THE ECONOMIC GEOGRAPHY OF GLOBALIZATION

Edited by **Piotr Pachura**

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Preface

Very often the process of globalization is referred the term economy evolution. Often we measure and study globalization in the economic relevance. Perhaps, it is the economy that is most recognized dimension of globalization. That is why we see many new phenomena and processes on economic macro levels and economic sectoral horizon as well as on specific "geography of globalization".

The authors like Stonehouse, Hamill, Campbell, Purdie, Yip (Yip, Total Global Strategy, 2nd edition, Prentice Hall, 2002; Stonehouse, Hamill, Campbell, Purdie, Global and Transnational Business. Strategy and Management, John Wiley and Sons 2000) tend to connect the beginning of theoretical discussion, research and practical interest in the phenomenon of economic globalization with a paper written in 1983 by T. Lewitt, The Globalization of Markets. Although problems dealt with in Lewitt's article touched mainly marketing and market issues in a context of standardization of consumers' likings, they constituted a beginning of larger interest in the field of broadly understood economic globalization, particularly in American and Japanese scientific and business milieus. In consequence, it is commonly taken for granted that the era of globalization and phenomena connected with it are associated with the beginning of 90's of the 20th century. While associating this period with "the birth" of globalization, some point at geopolitical events such as the fall of the communist block next to economic events such as globalization of markets, sectors and IT technologies development. At the same time treating technology as a factor of global advantage in the world system implies far-reaching consequences. It results in a sort of technological determinism based on the fact that new technologies and innovations became most desired elements of today's world. From the social point of view technology and innovations become a form of economic expansion and stay in a large part out of "social control" (Castells M., The Rise of the Network Society, Blackwell, Oxford, 2001).

It is more and more common though to see globalization as a process possessing a broader historical perspective *(Stiglitz Joseph, Globalization and its Discontents, 2002)* which started in fact together with the expansion of the Western civilization and the beginning of colonial period. Some *(Chase-Dunn, Global Formation. Oxford: Blackwell 1989)* proposes to see the globalization phenomenon in a perspective of two periods: first starting from 1450 to modern times and second from 1945 to present. The latter,

since the end of World War II to present times, can be classified according to *Kondratiev's* theory of cycles, in which rising phase lasted from 1945 until 1967/1973 and the second phase started after the first came to an end, and lasted until present times. The period from 1450 may be analyzed on the basis of interpretation of classic economic cycles embracing growth, development and periodical crises of *capitalist economy*.

The genesis of this book results from *INTECH* mission of interdisciplinarity expansion in significant scholar publications.

The book *The Economic Geography of Globalization* consists of 13 chapters divided into two sections: *Globalization and Macro process* and *Globalization and Sectoral process.* The authors of respective chapters represent the great diversity of disciplines and methodological approaches as well as a variety of academic culture**.** This is the value of this book and this merit will be appreciated by a global community of scholars.

As editor of this book I would like to express gratitude for the trust endowed by the Publisher, but most of all I would like to express my appreciation for the authors of all chapters.

Częstochowa, June 2011

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Part 1

Globalization and Macro Process

1

Macroeconomic Stability and the Economic Growth in Europian Transition Countries

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1. Introduction

Macroeconomic stability and the economic growth are the first aim of the economic policy in sovereign countries. Economic policy spends most of the time in searching the means and instruments to realize high growth rates and maintain macroeconomic stability. Increased interest into analysis of economic growth can be seen from mid 80-ies of last century. On a world scale economic growth started slowing down in the first half of the 70-ies and continued during the 80-ies, with a slight improvement of the standard of living in industrially developed countries, whilst a large number of poor countries experienced stagnation. That experience, followed by a few examples in Asian countries which achieved a spectacular economic growth, encouraged economists to pay attention again to the analysis of the economic growth and to the research of factors influencing that growth.

The problem of the economic growth and macroeconomic stability becomes particularly actual in moments of recession and economic crises, as nowadays. The beginning of the new millennium, namely, brought another recession to the world economy and put the question on the economic growth again in the centre of interests of economic researches. The question: Are there limits to the economic growth and has world economy reached those limits? The affirmative answer is based on limited economic resources, and the negative answer is based on unlimited human creativity. However, a large number of developing countries is still on an existential level.

The economic growth in the long run represents the synergy of numerous determinants, such as labor, capital, natural resources, technology, human resources, innovation, research and development, trade openness and etc. What measures of economic policy improve the economic growth? Why some countries are technologically advanced, while others constantly stagnate at the low level of income? These are central questions of the macroeconomic research of the long term economic growth, which fall into one of the most interesting part of economic sciences. Although the interest for the economic growth phenomena present for centuries in the economic theory and practice, is still not uniformly accept scientific attitude why some countries develop slowly and some quickly, nor are the key determinants for rapid economic development for a given national economy.

Low economic growth and stagnation in former socialist European countries in the nineties of the last century made those countries take the transition way towards democracy and market economy. This paper will attempt to identify some determinants which were of

strategic importance for economic growth in selected transition economies: Czech Republic, Slovakia, Hungary, Poland, Slovenia, Estonia, Latvia, Lithuania, Bulgaria. We will chose from the pool of traditional and non-traditional determinants in the literature, and based on the availability of relevant indicators, we will try to estimate relationship between the growth rate of GDP, number of unemployment, FDI, external debt, budget deficit, trade openness and export per capita and inflation. After the theoretical review of the economic growth presented through historical reflection, we proceed with the analysis of some relevant determinants for economic growth in the above-said countries. Assessment of the current model of economic growth for selected European countries in transition will be made using quantitative methods of regression analysis (panel method), but for the two subperiods (1991.-2000. and 2001.-2009.) Based on obtained results, we will try to find the determinants, which are of strategic importance for economic growth in selected transition economies. According to the obtained results in the paper will be proposed measures necessary to implement the economic policy to accelerate the economic growth and maintain the macroeconomic astability in mentioned countries. Conclusion reflections will be presented in the last part of paper.

2. Macroeconomic stability and theory of the economic growth through history

The historical survey of economic growth starts with the Smith's classical theory of growth, continues with Harrod-Domar's model, goes through the neo-classical theory of growth (Solow) to reach the new (endogenous) theories of the economic growth.

Although seldom connected to the theories of economic growth, Adam Smith is among the first economists that elaborated the growth theory into details. His work *the Wealth of Nations* is the proof of an extraordinary knowledge of the mechanism of economic growth, which Smith considered to be an "integral" process at the microlevel (enterprise) and macrolevel (country). He thought that the economic growth is not conditioned just by the accumulation of capital, human capital, technology, soil, labour, export, but by the totality of those factors simultaneously.

One of the biggest Adam Smith's contributions to the economic theory is, for sure, the introduction of the term growing returns into economy, based on division of labour, i.e. on specialization. Smith was aware that specialization is stronger in industrial production and, at the same time, very limited in agricultural production, that leading to his theses that countries more oriented to industrial production become richer, whilst those oriented to agricultural production, are and remain poor. Besides the possibilities given by volume economies and specialization, Smith recognized also the importance of international exchange and free trade as engine of economic growth (*„An Engine of Growth"),* (Smith,1776).

The following contributions to the theory of growth come from (Harrod,1939; Domar,1946) who, independently from one another, starting from different positions, came to the same conclusions, precisely at the turn of the 30-ies and the 40-ies of the 20th century. In the Harrod-Domar's model of growth, the growth rate of the economy is the function of relationship between the savings rate and the capital coefficient (relationship of capital and output). The implicit assumption of the Harrod-Domar's model of growth is that there are no decreasing or increasing return on capital, namely that the marginal return on capital is constant and equal to the mean return on capital. According to the said model, the capital coefficient is equal to ICOR, namely to the reciprocal value of marginal return on capital.

ICOR is, by definition, the relation between the investment rate (investment share into GDP and growth rate of real GDP). However, when the balance is impaired, in the Harrod-Domar' model there are no powers that would bring economy back into balance. Harrod-Domar's model had an important role in the development economy of the World War II, and was frequently used in planning the development of less developed countries.

In the 50-ies of last century, the neo-classical theory of growth was created by Robert M. Solow (Nobel Prize winner in 1987). It is also called the neo-classical model of growth or Solow's growth model. Using simple functional forms and simplified assumptions, Solow pointed at three elements that should be considered when speaking of growth: technology, capital and labour. R. Solow, using his own analysis method, came to the conclusion: less than half of productivity increase in the USA, both per inhabitant and per real rental fee can be ascribed to the increase of capital itself. Much more than half of productivity increase should be ascribed to technical changes – scientific progress, industrial improvement *(know-how)* and knowledge on managing methods and education of labourers. It means that more than one half of production increase – as recorded by statistics through history- comes from scientific progress more than from savings and accumulation (Solow, 1956).

After the neo-classical theory of growth, almost nothing important happened in the economy of growth until mid 80-ies, and than, pieces of works that followed the doctoral dissertation of Paul Romer at the University of Chicago in 1983, a lot has changed, both in theory and in empirical analysis of long-range economic growth, also new theories were developed, nowadays called *"theories of endogenous growth"*. New theories of growth are connected to the names of P.M. Romer, R. E. Lucas, E. Helpman and G. Grossmann, who start from the assumption that single decision-makers learn rationally not adaptively. That means that they do no change their behaviour gradually, reacting to new information or different circumstances, but they learn new rules quickly and discontinuously. It is assumed that people in decision-making are turned towards future, expectations, not towards history, experience (Romer, 1986.; Lucas, 1988.).

Unlike the neo-classical model, newer theoretical contributions point out the economic growth as an endogenous product of the economic system, and not as the product of the powers acting outside the system. Researches in the end of the 80-ies and beginning of the 90-ies of the 20th century, had the necessity to change something in the generally accepted neo-classical model in which the long-range economic growth, in its essence, has been determined by and exogenous rate of technological progress. Besides, the neo-classical theory did non offer adequate recommendations to the economic policy for problems of the real world like the constantly weaker growth in high-income countries and constant stagnation in the majority of poor countries. The new model and theories of economic growth encompassed also the possibility that interventions of the economic policy which influence the level of production in the traditional model, can also influences the economic growth rate, which is not the case with the neo-classical model.

