society based on knowledge;*
- *the continuous development of the socio-economic models* considering the economic-social cohesion in an enlarged Europe, of the environment protection, of the social major tendencies and the implementation of adequate public politics (demographic changes - ageing, migration; work protection and medicine, quality, the role of business in society and demographic diversity, cultural interactions, protection of work rights);
- *understanding new types of interactions and interdependencies* which appear among the regions of the world their implications on the organisations; the study of new threats/opportunities and risks;

- *the study of problem* regarding the development and active participation of specialists/citizens in the complex community projects which endorse durable development; building a climate of understanding and mutual respect regarding the cultural unity and diversity in organisations; exploration of new methods of learning and experimenting in business;
- *improvement of socio-economic and scientific indicators* in the politics of implementation/monitoring/evaluation of the programmes of ecological and entrepreneurial development of human resources which already exist and the development of new such indicators;
- *the prognosis regarding the evolution of the innovation, continuous formation and research systems*, future developments in important sub-domains of ecological and entrepreneurial development of human resources at the level of the strategy of the firm/corporation;
- *regional and community development*, in European and international context: export, migration of working force, constructions, inflation, social partnership and concern, retirement, occupation and unemployment, development of human resources, community debts, financial deficits, prognosis, villages - intercultural and interethnic aspects, identification of the continuous formation needs, of the methodologies and research techniques regarding the formation needs;
- *development practices adopted by the organisations and networks of participative type*: work organisation and protection, quality of products and construction services, wood industry, etc.; professional criteria monitoring, on a long run, of the formation effects, technical innovative projects, the entrepreneur University for the community, finances, improvement of the quality of medical services which lead to maintaining and developing working force, quality of services for the producers/processors/integrators networks, quality of permanent formation, quality of services of the economic agents within the network, ensuring the health of employers and the improvement of competitiveness of the industries of health, efficient administration of resources available and reducing the negative impact generated by the economic activities on the environment;
- *communication in multicultural interdisciplinary networks*: encouraging the participation to national and European programmes of interest, organisation of scientific or promotional manifestations having representative participation, working visits of some personalities from the country or from abroad, informational and communication technologies, concerned in the development of international society for the benefit of business and administration environment, promoting the partnership with local authorities, ONGs;
- *acknowledgment / development and rendering the creative potential* in organisations.

The main elements of the project are:

- *Elaboration of new approaches and theories in the domain of the theme*:
  - ✓ development of an innovative holistic concept for a network which aim at the ecological and entrepreneurial development of human resources of the organisations, in the context of European integration of Romania - using creative methods;
  - ✓ elaboration of a model of scientific analysis (concepts, methodologies, operational models, working instruments) of the permanent formation in order to improve competitiveness;
  - ✓ new approaches and theories in the strategic area of prognosis and creativity;
  - ✓ 3 patented inventions or forthcoming (Blaga, 2011; Tripon and Blaga, 2010);
  - ✓ 3 trademarks in the creative group INOVATOR (innovative managerial games, complex solutions).
- *Development of some present approaches/theories/methods*:
  - ✓ laboratory-platform of creativity/experimentation and testing of innovative strategic applications in network, online integrated-including with the European university medium;
  - ✓ development of applications or rapid learning, centered on organizational competitiveness
  - ✓ application of Aim/Mean Methodology in strategic projects;
  - ✓ development of methods of assessment of the process of permanent formation (self-assessment and assessment tests, in Focus - Group and Forum activity on-line);
  - ✓ development of approaches/theories/methods present in the books concerned in: Innovative eco-development, Networks for ecological and entrepreneurial development of human resources, Innovation and communication in organisations, Information and