The newest researches on the economic growth limits (Gerlagha R. & Keyzerb, M. A, 2001) are directed towards the improvement of individuals' creativity and their capacity to team up and achieve their ideas, and by doing so they are likely to maintain a continuous economic growth in the developed countries and an accelerated growth in the poor countries. New ideas imply a responsible behaviour towards non-renewable resources and the reduction of negative consequences of the growth, as well as towards the connection between the economic growth and the managing function. In other words, businessmen

have to take account of present, as well as of future generations, which deserve to live in welfare.Besides businessmen, there is the state, along with its insitutions, that has a great role in increasing the welfare and the economic growth, and it should be also responsible for the macroeconomic stability and for the selection and the execution of strategies and policies of the economic growth and development, because it is empirically proved that the increase in individual's well-being is closely linked with the increasing prosperity of a nation as a whole.

2.1 Long-term economic growth in practice in selected group of countries

Empirical analyses of the economic growth process show that the backgrounds of some countries differ and that the rates of growth may be different in various countries and in a longer period of time. Long-term tendencies of economic growth and the attained income levels per capita can be monitored exclusively in today's industrially developed countries, while the same data do not exist or are unreliable for the developing countries. Therefore, hereafter are shown average annual growth rates of real GDP for particular groups of countries and periods. (cf. table 1).

	1970. – 1980.	**1980. – 1989.**	**1992. – 2000.**	**2000. – 2008.**
Africa-developing countries	4,52	2,07	3,29	5,45
European Union	3,18	2,44	2,49	1,95
G8	3,43	3,22	2,55	2,15
Transition countries	4,85	3,68	-2,08	6,60
World	3,81	3,25	3,08	3,18

Table 1. Average annual growth rates of real GDP in %

In table 1 are shown average annual growth rates of real GDP in the last 40 years for the following groups of countries: Africa - developing countries, European Union, G8 - the most developed countries, transition countries (Western Balkans and countries of the former USSR) and World as a whole.Of all the periods observed, the most successful was the first period 1970-1980, during which the average growth of real GDP for the World amounted to 3,81%, and the worst one was the period 1992-2000 (3,08%), which was due primarily to negative average growth rate in transition countries (-2.08%). The African developing countries and the countries in transition (except the initial difficult period) had higher growth rates of real GDP than the developed countries in the European Union and worldwide, while the biggest differences among different groups of countries are seen in the last period 2000-2008, during which a turning point occured and the accelerated economic growth for the monitored group of countries in transition (6.6.%). However, even such high growth rates were not sufficient to reduce the gap between the developed countries and those still developing. The non-realizability of one of the major millennial UN's goals only goes to prove it, namely, the reduction by half of the people suffering from hunger by 2015, for the number of people starving to death increased from 850 million to 1,02 billion during the period 2008-2010.

The lack of a stronger economic growth during the 70's and the 80's of the 20th century provoked extensive debates about the reason why some countries, especially those in

eastern end southern Africa, were able to achieve a fast economic growth, while the most African and Latin American countries were going through a crisis, and the industrially developed countries attained just a slightly improvement of living standards. At the same time, there was inevitably put a question to what extent this absence of a stronger economic growth could be ascribed to a non-optimal combination of different economic (and other) policies, and to what extent it is the result of solely unfavourable external conditions. In other words, an answer was needed, whether the long-term economic growth and the macroeconomic stability were simply strokes of luck, or in spite of all, they were the results of an optimal policy choices on which the policy holders could affect. All the economists who have investigated the long-term economic growth agree that the optimal choice of macroeconomic policies has a positive effect on economic growth and contribute to macroeconomic stability (Easterly, W. & Sewadeh, M., 2010). Empirical methods show that in the last fifty years the economic growth has been stronger in those countries that have been enjoying a stable socio-political situation, higher investments and more balanced public revenue and expenditure, as well as lower inflation rate, better involvement in international flows and more human capital. Of course, what the impact of each specific policies is and, in particular, how the various instruments of these policies should be combined to enhance the stronger economic growth, it is much more complex problem that still remains a topic of much debate and controversy.

In accordance with the title of this paper, the most interesting group of countries in monitoring the long-term economic growth is that of the transition countries of the European Union (EU8), that have been full members of the EU since 2004. (cf. table 2)

	1995.	2000.	2006.	Difference 2006. – 1995.	Estimated year reaching euro-zone's average
Czech Rep.	63.6	60.6	67.3	3.7	2025.
Estonia	29.8	35.9	49.7	19.9	2040.
Latvia	25.7	30.8	43.8	18.1	2047.
Lithuania	30.4	33.3	46.1	15.7	2044.
Hungary	46.6	50.8	59.2	12.6	2031.
Poland	36.6	41.4	45.1	8.5	2045.
Slovenia	64.0	69.5	77.1	13.1	2018.
Slovakia	42.0	44.1	52.1	10.0	2038.
Average EU8	42.3	45.8	55.1	12.7	

Table 2. GDP per capita in EU8 transition countries in 1995-200 in PPP (purchasing power parity) euro-zone = 100

Table 2 shows GDP movements per capita according to purchasing power parity for eight former transition countries, European Union members in relation to the euro-zone 1995-2006. Although they are all EU members, there are big differences in GDP among them, observed through the purchasing power of the residents. The group of Baltic states headed by Estonia shows the highest economic growth, while the Czech Republic shows the slowest

development and according to the monitoring over the last ten years, it has remained nearly at the same GDP level per capita. Slovenia has the highest GDP per capita, and it reached 77% of the euro-zone's average in the 2005, while Latvia records the lowest average (43,8%). According to the data mentioned, it is predicted that Slovenia should be the first to converge and reach the euro-zone's average in 2018, and Latvia will probably be the last to achieve the euro-zone's average in 2047. It can be generally stated that in 1995 the countries with the lowest revenue recorded the highest growth rates in the following ten years.

2.2 Determinants of the economic growth

The economic growth is a complex macroeconomic phenomenon, and therefore even today it can not be completely explained what determinants, in what measure and in what way contribute to growth. The historical survey of theories of economic growth has shown that each of the said theories pointed out one or more determinants, which are key ones for the economic growth. Classicists pointed out natural resources, namely soil and labour, neo-classicists capital and technology, and the new theory of growth stressed human potentials.

2.2.1 Labour

So far, the labour factor has been considered as the holder of the economic activity, however manpower, namely its broader term *population* is at the same time the user of the product and of the services, i.e. the result of the economic activity. The whole population is not important for the economic activity of a single country, since part of the population does not participate into that activity. Manpower is made up of that share of the population able to work and employed, but not the share that wants to work actively and is actively looking for a job. The essential characteristic of the population determining its power as determinant of the economic growth is the number of inhabitants and its quality. The population by its number and excessive growth can represent an obstacle to economic growth. That particularly is expressed in non-developed countries which have a high increment and limited employment possibilities, leading to *unemployment* problem. The other side of the medal shows lack of manpower that can be an obstacle to the economic growth, and particularly lack of quality, highly educated manpower, being a problem faced by some developed European countries.

2.2.2 Capital

The basic Solow's model of economic growth (without technology) favours capital as the basic determinant of the economic growth which was already mentioned in the historical survey of economic growth theories and we can conclude that investments are an indispensable precondition of economic growth. Capital accumulation makes up the largest and most important share of means meant for investments and for that reason it is very important as a source of economic growth. The essence of accumulation is represented by deferred consumption in favour of a faster growth and higher consumption in the future.
Investments into physical capital can be direct (increase of physical capital stocks) and indirect (investments into social and economic infrastructure). Capital accumulation, however, does not imply only the accumulation of physical capital but also investments into the increase of the quality of the soil and investments into human resources (education, health). Human resources, therefore, namely potential, can be examined also as a separate determinant of economic growth.

2.2.3 Natural resources

In the triad of the basic production factors "soil, labour and capital", the soil represents limited natural resources, that contribute significantly to the economic growth of single countries, but their contribution in the capitalistic way of production is neglected and insufficiently researched, and the obvious reality that natural resources represent the main source of abundance for the economic growth is neglected.

Nature gives to human society various lively maintainable benefits that would be classified by economists as good and services. Main goods are: food which is used to keep persons in life, and building material enabling people to build a shelter. Services are water depuration, stocking and supply, waste assimilation, balance of oxygen in the atmosphere and carbon dioxide and monitoring climatic powers. Goods and services got from the environment are collectively called services of the ecosystem, and benefits of the human race are fully dependent of an uninterrupted flow of services of the ecosystems of the nature. Expenses for the production of goods and services coming from the soil are borne by the soil. Should services of the ecosystem be paid, expenses for the products would be incomparably higher. Due to the fact that the expenses for goods and services coming from the environment are not calculated into the world price system, renewable services of the ecosystem are given only marginal importance when making decisions about economic policy.

2.2.4 Technology

Besides the increase of the capital/labour ratio, economic growth is particularly influenced by technical progress. Some older growth models treated technological progress as an exogenous variable. In the neo-classical model of growth (Solow, 1956) a small share of economic growth can be ascribed to labour factor, and a part relates to the factor of capital, whilst the rest is ascribed to the technological progress, already treated as exogenous variable hereinabove, the so called Solow residual.

Only a continuous technological progress can assure an important and sustainable economic growth, which is also proved by the mathematical formulation of the economic growth problem. We cannot, namely, expect a constant increment of the labour factor, and a higher growth of the capital in respect to labour leads to the decrease of return on capital and, as ultimate consequence, to slowing down and decreasing growth, even in the case of a constant capital increase. Therefore, every economy must improve its technology continuously and the case here is the so called "intensive growth". Technological progress of developed countries as the USA, Great Britain, Germany, France and Japan make the most important determinant of their economic growth (from 46% to 71¸%), (Ćosić and Fabac, 2001).The technological progress of a single country or nation is realized by diffusion of new technologies. Those industrial branches or sectors laying on high technologies realize today high profits, namely high sums of money return in respect to investments. Some authors state that for the process of reaching developed, by smaller and transition countries, it is important to fulfil some key conditions: have the possibility and capability to exploit new generic technologies, accept and modify technological innovations of the other, for one's own development;: breaking into a determined narrow "niche" with high quality products (Švarc,1997). For all those three conditions, and in the interest of increasing return on whole national economy, technological policy should focus on stimulating or supporting investments into single industries into research and development.

2.2.5 Human potentials

Human capital is created by investing into human resources. Human capital appeared indirectly for the first time in the empiric research of the economic growth in the 60-ies of last century in works written by Abramovitz and Solow . They introduced technological progress into classical production factors soil, labour and physical capital, deeming that the technological factor contributes with 75% into the economic growth. Those authors considered all non-material factors of growth as technological progress, as for example the improvement of existing and introduction of new technologies and production processes, changes into *education and competence of the employees* and similar. Neo-classical theory of growth, however, did not define clearly what factors cause technological progress and was not able to explain them.A considerable number of empiric researches of the economic growth tries to state the level and strength of the connection between investments in creating the human capital and the reached rates of economic growth. The majority of the researches show a positive connection between investment into forming human capital and reached rates of economic growth (Nelson and Phelps as far as 1966 and Benhabib and Spiegel in 1994). One part of the researches, by modelling technological progress or modelling growth of the total factorial productivity being the function of the level of education and quality of human capital, explains how investments into forming the human capital influence positively the economic growth. Better educated manpower (higher quality human capital) is more capable to innovate new technological products and processes, it is more ready to accept knowledge indispensable to implement new, highly-sophisticated technologies, and thus generate economic growth. One part of the explanation of the positive impact of investments into forming human capital have on economic growth tries to sow that a better educated and skilled manpower will attract a higher level of investment into physical capital, and investments into physical capital are positively correlated to economic growth.

2.2.6 Innovations and research and development

The theories of endogenous growth give, besides human potentials, the key role in growth to *research and development*. Adding to some of the Schumpeter's ideas, (Schumpeter,1942) the first model of sustainable development belongs to the group developed by (Romer, 1990) and followed by (Grossman and Helpman, 1991). Schumpeter thought that research and development carry economic growth, and are stimulated by the conviction that extra profits will be assured. He also recognized the meaning of the market power. Whilst in the conditions of perfect competition enterprises can use innovations free of charge and no one is stimulated for research and development, in markets with monopoly power that stimulus is sure. Due to the origin of basic ideas on which this group of models is based, they are frequently called neo-Schumpeterian models.The models of this group, characterized by monopoly power, it is basically suppose the existence of a separate technological sector in economy, which supplies other sectors with new technologies. Producers buy technologies and thus get the right to use them. They also pay the price which is higher than the marginal cost of their production, in order to generate sufficient income to cover the expenses including the initial investment into new technologies. Investments into innovation projects have not the characteristic of decreasing return. Therefore, the productivity of new investments into innovative activities does not decrease and thus enables a constant sustainable growth. In those models growth rate depends on the quantity of means

intended for innovative activity, i.e. to research and development, depending on the grade to which new technologies can be used privately (namely on the grade of monopoly power) and on the time horizon of the investor (Mervar, 2003). Western industrialized countries today compete to attract research and development activities of multinational companies. Transition and developing countries, unfortunately, frequently have just the branches of big companies, like their marketing departments. Some data suggest that foreign investments into research and development generally have the trend of following production just in foreign markets: if more production is located in a foreign country, it is more likely that research and development activities will be located there. Examples of companies that have decentralized their research activities are very rare. The majority of international corporations keep their strategic projects and key technologies in their domestic economies, and abroad they have development and design activities in order to adequate their products to the local market. Various researches have been made on the regularity referring to I&R of single groups of countries. With smaller, developed countries, with export-oriented economy, it has been found that more than one half of research of private sector is done abroad (Regger, 1998).

2.2.7 Export capacity

When speaking about economic success of some countries (for example of Far East ones, but also about countries closer to us) analysts, in general, agree that the role of two factors is important: export orientation and investment rates. They are frequently called "growth engines" because, when strengthening, they draw the whole economy forward. A strong positive correlation between those two variables and growth rates of Eastern Asian economies has been stated empirically.Export has a positive impact on economic growth, and the theoretical argument is that export orientation increases openness of economy and, together with exposition to foreign technologies and competition, makes fast rates of technological progress possible. In the other direction technological progress also enables export orientation. Developing countries being more dextrous in adopting and implementing progressive technologies, have a precedence in world markets based on the possibility to sell their advanced products to other countries.

2.3 Economic growth's analysis of the selected european transition countries in the period 1991-2008

Under the name of transition countries it is meant the former socialist countries in the European territory that are moving from socialist and methodically organised production to capitalist and market-oriented production. That unique historical event is named *process of transition.* Aside from complexity and multidimensionality that, along with economic changes directed to market economy, imply also changes in political, institutional and social functioning of those countries, the analysis of the *transition process* is complicated by the fact that in certain countries it is still ongoing[1]. By foundation or by claiming their independence, the transition countries have all started building institutions that should guarantee the macroeconomic stability and the functioning of the market economy. They have

[1] EU members countries (except Bulgaria and Romania) are considered the former transition countries because they have completed the transition process, but hereafter it will be used the term *transition countries* for all the analysed countries in order to simplify it.

significantly liberalized prices and foreign trade, as well as restructured and privatized economies at different ranges. However, the transition countries each differ in many ways. They differed at the beginning of the transformation process, but the ways that have brought to economic growth and development are significantly different. The two most famous transitional strategies are: shock therapy that implied the introduction of market economy elements all at once, and the gradual approach and gradual transition to market economy. The results of the two strategies can not be generally monitored because each of them shows both positive and negative examples.In the economic area, the first decade of transition was characterized by a sharp drop of the total economic activity, which has been stopped so far in all the countries, while some of them have already achieved a multi-year economic growth. All the transition countries have built institions that should guarantee the functioning of the market economy. They have also liberalized prices and foreign trade, as well as restructured and privatized economies at different ranges. However, the transition countries each differ in many ways. They differed at the beginning of the transition process, but very different were also their paths of development. The depth of the crisis and the activity decrease at the beginning of the transition process, along with the speed of its subsequent recovery were also different. The crisis was, on average, deeper in the former Soviet Union. In those countries the recovery was slower than that in the Central and Eastern Europe countries.
The following is an outline of GDP real growth rate in the transition countries of the so-called EU-8 group in 1991-2006 (cf. table 3)

	1991. – 1995.	**1996. – 2000.**	**2001. – 2006.**
Czech Republic	-1,0	1,5	3,3
Estonia	-6,2	5,6	7,3
Latvia	-11,8	5,4	7,8
Lithuania	-10,0	4,2	7,7
Hungary	-2,4	4,0	4,1
Poland	2,2	5,1	2,9
Slovenia	-0,6	4,4	3,4
Slovakia	-1,7	3,7	4,8
EU 8	-0,8	4,1	3,7

Table 3. Real GDP growth rate in EU-8 group in 1991-2006 (in %)

Table 28 shows movements of GDP real growth rates from the beginning of the transition to 2006. In the period 1991-1995, all the countries except Poland recorded negative GDP growth rates, which were the reflection of the difficulties faced in the transition from socialist to market economy, whereas Baltic countries with negative GDP growth rates were adapting with more difficulties, from 6,2% in Estonia to 11,8% in Latvia. In 1996 started the recovery process in all the above-said countries, and the average growth rates for the period 1996-2000 moved from 1,5% in the Czech Republic to 5,6% in Estonia. That period was characterized by strengthening the macroeconomic stability and by implementing structural reforms in all countries. The average for EU-8 amounted to 4,1%, and it was solely in the

Czech Republic that the recovery was somewhat slower due to financial crisis in 1997. In the last period observed 2001-2006, GDP recorded rapid growth in all the countries except Poland, owing primarily to the increase of foreign direct investments that came from the developed EU members, and secondly, due to continuing to implement structural reforms.It can be generally stated that one part of the transition countries managed to achieve macroeconomic stability and the increase in total economic activitiy, while other countries are still coping with inflation and occasional episodes of returning negative growth rates. It seems, namely, that the transitional factors, such as *structural reforms, macroeconomic stability and initial conditions* (Mervar, A., 2002) that have mainly determined economic movements in the initial stage of transition - at least for the most developed countries - start to lose their importance, whilst the so-called classic growth factors, which were discussed in the theoretical part of the dissertation, are strengthening.It should also be noted that this chapter does not analyse the individual experiences of transition economies, but try to draw a lesson from the entire transitional experience. A more detailed analysis would require an extensive introduction to the economic experiences in each country, which is not subject to that chapter.Analysis of economic growth of the selected transition countries is divided into two sub-divisions: 1991-2000 and 2001-2008, because different variables were significant for each sub-divisions and with such division regression models are more reliable and relevant. In the first research models were divided into the period before accession and after accession to EU of the transition countries, but that did not give satisfactory results and it was decided to divide the period before and after the year 2000, which was taken as the year of exit of most transition countries from transitional crisis.The models are multiple linear, using in this case the panel method because of the large number of countries, while some variables are expressed *per capita* due to different size of countries and number of residents who live in them. In the analyses are involved the following countries: Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Romania, Poland, Slovenia and Slovakia. They have succesfully come out of the transitional process for joining the integration process in Europe.
The analysis begins with the first period 1991-2000, and it is evaluated the following regression equation:

$$\begin{aligned} \textit{Real GDP growth rate} = {} & \beta_0 + \beta_1 \textit{inflation} + \beta_2 \textit{budget deficit} + \beta_3 \textit{export per capita} + \\ & + \beta_4 \textit{ current accounts} + \beta_5 \textit{ foreign direct investment per capita} \end{aligned}$$

The evaluated function is obtained based on a sample of five independent variables: inflation, budget deficit, foreign direct investment, merchandise export *per capita* and current account balance with their correspondent parameters (coefficients). Standard error of parameter is given in table 29 beside the rated coefficient showing that the parameters β are available.In accordance with the theoretical setups, in this case as well as in the analysis of the Croatian model of economic growth, it is assumed that inflation has a negative influence on economic growth and is expected the coefficient β_1 to be negative. It is also expected the budget deficit coefficient β_2 to be negative because higher long-term budget deficit has a negative impact on economic growth. Merchandise export *per capita* as a determinant of long-term economic growth should have a positive influence and the coefficient β_3 is expected accordingly to be positive. A balanced balance of payments, in particular the balance of current transactions should have positive impact on economic growth in each country. If the current account balance is positive, it is expected that its corresponding

coefficient will be also positive and *vice versa*. Empirical investigations have so far shown that foreign direct investments have a positive influence on economic growth and thus the coefficient β_5 should be positive.