- assessment brochure, Guide of applications and models of good practice for the ecological and entrepreneurial development of human resources- online and classical version;
- ✓ development of approaches/theories/methods present in the scientific papers of the members of the team at 10 scientific events per year.
  - *Adaptation of new approaches/theories/methods, in order to be used in new applications; elaboration of new experimental methods:*
    - ✓ adaptation of new innovative approaches/theories/methods which lead to the ecological and entrepreneurial development of human resources in European context (develops methods innovatively, techniques from European Union - rendering local/regional/European synergies by involving EU citizens of Roman origin) - development of the pilot phase;
    - ✓ development of the innovative team in the entrepreneurial environment – innovative entrepreneurial university in partnership with undergraduates ("Școala Altfel" Program, <http://scoalaaltfel.edu.ro/despre.php>), economic agents – and innovative communities (Rețea de cluburi pentru promovarea adaptabilității și dezvoltării durabile – ReCADD, <http://www.recadd.ro/>);
    - ✓ new approaches for the formation and perfection of managers, using creative methods for the strategic development (coaching, etc.);
    - ✓ development of spin-off-sin order to render the results of the researches in European and international context:
      - formation / certification of formatters/researchers for continuous formation, specialised in ecological and entrepreneurial development of human resources and innovative applications (researches regarding new methods of selection of the master degree students with inclination for research and permanent formation, researches regarding the development of programmes of permanent formation in the domain of organisational development of human resources - using methods of creative rapid learning);
      - 3 teams of scientific based consulting, specialised in themes of interest for the network;
    - ✓ innovative applications for a permanent formation programme in ECR (Efficient Consumer Response) and Supply Chain Management;
    - ✓ New approaches in designing an innovative summer University in the field of 'improvement of organisational competitiveness' - for the experimentation/simulation of solutions of educational strategies and of organisational research-development.

### **Discussion and conclusions**

According to the Council Recommendation on the National Reform Programme 2012 of Romania (<http://register.consilium.europa.eu/pdf/en/12/st11/st11270.en12.pdf>) and to the "Handbook for Local and Regional Authorities, Delivering on the Europe 2020 Strategy" (<http://portal.cor.europa.eu/europe2020/news/Pages/Europe2020HandbookLRAs.aspx>), the proposed project can be of great importance in the development of knowledge in the field of ecological and entrepreneurial development of human resources. The project will be based on the development of the innovative team which currently applies creative holistic methods and practices rapid learning while developing and applying strategic researches/projects.

## References

**Blaga, P.**

2011

"The importance of educating and training human resources in times of economic crisis in Romania". In Revista Română de Economie/ Romanian Journal of Economics, Vol. 2-12: 194-202, ISSN 1220-5567

**Blaga, P.**

2012

"National and European trends in approaching the human resources strategy". In Revista de Management și Inginerie Economică, Vol. 11/nr.1 (43): 11-24, Cluj-Napoca, Editura Todesco, ISSN 1583-624X

**Blaga, P., and A. Tripon**

2011

"Study on sustainable development of human resources in a informal framework". In International Conference „Globalization and Higher Education in Economics and Business Administration”: 858-862, ISBN 978-973-703-697-1

**Tripon, A., and P. Blaga**

2010

"Innovative clubs network for the development of human resources". In Proceedings of The 6th International Seminar on the Quality Management in Higher Education, Book II: 673-676, ISBN 978-973-662-566-4, Vol. II ISBN 978-973-662-568-8.

**Council of the European Union**

2012

Council Recommendation on the National Reform Programme 2012 of Romania and delivering a Council opinion on the Convergence Programme of Romania, 2012-2015, <http://register.consilium.europa.eu/pdf/en/12/st11/st11270.en12.pdf>

**European Commission**

2012

Progress Report on the Europe 2020 Strategy, Annual Growth Survey, [http://ec.europa.eu/europe2020/pdf/ags2012\\_annex1\\_en.pdf](http://ec.europa.eu/europe2020/pdf/ags2012_annex1_en.pdf)

**European Union**

2012

Handbook for Local and Regional Authorities: Delivering on the Europe 2020 Strategy, <http://portal.cor.europa.eu/europe2020/news/Pages/Europe2020HandbookLRAs.aspx>

# Special Managerial Decisions Resulting from Family Cycle in Family Farms

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## Abstract

**Purpose** – It is necessary, to examine what kind of decision-making tasks emerge concerning the household and the farm venture in different cycles of the family operating the farm.

**Methodology/approach** – defining household, analysis of household-family farm symbiosis, defining and analyzing the effect of family cycle stages on the managerial motivation based on literature.