Variables	Coefficient	Standard error	t-Test	Level of reliability
Constant	-0.918551	1.430183	-0.642261	0.5224
INFLATION	-0.018692	0.003012	-6.206383	0.0000
BUDGET DEFICIT	0.000538	0.000161	3.330209	0.0013
EXPORT PER CAP.	-0.396658	0.092148	-4.304573	0.0000
CURRENT TRANS.	0.714181	0.150787	4.736368	0.0000
FDI PER CAPITA	-0.001035	0.000399	-2.593082	0.0112
_BUL--C	3.789718			
_CZS--C	-4.425799			
_EST--C	-2.741902			
_LAT--C	-0.670650			
_LIT--C	3.887508			
_HUN--C	2.511392			
_ROM--C	6.718879			
_POL--C	3.763200			
_SLO--C	0.743696			
_SLOV--C	-13.57604			

Weighted statistics			
Coeff. of determin. R^2	0.816650	Main dependent variable	-0.480853
Adapted R^2	0.746092	S. D. Dependent variables	7.437861
Standard error regress.	4.842659	Sum of squares deviation	2251.329
F-test	12.39472	Durbin-Watson's test	1.897206
F-test's level of reliabil.	0.000000		

Non-weighted statistics			
R^2	0.790196	Main dependent variable	-0.642727
Sum of squares deviat.	2254.506	Durbin-Watson's test	1.801634

Table 4. Multiple linear regression model for evaluation of economic growth in selected transition countries in 1991-2000 (panel method)

With such a set regression equation with the five independent varaiables, the results of estimation of the economic growth of selected European selected countries in 1991-2000 lie below in the dissertation. (cf table 4)

Table 4 shows that only specific coefficients and their associated variables coincide with the theoretically expected signs and values, and they are the following: inflation, budget deficit and current accounts. Other independent variables (export *per capita* and foreign direct investments) are opposite to the expected signs and indicate the following deductions: export stagnated and was really falling, therefore it had a negative impact on economic growth and development. Although the last listed variable is expected to contribute to economic growth in transition countries, foreign direct investments had a negative influence in the monitored period, because in the initial transition years they were not sufficient, and those that have been made in those years have started giving results since 2000.The justification for applying the model of multiple linear regression (panel method) has to besought in the obtained coefficient of determination R^2 that amounts to 0,81 which means that 81% of dependant variables variation is explained by the rated regression model, which also means that the model's level of reliability is high and that it adequately describes the model. Durbin-Watson's test amounts to 1,89 and also shows that the variables included in the model are relevant for the assessment of economic growth of the selected transition countries in the monitoring period and that among them there is no autocorrelation.

Below there is the analysis of the second transitional period 2001-2009, in which the significant variables for economic growth are those from the following equation:

$$\textit{Real GDP growth rate} = \beta_0 + \beta_1\, \textit{unemployment} + \beta_2\, \textit{foreign direct investments per capita} + \\ + \beta_3\, \textit{export per capita} + \beta_4\, \textit{labour productivity}$$

The evaluated function was obtained based on the sample of the four indipendent variables: unemployment rate, foreign direct investments *per capita*, merchandise export *per capita* and labour productivity along with their associated parameters (coefficients). Standard error of parameter is listed in the table 30 beside the rated coefficient showing that the paremeters are reliable.

According to both theory and empirical experience, it is supposed that unemployment has a negative impact on economic growth so it is expected that the coefficient β_1 is negative. It is also expected that the coefficient ISU *per capita* i.e. coefficient β_2 is positive because foreign direct investments stimulate production and generate accelerated economic growth. As a determinant of long-term economic growth, merchandise export *per capita* should have a positive impact and the coefficient β_3 is expected to be positive accorrdingly. Better labour productivity contribute to economic growth and development of each country, so the corresponding coefficient β_4 should be positive.

According to the regression equation, the results are assessments of economic growth for the selected European transition countries in 2001-2009 (cf. table 5).

In the model showed in table 5, all the variables and the correspondent coefficients coincide with the expected sign, so it is not necessary to explain them closely. It should be noted that all the observed countries have significantly grown and progressed since the beginning of the transition period (except Bulgaria and Romania), therefore the signs coincide with the average theoretical assumptions of economic growth and development.

Variables	Coefficient	Standard error	t-Test	Level of reliability
Constant	10.23671	3.432950	1.987634	0.0258
UNEMPLOYMENT	-0.390278	0.069525	-3.478628	0.0065
FDI PER CAPITA	0.159374	0.048770	-4.121301	0.0001
EXPORT PER CAP.	0.008754	8.95E-05	3.267859	0.0021
LABOUR PRODUCT.	0.590373	0.123879	2.208076	0.0323
_BUL--C	3.243565			
_CZS--C	2.356720			
_EST--C	1.728476			
_HUN--C	-4.435886			
_LIT--C	1.378915			
_LAT--C	1.456909			
_POL--C	-3.429870			
_ROM--C	-0.498723			
_SLO--C	-1.908543			
_SLOV--C	1.656789			
Weighted statistics				
Coeff. of determin. R^2	0.892334	Main dependent variable		6.846522
Adapted R^2	0.879023	S. D. Dependent variables		6.028354
Standard error regress.	2.014678	Sum of squares deviation		124.0607
F-test	38.96342	Durbin-Watson's test		1.997455
F-test's level of reliab.	0.000000			
Non-weighted statistics				
R^2	0.836591	Main dependent variable		5.831250
Sum of squares deviat.	236.8405	Durbin-Watson's test		1.913267

Table 5. Multiple linear regression model for evaluation of economic growth in selected transition countries in 2001-2009 (panel method)

The justification for applying such a model of multiple linear regression (panel method) with the four independent variables corroborates the obtained coefficient of determination R^2 that amounts to 0,89 what means that the 89% of dependant variables variation is explained by the rated regression model, which also means that the model's level of reliability is high and that it adequately describes the model. Durbin-Watson's test amounts to 1,89 and also shows that the variables included in the model are relevant for the assessment of economic growth of the selected European transition countries in the monitoring period and that among them there is no autocorrelation.

2.4 Strategic determinants of long-term economic growth of selected european countries in transition

Common strategic determinants of selected transition countries economic growth are determined on the base of the implemented regression analysis of their long-term economic growth. These strategic determinants are the following: macroeconomic stability, export, foreign direct investments (FDI) and human resources.

1. *Macroeconomic stability* - The influence of the factors that approximate macroeconomic stability, i.e. inflation and budget deficit, was significant in the initial years of transition that were characterized by a strong fall in production and the simultaneous increase in inflation in all the countries observed. By the end of the first decade of transition an increase in economic activity was achieved in almost each country, while inflation (owing to anti-inflation and stabilization programmes) successfully reduced to moderate or low levels in most countries. However, only few recorded higher levels of the entire economic activity than that which was accomplished before the start of the transition process. It could be therefore concluded that the low rate of inflation is the strategic determinant which need not necessarily be emphasized as to harm exports, especially in periods of anti-inflation programmes. Regarding the budget deficit, it is short-term positive and could be classified as a strategic determinant, but it should be kept under control so that the state had a smaller share in the GDP structure (such as in Ireland). Thus, macroeconomic stability remains an important prerequisite for long-term economic growth in the transition countries.
2. *Export* - Regression analysis showed that export had a positive impact on the economic growth in the monitored transition countries. The experience of the most advanced transition countries shows that the share of growth derived from improved resource allocation reduces over time due to transition to market operations, and that these economies should rely more on traditional determinants of growth indicated by the neoclassical and endogenous growth theories, as well as the results of numerous empirical studies. These results show that, beside stable macroeconomic conditions in the market-oriented economic structure, the beneficial effects on long-term growth are consequences of high savings and investments, well-educated workforce, high openness of the economy, low public spending, low population growth and a stable socio-political environment.
3. *Foreign direct investments (FDI)* - In the beginning of the monitored period, this determinant was negative because of the lack of foreign investors' interest in the development of production capacities, that wanted profits in trade. Nevertheless, there are some positive examples (Hungary and Estonia), but in general they were not significant enough. The achieved level of economic growth will influence the slowdown

in economic growth in the future, so we should expect lower growth rates because all the observed countries have reached a certain level of economic growth in the European Union. Therefore they should work on developing new determinants that didn't prove to be significant in the regression analysis and in the so far economic growth, but that are very important for further growth and development, such as human resources, which are closely associated with labour productivity, research and development, innovation and entrepreneurship. Investments in human capital as a conventional growth factor have not shown significant in the empirical analysis of growth in transition countries so far, which is not surprising, because the transition is the process of reallocation of resources and increasing the efficiency of the existing factors, at least in its initial phase.