**Findings** – The inferences explored can give an explanation for the behaviour of households, their interests, the possibilities of making farming plans and the comparison of future plans and the reality.

**Research limitations/implications** – There is only a little information about the inferences of farming of households carrying out agricultural production. Without examining these inferences it is difficult to answer the question: which families can be interested in pursuing agricultural production in different forms, either full-time, or in addition to a full-time job, out of working hours by utilising the available free labour capacity.

**Practical implications** – The theoretical and practical processing of farming is very important both for the economic administration and the agricultural households (e.g. extension activities).

**Originality/value** – We have only small information about the households pursuing agricultural activities. That is why it is important to investigate the non-rational elements of the managerial decision making in these enterprises.

**Key words:** household, family farm, family cycle

## Introduction

The households, as the basic production and consumer specialisation units of society and economy play a very important role in the social-economic life of a country. Unfortunately, there is only a little information about the inferences of farming of households carrying out agricultural production. Without examining these inferences it is difficult to answer the question: which families can be interested in pursuing agricultural production in different forms, either full-time, or in addition to a full-time job, out of working hours by utilising the available free labour capacity. The value-creating ability of households, their role in employment cannot be substituted, especially in the countryside where agriculture and household form an inseparable unity. The importance of households will be upgraded especially due to their inevitable role in the family farms. Without their examination, however, there will be a lack of information, which will impede their correct evaluation and make the foundations of decisions on economic policy, agricultural policy, taxation, etc. of farming uncertain (Guth, 2000).



The theoretical and practical processing of farming is very important both for economic administration and the households. That's why the social-economic situation, the internal consumption of households, their relation to the market, the way of thinking of those living there and their long-term plans should be learnt. So the households pursuing agricultural production link two basic units – venture and household – of microeconomic analysis, therefore the approach to agricultural production from the sides of households is especially justified (Guth and Flórisné, 1998).

## **Material and methods**

### **Household**

The household is a primary organisation consisting of one or more individuals, who perform the activities needed for everyday living in an unchanged composition during a given period. The household can be regarded as the basic economic institution of economy. In this case it should be considered as a player with specific functioning and social organisation because the dual section defining formal-informal or primary-secondary farms cannot cover the whole range of processes going on in the farm. The household is an organisation appearing everywhere in the deals of the farm and influencing the deals from its own aspects and that's why it differs from a company or the state, etc. (Sik, 1989).

The household can also be regarded as the framework of one's living. Since, however, the living presumes multifold activities and these activities are performed by more than one person, the group of those people should be determined who do the several activities for living. So household means that every member of the household performs at least one activity required for living.

### **The household economy**

The household economy covers the complex of all those goods and services that are produced in the household. In this sense it includes, among other things, the value of dwelling, the home-made meals, self-made reconstruction, repairs at home, washing and making clothes, child care, voluntary services for the community and friends, caring for the small garden, delivery with own car, etc. The subject of home-economics analysis can be a country, county, sub-region or a settlement.

The economic weight of households within a given country is well reflected by the following statements:

- According to several surveys the households give approximately 45-60% of working time basis of modern farms.
- The significance of properties belonging to the households and used for home jobs<sup>1</sup> (durable household consumer goods) is big compared to the national wealth. The value of so-called durable consumer goods (household machines, cars, etc.) in the U.S. households is much higher than the value of machine equipment invested in the industrial branches. In the United States only one-third of national wealth belongs to the enterprises, the other two-third of wealth belongs to individuals or communities.

### **Household – family**

The household and the families were regarded as a monolit unity for a long time. In our opinion, however, the reality is that both the household and the family is constantly changing: members are joining and leaving the household, the needs, prospects and plans are changing. Due to these the household should be defined and examined as a dynamic unity: its situation is determined by the age and education of its members, the number and age of children, etc. All the

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<sup>1</sup> **Home job** includes all those activities that are made in the frames of the household and serve the fulfillment of needs of household members. It is a wider concept than the common meaning of household duties because it includes the individual food production, too.

members of the family are members of the household with these qualities and these together determine the family development and the phase of development of a given family (Gasson and Errington, 1999).