4. *Human resources* - In order to reduce income differences and accelerating economic convergence with industrially developed countries, the observed transition countries should increase employment and accelerate the growth of labour productivity. To achieve these goals there are needed reforms to improve labour market flexibility, which is necessary for the efficient allocation of labour resources. Finally, it is necessary to work on disparate skills - or lack of skilled labour in relation to the needs of the economy - as they do not become obstacles to job creation, investments and growth of the companies. Human capital is not easily measured. Human development report for 2007 observed 182 countries and by Human Development Index it classified all observed transition countries, except Romania and Bulgaria, among the top 40 countries. In order to increase HDI, the transition countries should strengthen its system of life-long education and use the experiences of succesful examples of other European economies.

3. Conclusion

Macroeconomic stability and economic growth are complex macroeconomic phenomena, therefore, even today it can not be completely explained what determinants, in what measure and in what way contribute to growth. The historical survey of theories of economic growth has shown that each of the said theories pointed out one or more determinants, which are key ones for the economic growth. Classicists pointed out natural resources, namely soil and labour, neo-classicists capital and technology, and the new theory of growth stressed human potentials.

Analysis of the economic growth of selected European transition countries is divided in two sub-periods: 1991-2000 and 2001-2008, because different variables were significant for each sub-period and such regression models are more reliable and relevant. The evaluated function for the first period was obtained based on a sample of five indipendent variables, namely: inflation, budget deficit, foreign direct investments, merchandise export *per capita* and balance of current transactions and their correspondent coefficients, while for the second period it was obtained on a sample of four indipendent variables: unemployment rate, foreign direct investments *per capita*, merchandise export *per capita* and labour productivity.

Results of the economic growth assessment in selected transition countries in 1991-2000 showed that only some determined coefficients and their correspondent variables coincide with the theoretically expected signs and values, namely: inflation, budget deficit and current transactions. Other indipendent variables (export *per capita* and foreign direct

investments) are opposite to the expected signs and suggest the following conclusion: exports stagnated and decreased in real terms and thus it had a negative impact on economic growth and development. Although the last listed variable is expected to contribute economic growth in transition countries, foreign direct investments had a negative impact in the monitored period, because they were not sufficient in the initial years of transition, while those that were made in those years began to show results since 2000. In 2001-2009 all variables and its associated coefficients coincide with the theoretically expected sign, which means that all countries observed since the beginning of the transition have significantly grown and progressed (except Bulgaria and Romania).

Based on the implemented regression analysis of economic growth in selected European transition countries, strategic determinants of their long-term economic growth were established, which are: macroeconomic stability, export, foreign direct investments (FDI) and human resources.

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2

Strategic Management between the Constraints and Incentives of Globalization – the Role and Contribution of Business Ethics and Corporate Social Responsibility

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1. Introduction

By this chapter we would like to emphasize on how some very complex and different concepts and processes influencing (directly and/or indirectly) firm management nowadays – *globalization – strategic management – business ethics and corporate social responsibility* (CSR) – enhance and reinforce each other (in good and/or in bad), asking for a new strategic business model, able to capture and valorize the incentives of the whole picture, on one hand, and to identify and avoid (or at least minimize) the constraints of it, on the other hand, through some well articulated and solid competitive strategies aiming global competitiveness and sustainability – through business ethics and corporate social responsibility, – and despite global crisis – such as that of values, for instance, and by returning to the old fashion values – attitude – behavior models.

Why such a perspective? Because we are living some very turbulent and crises-dominated times – at global scale, as well as in its depth; so, we think this is the perfect time for a lot of (non exclusively) academics – coming from a lot of different (research) fields (from economics – business – management, through sociology – anthropology – philosophy to theology – astrology – fortune telling) to argue that what we are experiencing nowadays is a value crisis and there is the time for a major change.

Why does ethics matter in business? Because "<<*Doing the right thing*>> *matters*. To companies and employees, acting legally and ethically means saving billions of dollars each year in lawsuits, settlements, and theft. (…) Costs to businesses also include deterioration of relationships; damage to reputation; declining employee productivity, creativity, and loyalty; ineffective information flow throughout the organization; and absenteeism." (Weiss, 2006).

Why to do good? As Business for Social Responsibility emphasizes it, there are some *bottom-line benefits* that firms which have decided to *integrate CSR in their business operations and strategies* experience: increased sales and market share; strengthened brand positioning; enhanced corporate image and clout; increased ability to attract, motivate, and retain good employees; decreased operating costs; increased appeal to investors and financial analysts (Kotler and Lee, 2005).

2. Globalization between threats (global corruption) and opportunities (sustainable development) for businesses

Globalization reaches today (more or less, positively or negatively) all the aspects and domains of the humankind and life. Cumulative result of some very different qualitative, as well as quantitative processes and transformations which took place over time within the most different domains of the human existence, *globalization* has become the referential for almost each economical, political, military or environmentally related *discourse*, which *emphasizes* either on the *positive effects* globalization brings to the development of the society (as a whole and of the different entities within it), or on the unwanted *failures that it determines and/or accompanies*.

But one thing is for sure: we are living now some very turbulent times – some call them an age of discontinuous change – which are redefining the global (economic) architecture – or, at least, the way we were used to perceive it and to report to it until recently. It seems to be more like a *turning point* or a *transition* to another phase. In order to configure the main framework which defines the picture of the whole chapter we bring the following approaches – that are trying to capture the process of **globalization** together whit its interconnections with the *strategic management* (which is aiming to reach global and sustainable competitiveness) and *business ethics and corporate social responsibility* (able to be, under these circumstances, the ultimate sources for sustainable competitive advantages):

- Into his book from 2003: *The World is Flat*, Thomas Friedman discusses about "the three great eras of globalization": *Globalization 0.1* (1492-1800) – which was about *countries and muscles*, *Globalization 0.2* (1800-2000) – about *multinational companies and breakthroughs in hardware*, and *Globalization 3.0* (since 2000) – about *individuals and software*. He draws a warning to "*all the businesses, institutions, and nation-states that are now facing these inevitable, even predictable, changes* (such as the digitization, virtualization, and automation, as he emphasizes them) *but lack the leadership, flexibility, and imagination to adapt – not because they are not smart or aware, but because the speed of change is simply overwhelming them. And that is why the great challenge for our time will be to absorb these changes in ways that do not overwhelm people but also do not leave them behind*" (Friedman, 2003).
- Moving ahead, in 2008, into the *IMD World Competitiveness Yearbook*, Stephane Garelli has emphasized the idea of waves, able to shape new river bed for the world economy (in terms of the dynamics between globalization and competition / competitiveness): *the first wave of globalization* (1985-2000), *the second wave of globalization* (2000-2020), and *the third wave of globalization* (after 2020), defined as follows: "*in an early stage, global companies entered emerging markets mainly to lower their costs of supplies. Today, their roles are shifting and they are key players in the development of the emerging nations, which are eager to build their infrastructure and develop their domestic consumption. But tomorrow, global companies will have to compete with the homegrown companies and brands that are being born and bred in today's emerging nations. The partners of today will become the challengers of tomorrow*"(Garelli, 2008).
- At the prestigious Boston Consulting Group, the concept of globalization itself is considered to be overcame and has been replaced with *globality* – which defines *the world beyond globalization: "Globality presents both threats and opportunities to all players. Incumbents face tough new challenges, but these can be met and turned to advantage. Challengers stand at the brink of huge opportunities but still face barriers to seizing them (…) During globalization, incumbents competed primarily with other incumbents in markets around the world. In the new*

era of globality, however, incumbents suddenly (or so it seems) find themselves competing with everyone from everywhere for everything" (Bhattacharya et al., 2008).

So, there is *no unanimously opinion* regarding the emergence and evolution of the globalization process, neither regarding its causes and effects, nor its nature. From one extreme – *disease with a killing effect* (varying from *global value crisis and corruption* till finally losing control over the humankind evolution on Earth) – to the other – *universal cure* for solving all the world's diseases/problems (from the firm level – through the *value-based management, triple bottom line practice*, and *issues and stakeholder management*, to the global level – through the theory and practice of *sustainable development*), without neglecting the *necessary evil* variant (objective evolutionary process defined by *bright sides and dark sides*, as well), globalization seems to be suitable to wear all the interpretation forms on its road to a complete and comprehensive understanding and conceptualization within a universally accepted paradigm.

a. Talking about **corruption**, on the one hand, the concept is broadly defined as *lack of ethics*; it has accompanied human development since the beginning of it – and also the globalization process. One of the most complete and comprehensive *definition of corruption* we found to be the one that Antonio Argandona has developed; he defines corruption as "*the act or effect of giving or receiving a thing of value, in order that a person do or omit to do something, in violation of a formal or implicit rule about what that person ought to do or omit to do, to the benefit of the person who gives the thing of value or a third party*" (Argandona, 2005). As Neelankavil has argued, "*traditionally, corruption has been accepted as no more than a "cost of doing business" in many countries. Corruption takes place in industrialized countries, developing countries and less developed countries*" (Neelankavil, 2002). But, whatever its definition and form, corruption was identified by the World Bank "*as among the greatest obstacles to economic and social development. It undermines development by distorting the rule of law and weakening the institutional foundations on which economic growth depends*" (http://web.worldbank.org). So, by being both cause and effect of the globalization process, the *globalization of corruption* is a consequence of what Moises Naim named it more than 15 years ago (into his very cited article *The corruption eruption* – that appeared into the Brown Journal of World Affairs in 1995): *the corruption eruption*. Far from diminishing or calming since those times, the corruption phenomena has known, at its turn, multiple waves of evolution / development, many forms – of private (business) to private (business) corruptions as well as private to public corruption, and all the interconnected levels of the economic spheres. Back in 1997, Kimberly Elliott already has expressed the general fears that the globalization of corruption and its globally spread negative effects (even if different in its manifestation forms) will bring with them: *"as economic globalization grows, so does the potential impact of corruption on international flows of goods and capital. International financial institutions and bilateral assistance agencies are concerned that resources intended to assist development in poor countries be used as efficiently as possible. Developing countries are concerned that the perception of corruption will cause them to lag as private capital increasingly displaces official finance in many emerging markets. Government procurement, particularly related to large infrastructure projects in developing countries, has been a focus of several recent international anticorruption initiatives. Finally, US policymakers are concerned that US firms will become increasingly handicapped in international markets if their competitors continue to use bribery as a tool to win business"* (Elliott, 1997). The Global Report on Corruption (phenomena which was seen in interrelation with the private sector) was developed and released by Transparency International in 2009; it reveals that "*corruption is a central and growing*

challenge for business and society, from informal vendors in the least developed countries to multinational companies in industrialized ones, for citizens, communities and nations, all over the world. (…That is why) the overarching message, (…) is that both the private and public sectors have a role to play in ensuring that corruption is identified, investigated and confronted. Moreover, the implications of an increasing global economic interdependence make it imperative that countries and companies work together and cooperate across borders in order to be able to tackle corruption risks most effectively" (Zinnbauer et al., 2009). Talking about the firm level (and its strategic management approach), we have to agree that: "a lot is at stake for the private sector in regards to corruption. Continuing to participate in and/or turning a blind eye to corrupt activities can have significant negative consequences for the private sector in terms of competitiveness, the effectiveness of government policies, and the sustainability of development efforts. Ensuring *effective risk management, aligning with customer expectations, complying with laws and regulations, meeting the demands of ethical investment funds, and safe-guarding reputation and brand* are some of the *factors that contribute to the business case to combat corruption*" (El-Sharkawy et al., 2006).