## **Results and discussion**

### **The periods of family cycles from the aspect of dynamic household examinations**

The research of family development has very rich traditions, wide range national and international literature in other branches of science. At the same time it is very important to draw a model of family development and to examine the functional changes of players during development.

It is a fact that a typical family cycle starts with choosing marriage partner and ends with decease. The period in between should be divided according to different objectives and standpoints. The theoretical phasing of family cycle which is the basis of dynamic household examinations is as follows (König, 1969)

1. Phase of founding, forming a family, during which the household is set up and the family life is planned. The husband and wife usually work full-time..
2. Phase of growth and rearing, during which children are born, the functions of the family increase and significant differentiation is set up in the division of duties according to gender and generation.
3. Phase of separation, when children finish their studies, become adults and sometimes set up a new household.
4. Phase of elderly age, when parents carry on the household with or without children, later sometimes performing grandparental tasks.

### **Interpretation of phases of family cycle from the aspect of family farms**

The concept of household in the family farm includes the material resources (land, labour force, capital, buildings and machines) of group living in the household and the persons involved in the relation system by using these resources.

The family farm differs from all other enterprises. The families working on the farm also differ from all the other family types because these families run a farm pursuing agricultural activity. The relation between these two components – the family living on the farm and the agricultural activity – result unambiguous features. Some problems, however, arise from this (e.g. utilisation of family work, inheritance of the farm between generations, etc.)

In case of family farms and the household(s) which make their basis, the dividing lines between family life and farming fade away. It is necessary to examine what kind of decision-making tasks emerge in the different cycles of the family running the farm and how the division of duties between generations is formed, how the family farm adapts to the changes of internal and external factors, what kind of resource-combinations are formed in the given period, etc.

The interpretation of phases of family cycle, the planning tasks concerning family farm and the decisions connected with planning are modified from the aspect of family farms according to the following:

#### **Phase I. (first organising phase)**

The retired parents and the young married or single head of family farm are living in one household. The brothers and sisters have left the household. The young head has no children yet.

Features:

- few persons belong to the household, there is no juvenile among them

- the income per head is relatively high
- the spending per head on living costs is relatively high
- it is possible to create own capital
- the potential work performance of the family cannot be fully used as a support
- the living house is in good state or needs reconstruction depending on the intensity of farming during this phase.

Planning tasks:

- the separation of household of the young farmer and the retired parents is started
- investments in the household
- organisation of farm life considering the family labour force potential and the chances of income acquisition out of the farm
- planning of appropriate living standards of separating households.

### **Phase II (second organisation phase)**

The households of families of retired parents and the young farm head are separated. One or more children are born, birth of more children is expected.

Features:

- the number of members is growing in the household of the young farm head because of the marriage and the children borning
- the income per head is decreasing
- the spending per head on living costs is decreasing
- creating own capital is less possible
- the wife is more or less loaded with work depending on the number of children to be cared and the size of wage-earning work out of the farm
- several investments are needed in the household

Planning tasks:

- organisation of household management for the young farm head and the retired parents
- birth of one or more children
- tasks connected with the increasing labour need of the household
- partial lightening of burdens of farming and household duties from the young wife.

### **Phase III (stabilization phase)**

Birth of the last child. Three full generations live and farm together, in more or less separated households.

Features:

- the number of members living and working on the family farm is the highest in this phase
- the number of juveniles and elderly is increasing
- the income per head is decreasing
- the spending per head on living costs is the smallest
- the wife has big work loads
- the state of living house is very good or satisfactory depending on the previous phases
- the proportion of transfer incomes is relatively high within the total income of the household.

Planning tasks:

- rearing and provision of growing children
- ensuring the education for children
- planning of equal work load for the labour force of the family
- ensuring living standards above the social minimum
- prevention of deterioration of the farm.

### **Phase IV (first phase of decline)**

The number of family members living on the farm is decreasing due to the death of one or both retired parents and/or family- and household founding of one or more children.