b. Sustainable development, on the other hand, could be presented as the opponent concept of the global corruption, the *bright side* of the globalization process and its future perspectives. The most well-known, accepted and cited definition of *sustainable development* is the one that was given by the Brundtland Report *Our Common Future*, in 1987: "*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.*" (IISD, 2007). Starting from this above mentioned definition of sustainable development, in their article from 2005, Kates, Parris, and Leiserowitz go further and define sustainable development also in other terms, much more "measurable": *"another way to define sustainable development is in what it specifically seeks to achieve. To illustrate, it is helpful to examine three sets of goals that use different time-horizons: the short-term (2015) goals of the Millennium Declaration of the United Nations; the two-generation goals (2050) of the Sustainability Transition of the Board on Sustainable Development; and the long-term (beyond 2050) goals of the Great Transition of the Global Scenario Group"* (Kates et al., 2005). Referring to the mostly discussed Millennium Goals, Ban Ki-Moon, the Secretary-General of the United Nations has emphasized that "*the Goals represent human needs and basic rights that every individual around the world should be able to enjoy – freedom from extreme poverty and hunger; quality education, productive and decent employment, good health and shelter; the right of women to give birth without risking their lives; and a world where environmental sustainability is a priority, and women and men live in equality. Leaders also pledged to forge a wide-ranging global partnership for development to achieve these universal objectives. (...) Meeting the goals is everyone's business. Falling short would multiply the dangers of our world – from instability to epidemic diseases to environmental degradation. But achieving the goals will put us on a fast track to a world that is more stable, more just, and more secure*" (UN, 2010). Agreeing that businesses have to play a very important role into this never ending process, a so called "*business definition*" of the sustainable development has been proposed by the *International Institute for Sustainable Development* in conjunction with *Deloitte & Touche and the World Business Council for Sustainable Development* into their book from 1992, *Business Strategy for Sustainable Development: Leadership and Accountability for the 90s*: „for the *business enterprise*, *sustainable development* means *adopting business strategies and activities*

that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future. (…a very important characteristic figure of the process is that …) sustainable development is a pervasive philosophy to which *every participant in the global economy* (including consumers and government) *must subscribe*, if we are to meet today's needs without compromising the ability of future generations to meet their own" (IISD, 1992).

3. Strategic management and its universal vocation to combine external trends and events with internal capabilities, competencies and resources

Within this volatile and ever changing framework occurs the *strategic management* – which is *searching* globally *for competitiveness and sustainability*, based on the *competitive strategy of the firm* – the one that have to define and maintain a firm's good position/place into the industry it operates. It makes that possible by evaluating and integrating into a successful model all the (endogenous and exogenous) factors that can influence the evolution of the firm. The main objective is to obtain and, more than that, to ensure the long term competitiveness of the firm into a global economic world.

That's why the strategic management of the firm must be permanently interconnected with the globalization process and its particular – diachronic and synchronic – features and facets, in order to be able to rapidly catch and valorize the (possible) positive effects of some actions – of its one or of someone else's – not only locally and immediately, but also globally and timely, in order to offer solid *premises* to the next actions and thus contributing to the *realizing of the consequences* and finally obtaining *synergy effects* on the global market.

Any firm aims to exist and to resist on the market as long as it possibly can. However, this is not enough. As the strategic management theory reveals: "*getting and keeping competitive advantage is essential for long-term success in an organization*" (David, 2005) – and the meaning of the *competitive advantage* here is "*anything that a firm does especially well compared to rival firms*" and it is perceived to be important by its clients. This must describe a process of permanent organizational change and (preferably) development, because of all the society-economy-firm-management transformations taking place globally. Therefore, the same theory argues, "*a firm must strive to achieve sustained competitive advantage by (1) continually adapting to changes in external trends and events and internal capabilities, competencies, and resources; and by (2) effectively formulating, implementing, and evaluating strategies that capitalize upon those factors* (David, 2005)".

At a *first level*, as regarding the *external trends*, a firm has to take into consideration (through its strategic management approach) the biggest and the most significant one, which is able to redesign the whole business framework – in magnitude, meaning, networking and speed – and having a major impact of any firm – in terms of opportunities and threats, as well. This major trend is exactly *globalization*, as it "*describes the process by which events, decisions, and activities in one part of the world come to have significant consequences for individuals and communities in quite distant parts of the globe. Globalization has two distinct phenomena: scope (or stretching) and intensity (deepening*)" (McGrew and Lewis, 1992). Starting with its economic roots and developments, the process of globalization encompasses today all the human domains and levels.

Another type of approach – more related to the business point of view – emphasizes that, by being a result of the last few decades of politics and markets liberalization, faster movement of peoples, capital and information from one region to the other and all around the globe,

globalization has become one of the identifying concepts of the post-industrial economy, describing the *increasing integration of national and regional economics* and the *domination of the world economy by massive MNEs*. The term also describes the *convergence of individual tastes* at the expense of local cultures, worldwide *political domination* by a small number of industrialized states and the international non-governmental organizations (NGOs) that are seen as their tools, the *integration of capital markets*, the *increasing ubiquity of communication and information* around the world, and the *spread of technology* to the farthest reaches of the globe (Tallman, 2001).

Therefore, the efforts of continuous adapting of the managerial process to the natural need to survive and develop into a world where each agent (individual, organization/firm, national state) is permanently looking for global competitiveness could be summarized through some very suggestive metaphors: *(1).* the assimilation of the *Titanic effect* – according to which the amplitude of the disasters decreases as people think they can occur and project their prevention or, al least, the minimization of their effects; *(2).* the *butterfly theory* – which postulates that the smallest signals of a disequilibrium produced in one part of the globe could generate disastrous effects at the antipode; *(3).* the *hunter parabola* – it asks for a clear long run objective/goal and an adapting behavior after that in order to achieve it, according to and by integrating the changes that take place and force the change of direction; *(4).* the concept and practice of *creative chaos* – according to which disequilibrium is the source for a new order, so it offers for firms and their strategic management the creative environment for change that they need (Ogrean et al., 2009).

Than, at *a second level*, when we talk about *external events* we can refer to the *competitive environment* and the transformations that take place into an industry, changing the way of doing business and asking for new strategies from firm management. The well-known *five-force model* of M. Porter – that brings together: the threat of new entrants; the bargaining power of suppliers; the bargaining power of buyers; the threat of substitute products and services; and the intensity or rivalry among competitors in an industry – may be the starting point of discussion and action as well in these circumstances (Porter, 2001).

However, this is just a static model, based on evaluating the status quo of an industry at one moment in time and assuming managerial decisions as a result of it. Critics of this framework originated in the 1980s developed a dynamic perspective of the model, much more appropriate for nowadays. So, the analysis that professor McGahan made (McGahan apud Dess et al. 2007) is based on the identification of the *core activities* (those activities that historically have generated profits for the industry) and the *core assets* (the resources, knowledge, and brand capital possessed by firms in an industry) of an industry and the threats they face. As a result, it is suggested that an industry may follow one of four possible evolutionary trajectories based on two types of threats of obsolescence (faced by the core activities and by the core assets): *radical change* – it occurs when both core activities and core assets face the threat of obsolescence; *intermediating change* – which occurs when core assets are not threatened but core activities are under threat; *creative change* – take place when core assets are threatened, but core activities are not; *progressive change* – it occurs in industries where neither core assets nor core activities face imminent threat of obsolescence.

A firm may have correspondent *behaviors*, accordingly (Dees et al., 2007): "when faced with *radical* or *intermediating changes*, it is wise to aggressively pursue profits in the near term while avoiding investments that could reduce strategic flexibility in the future. Another response is alliances, often with rivals, to protect common interests and defend against new competition from outsiders. For firms facing *radical change*, one option is diversification. (…)

In order to succeed, firms facing *intermediating change* must find unconventional ways to extract profits from their core assets. (…) Strategies for firms facing *creative change* include spreading the risk of new-project development over a portfolio of assets as well as outsourcing project management development tasks. Successful companies in *progressive change* industries carve out distinct positions based on geographic, technical, or marketing expertise. They also develop a system of interrelated activities that are defensible against competitors."

As we just saw earlier, in their global search for competitiveness, firms have to handle with two kinds of pressures – external and internal as well. But, while the external pressures – which occur at global and/or industry level – have more likely a crucial role in defining the context in which firms operate, that's the **internal pressures** – strengths and weaknesses in terms of *capabilities, competencies, and resources* – role to be effectively and efficiently manage at firm's level through adequate *strategies* that capitalize these factors. We could talk than about generating new internal or/and external changes and movements – depending on how important/major the impact of the emerging change (innovation especially) is for the entire industry, or only for the firm involved in the process (Ogrean et al., 2009).