Features:

- the number of members living and working on the farm is decreasing
- there is no juvenile and retired in the household
- the income per head is increasing
- the spending per head on living costs is increasing
- there is no transfer income, but the income from wage-earning activity out of farming is increasing
- the wife still has great work loads
- the state of living house is good or satisfactory depending on the previous phases
- creating own capital is possible

Planning tasks:

- the household of the retired is disintegrating
- the education and training of adult children should be ensured
- the participation of children should be regulated
- the contribution of children with income who live in the household to the costs of the household is regulated
- the transference/inheritance of the farm is prepared

### **Phase V (second phase of decline)**

The family running the farm gradually transfers the management tasks of the farm. The heir of the farm has finished the professional training, his brother(s) and/or sister(s) still living on the farm has started to found their own independent existence. In this phase, in most of the cases only one generation or only one person is providing for the household and the farm.

Features:

- The number of members living on the family farm is the smallest in this phase
- The income per head and the spending per head on living costs can reach high levels
- it is possible to create own capital
- the wife has normal work load
- investments should be made on the living house

Planning tasks:

- preparation of state of rest in social and economic sense
- preparation and management of transferring/inheriting the farm
- settlement of property-related demands of heirs who leave the farm
- forming a living place for the retired.

### **Conclusions**

The few Hungarian researchers of home economics acknowledge the fact that we have only small information about the households pursuing agricultural activities. One of the possible approaches of examination of rural society is the analysis of rural household management. The inferences explored can give an explanation for the behaviour of households, their interests, the possibilities of making farming plans and the comparison of future plans and the reality.

The theoretical and practical processing of farming is very important both for the economic administration and the households. That's why the social-economic situation of household management, the internal consumption, the relations with the market, the way of thinking and long-term plans of those living there should be learnt.

## References

**GASSON, ERRINGTON**

1999

The Family Farm (In Hungarian). Mezőgazdasági Szaktudás Kiadó, Budapest, 34. pp.

**GUTH, L.**

2000

Household economics (In Hungarian). SZIE GTK, Gödöllő. 1-2. pp.

**GUTH, L. – FLÓRISNÉ SÍPOS, I.**

1998

Relations between the households in the countryside and agricultural production (In Hungarian). „Environment of enterprises and conformity in food production” Proceedings of the Scientific Conference, GATE Gödöllő 43-44. pp.

**KÖNIG, R.**

1969

Handbuch der Empirischen Sozialforschung, Bd. 7, Stuttgart, 124 pp.c

**SÍK, E.**

1989

The household – the “eternal” institute of the economy (In Hungarian). ELTE Szociológiai Intézet és Továbbképző Központ, Budapest, 36-39. pp.



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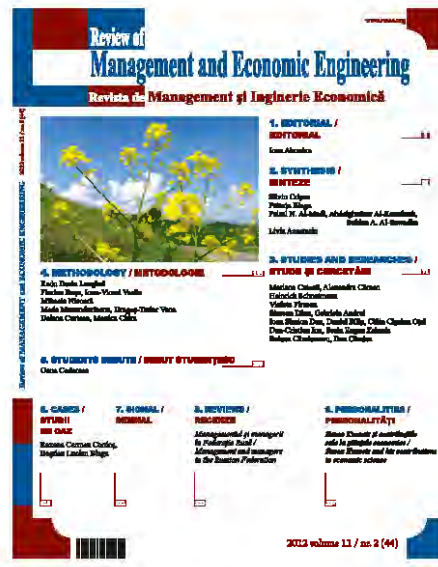
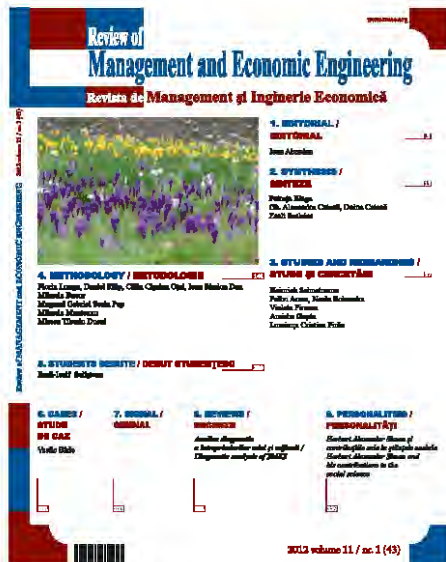
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