There are at least two *major theories* that we think they are crucial within this discussion framework in order to be able to correctly determine the competitive strategy of the firm (some academics consider the two theories are competing to each other, while others consider the two theories are complementary):

a. *The resource based theory* – it was originally a conceptual framework developed in order to explain the factors that create competitive advantages and emphasized more on internal resources of the firm than on the external factors in search for competitive advantage. According to this theory, a *firm performance has very much to do with a unique configuration of resources that can be valued by comparing it with others*. The resource-based view of the firm emphasizes on three kinds of resources that any firm posses (Dess et al., 2007): *tangible resources* – assets that are relatively easy to identify (by being financial, physical, technological or organizational in their nature); *intangible resources* – much more difficult for competitors (and, for that matter, a firm's own managers) to account for or imitate, they are typically embedded in unique routines and practices that have evolved and accumulated over time (and they are referring to human, innovation and creativity, and reputation); and *organizational capabilities* – they are not specific tangible or intangible assets, but rather the competencies or skills that a firm employs to transform inputs into outputs, reflecting the capacity to combine tangible and intangible resources, using organizational processes to attain a desired end. Generally speaking (Collins and Montgomery, 1995), the RBV "combines the internal analysis of phenomena within companies with the external analysis of the industry and the competitive environment". At the end, "competitive advantage, whatever its source, ultimately can be attributed to the ownership of a valuable resource that enables the company to perform activities better or more cheaply than competitors. (…) Superior performance will therefore be based on developing a competitively distinct set of resources and deploying them in a well-conceived strategy." The resource-based view of the firm has evolved and developed in time, being enriched with many *new concepts or even theories*, such as: **(a).** *core competencies* and *competence-based view of the firm* – Prahalad and Hamel argued (Foss, 1997) that, as global competition gets wider and wider, managers will be increasingly judge upon their ability to identify, develop and exploit firm's distinctive competencies that lead to growth; **(b).** *knowledge-based theory of the firm* – it comes together with the theory of the knowledge-based society; when we

are talking about a firm, we can find knowledge (Nicolescu et al., 2003) at its work force (human capital), into its clients needs and preferences (clients capital), or into its products, processes, capabilities and systems (structural capital). As a result, the value of the knowledge assets could easily be much bigger than the value of the tangible assets.

b. *The stakeholder theory* – it has to deal with *stakeholders*, which are "groups and individuals who benefit from or are harmed by, and whose rights are violated or respected by corporate actions. The concept of stakeholders is a generalization of the notion of stockholders, who themselves have some special claim on the firm. Just as stockholders have a right to demand certain actions by management, so do other stakeholders have a right to make claims. The exact nature of these claims is a difficult question (…), but the logic is identical to that of the stockholder theory"(Snoeyenbos et al., 2001).

The role of stakeholder management in the strategic management process – which is looking for sustainable competitive advantages and competitiveness on a global marketplace – could be divided in accordance with two very different approaches, each one of them having its core driven factors and arguments (Dess et al., 2007):

a. *Zero sum* – in this view, *the role of management* is to look upon the various stakeholders as competing for the attention and resources of the organization. In essence, the gain of one individual or group is the loss of another individual or group. That is, *employees* want higher wages (which drive down profits), *suppliers* want higher prices for their inputs and slower, more flexible delivery times (which drive up costs), *consumers* want fast deliveries and higher quality (which drive up costs), the *community* at large wants charitable contributions (which take money from company goals). As Timothy Devinney argues, "*any position taken by a firm and its management, social, ethical, or otherwise, has trade-offs that cannot be avoided. Corporations can be made more "virtuous" on some dimensions (or by the definition of virtuousness by some individuals or groups), but this will invariably involve a price on other dimensions (or a cost borne by those with other definitions of virtuousness). As these trade-offs are rarely going to be Pareto optimal, they will invariably involve a trade-off of values and a "judgment" about what is "better" or "worse." CSR, like most aspects of life, has very few, if any, win/win outcomes*" (Devinney, 2009).

b. *Stakeholder symbiosis* – although there will always be some conflicting demands placed on the organization by its various stakeholders, there is value in exploring how the organization can achieve mutual benefit through stakeholder symbiosis, which recognizes that stakeholders are dependent upon each other for their success and well being. That is, managers acknowledge the interdependence among employees, suppliers, customers, shareholders, and the community at large. *As Joseph Weiss argues, the stockholder approach "focuses on financial and economic relationships. By contrast, (… the …) stakeholder management approach takes into account non-market forces that affect organizations and individuals, such as moral, political, legal, and technological interests, as well as economic factors. (…) The stakeholder management approach, including frameworks for analyzing and evaluating a corporation's relationships (present and potential) with external groups, aims ideally at reaching <<win-win>> collaborative outcomes"* (Weiss, 2006).

So, "stakeholder theory has evolved to address the problems of: **(i).** understanding and managing a business in the world of the twenty-first century (the problem of value-creation and trade); **(ii).** putting together thinking about questions of ethics, responsibility, and sustainability with the usual economic view of capitalism (the problem of the ethics of

capitalism); and **(iii).** Understanding what to teach managers and students about what it takes to be successful in the current business world (the problem of managerial mindset)" (Freeman et al., 2010).

Under all of these circumstances, **the competitive strategy** (able to valorize all the above mentioned factors and their challenges) is the one that have to define and maintain a firm's good position/place into the industry it operates. It makes that possible by continuous evaluation and integration into a successful model of all the (endogenous and exogenous) factors that could influence the evolution of the firm. The main objective is to obtain and, more than that, to ensure the long term competitiveness and sustainability of the firm into a global economic world.

So, in their search for sustainable competitiveness, firms have myriads of options, based on myriads of factors and variables which could be taken into consideration. Trying to analyze "international competitiveness at the firm level", Donatella Depperu and Daniele Cerrato argue that "fundamentally there are least two *main views of the origin of a firm's competitive advantage*: **(1).** *Industrial organization scholars* focus on the *influence of industry-related determinants of firm performance* – "classicist" claim that a firm can neither influence industry conditions nor its own performance, so the competitive advantage originates from external sources rather than internal (firm-specific) sources – while the new industrial organization scholars, particularly Porter, which is mentioned here with his "five competitive forces that shape strategy" model claim that competition within an industry is defined by five structural parameters; then, the paths of industry evolution depend (among other things) on firms' strategic choices. **(2).** *Strategic management scholars* underline the *importance of firm-specific resources in determining variance of performance among firms*. Research works in this field (…) shift the focus from the external to internal sources of competitive advantage, by pointing out that *a firm creates a competitive advantage through the accumulation, development, and reconfiguration* of its unique *resources*, *capabilities* and *knowledge*" (Depperu & Cerrato).

With the globalization process rapidly and intensively spreading, the firm approaches in search of (global) competitiveness within an industry become more and more challenging – the pressures and threats evolve continuously, urging firms to delicately and sophisticatedly respond, but also new kinds of opportunities may be seen (or invented) all over the globe; the weak and vague signals of the industry a firm has to answer in order to survive are, under these circumstances, weaker and vaguer. So, the ability to identify them and their possible impact will differentiate successful firms from those who will fail.

4. Business ethics and corporate social responsibility – answers to the challenges of global competitiveness and sustainability

Business ethics. There are many *definitions of business ethics*; they include such *terms* as moral principles, standards of conduct or practice, business guidelines and corporate values, and refer to such *standards* as "the greatest good for the greatest number," "respect for the rights of others," and "a fair distribution of costs and benefits," and such *virtues* as honesty, compassion, fairness, and accountability. A *recommended definition* of business ethics is: "the rules, standards, and principles that guide the decisions, procedures, and systems of a company to contribute to the welfare of its key stakeholders and respect the rights of all constituencies affected by its operations". The definition of ethics provided above is broad. Those who seek to define ethics only in terms of legal requirements are discovering that the

violation of certain norms beyond the current law can result in public disgrace and higher costs. Law is far from being a perfect reflection of the current standards held by the public or employees. An organization must be concerned with both the legality and the ethical quality of its decisions.

An interesting approach of the term *business ethics* is implied in the description of *corruption* as a „form of unethical behavior or wrongdoing" (Eiras, A.L., according to Nwabuzor, A., 2005). That is right, because if we look at different forms of business corruption, we will see that a common feature of each is the unethical behavior. Augustine Nwabuzor argues that if the dictionary gives the meaning of *ethics* as "the discipline dealing with what is good or bad" and, in general, we call *unethical* "those actions for which there is social consensus that they are a bad thing", *business ethics* can be specifically defined as "a conversation about right and wrong conduct in the business world"; in this context, *corruption* may be seen as a form of anti-social behavior, which confers improper benefits to people in authority through a perversion of societal norms and morals" (Banfield, E., *The moral basis of a Backward* society, Chicago, Illinois, The Free Press, 1998, according to Nwabuzor, A., 2005).

Formally stated, *business ethics* comprise principles and standards that guide behavior in the business world (http://businessreality.org). The three **domains** that business people need to remember – because they help to define what is right or wrong within business are: **(1).** *individual* – it relates to the general ethics definition and moral values and rules of conduct (the term *ethics* has been defined as an "inquiry into the nature and grounds of morality where the term morality is taken to mean moral judgments, standards and rules of conduct". *Moral judgments* relate to "what is right and wrong and has been instilled into us by parents, church or synagogue leaders, relatives, and teachers"); **(2).** *company / corporate / firm* – the rules and standards that a firm has implicitly and explicitly taught their employees; **(3).** *societal* – the rules and laws that have been enacted by governments as it relates to individual and corporate codes of behavior. These three domains interact with one another in a dynamic way: always moving and changing (for example, what once was legal today could be illegal tomorrow and vice versa).

Organizational efforts in regard to ethics affect various *stakeholders*: customers, employees, suppliers, and investors: many stockholders want to invest in companies that have strong ethics programs, employees like working for a company they can trust, and consumers value integrity in business relationships. Stronger organizational ethical climate result in consumer and employee trust, employee commitment, and consumer satisfaction, which in turn leads to *profitability* (see http://businessreality.org).

Corporate social responsibility. The *corporate social responsibility* (*CSR*) construct describes the relationships between business and the larger society: "from the *point of view of the firm*, its *CSR* is the set of moral duties towards other social actors and towards society that the firm assumes as a result of its economic, social, political, and, of course, ethical reflection on its role in society and on its relationships with those other actors. And *with regard to external observers*, it is the set of moral duties that the other agents and society attribute to the firm as a consequence of the role it assumes and its relationships with those actors. *In practice*, then, *CSR* will be *the result of a dialog between the firm and its stakeholders about the obligations of the first and the expectations of the second*" (Argandona & von Weltzien Hoivik, 2009).

The *corporate social responsibility* could be *defined* in many ways; generally speaking, it implies: **(1).** to obtain *economic success* through an ethical manner, respectfully for people, communities and the environment – this means to respond to the legal, ethical, economic expectations that the society has from the companies, and to take decisions that can balance

the needs of all those that play a part in the company's life; **(2).** to adjust all the company's operations to the *social values* – this means to integrate the interests of all those affected by the behavior of one company into its policies and actions; the corporate social responsibility is concerned about *the triple bottom line* regarding the *social, ecological and financial results of the company, in order to have a positive impact over society together with business success*; **(3).** three *faces*: first of them is about *obeying the law* – to be ethical, objective and honorable; the second is about *diminishing or repairing any type of damages* caused by the company's operations, especially over the *environment*, and the third one is dealing with the *sustainable development*.

Broadly speaking, and considering the contributions of CSR to the shaping and development of a distinctive and competitive strategy at firm's level, the *proponents of CSR* have used four *arguments* to make their case: *moral obligation, sustainability, license to operate* and *reputation* – all of these arguments having the same weakness: they *focus on the tension between business and society rather than on their interdependencies* (Porter and Kramer, 2006): *(a).* the *moral appeal* is arguing that companies have a duty to be good citizens and "to do the right thing" – meaning to achieve *commercial success in ways that honor ethical values and respect people, communities and the natural environment*; *(b). sustainability* emphasizes environmental and community stewardship – as Brundtland defined CSR: *meeting the needs of the present without compromising the ability of future generations to meet their own needs*; *(c).* the notion of *license to operate* drives from the fact that *every company needs tacit or explicit permission from governments, communities and numerous other stakeholders to do business*; *(d). reputation* is used by many companies to justify CSR initiatives on the grounds that they will *improve a company's image, strengthen its brand, enliven morale, and even raise the value of its stock.*

Why **business ethics and corporate social responsibility** could be an **answer** to the challenges of global competitiveness and sustainability? *Generally speaking*, we can answer to this question with some different kind of *arguments*: **(i).** the *emotional* one – this is an argument with a great and visible impact at first sight, but it has its limits too: if it isn't take into consideration into the long term organizational policy and corporate behavior, this argument could disappear because peoples in the decision chairs are replaced, or because there attention is distracted by some other „case", or (no less important), people loss their interest in the subject; **(ii).** the *moral* (*ethical*) one – even if its domain of interest is bigger than that of the first argument, the problem arises from the differences between the value sets of those who plead and of those who listen to the plead; **(iii).** the *logical* one – is an mostly objective one; it has an important economic / financial nature, regarding the benefits that the company could get. Finally, those benefits can be grouped into two categories: *internal*, such as: personnel, team cohesion, improving communication between rather separate compartments of the company, the climate within the company and the employees attitude, getting out of the routine, employee training; *external*, such as: fiscal benefits, keeping up with the competitors, improving the company's image, growing the company's visibility or it's products visibility, consumer's preference for the products offered by the companies that are socially responsible.

Some managers believe and even vocally argue that ethics and social responsibility concern personal values only, and are not business issues. To these managers, financial profit and shareholder value are the only legitimate concerns of management. Others argue that ethics has everything to do with an organization, its business culture and its sustainable surviving. Unethical business practices and even individual incidents of unethical behavior reflect to some degree the values, attitudes, beliefs, and systems of the organization in which they occur. Because ethics is seen increasingly as an organizational issue, more judges are fining not only the individual who acted illegally but also the organization in which he or she works.

But more and more, organizations and the public worldwide recognize that **business ethics** and **corporate social responsibility** are important concerns for strategic management in order to achieve and maintain **global** and **sustainable competitiveness**. Nowadays business people connect ethics and business integrity more clearly to profitability and success in the marketplace. That's why an increasing number of companies are holding unit managers accountable for illegal and unethical behavior in their organizations, whether they knew about the incident or not.

Managers and executives are being judged as inadequate when they fail to provide ethical leadership to their organization or individual business unit and fail to institute systems that encourage and facilitate ethical behavior. Creating and sustaining an ethical culture has become a key role and expectation of every manager. In some environments legal and ethical lapses lead to numerous and expensive audits by regulatory agencies. Changing public mores (and impatience with slow-moving voluntary corporate action) are transforming mere expectations into regulatory and legal mandates. Even when regulation has not been enacted, the public clearly perceives transgressions against a behavioral norm as violations of proper standards.

Perhaps most critical for an organization is the impact that lapses in ethics and responsibility can have on both its reputation and its relationships with its employees, customers, suppliers, and the communities in which it operates. Difficulties in any of these relationships increase costs and reduce revenues over time. Employees, consumers, investors, suppliers, and business partners are "voting with their feet" – choosing not to do business with companies that are insensitive to ethical standards and that do not do their best to control the unethical impulses of their employees.

The ethical practices and culture of an organization are increasingly being seen as a *competitive asset*: employees like to work for a company they can trust; customers like to deal with an ethically reliable business; suppliers like to sell to firms with which they can have a real partnership; and communities are more likely to cooperate with organizations that deal honestly and fairly with them. So, we have to agree that "*in the current context* of: (a). increasing interconnectedness between economic actors and between countries (including transition countries), (b). consistent critical externalities for all types of enterprises confronted with an increasing competition in the local and/or international market, (c). tremendous impact of the new information and communication technology on each company, in terms of strategic development and of organizational behavior, *strategic management relies increasingly on the intangible assets in achieving corporate or market goals*. These refer, on the one hand, to company advantages given by *real time access to accurate information*, by *the intellectual capital of the firm's human resources*, by *the good reputation and image in the direct contact with clients, shareholders, or suppliers*, and on the other hand, to *the moral capital of the company, the ethical conduct of the managerial team, the transparency of the financial accounts by voluntary reporting to the interested circles, the respect of the employees' rights, the use of environment-friendly technologies*, and last but not least, *the CSR promoted in contact with the members of the hosting community*" (Korka, 2005).

5. The new strategic model integrating business ethics and CSR as the ultimate source of competitiveness in times of global crisis and turbulence

Under the pressures exercised on firms and their management by the global economic environment crisis, pressures that are amplified by the global economic and value crisis,

practitioners and theoreticians as well have to think about the ways companies could find viable solutions to way out of the specific/particular problems and ensure firm's sustainability in time. There are at least two very different approaches, which are complementary but reflecting different levels of appropriation and valorization of the internal environment of the firm – and especially in terms of organizational culture (Ogrean, 2010):

- *The first approach* emphasizes on the need to *change a firm's (CSR related) behaviors* – as behaviors represent the most visible layer of the organizational culture, reflecting any firm's particular features at a primary level of analysis; so, the process of changing behaviors is very visible (have a great and immediate impact) and much more easier than changing values (it does not mandatory mean internalization and/or appropriation of the internal fundaments of the organizational culture – values and beliefs). This we can call *rapid adapting to crisis strategy*, and it is *essential in order to survive in a time of crisis*;
- *The second approach* emphasizes on the need to *change a firm's (business ethics related) values* – as values are the in the core of the organizational culture (and, at their turn, organizational values reflect national and universal values), they are the foundation, the roots supporting all the manifested forms of the organizational culture. They are developing in time, are determining and defining all the organizational behaviors and are the most difficult to change and to adjust to new and dynamic realities which characterize the internal and external environment of the firm. But the different opinions (of individuals, as well as of institutions) argue in favor of this kind of change – sustainable and substantial. This we can call *long term transforming strategy*, and it is *essential in order to became and remain competitive after the crisis.*

Now, we would like to bring some arguments in favor of the above mentioned approaches and strategies – and especially regarding the last one, which requires profound and long time transformations, and where we can also see multiple layers:

a. On one hand, we have to mention what the World Economic Forum (WEF) has revealed into a ecent global report it has developed the last year (before the traditionally meeting taking place annually in Davos); it (naturally) embraced a macro to global approach, result of some very interesting researches and analyzes which were made by WEF itself (a Facebook survey, taking into consideration the young people opinions regarding *values into a post crisis world*, for instance) or by different well known and appreciated ethical and religious global leaders. So, the report is cautioning from its very beginning: "The current economic crisis should warn us to fundamentally *rethink the development of the moral framework and the regulatory mechanisms that underpin our economy, politics and global interconnectedness*. It would be a wasted opportunity for all of us if we pretended that the crisis was simply a momentary hurdle. If we want to keep society together, then a sense of community and solidarity are more important now than ever before. *The most fundamental question today* is *whether we can adopt a more communitarian spirit or whether we will fall back into old habits and excesses, thereby further undermining social peace*" (WEF, 2010).

On the other hand, at firm's level, we can bring as argument the analysis and suggestions that a British financial consultant in Ukraine has made a few years ago, at the beginning of the global crisis: "In order *to survive an economic downturn, I would argue that corporations will need to sustain their efforts to ensure social responsibility*. These efforts must include a *commitment to good governance and financial transparency*, a *commitment to protect and educate their work forces, a commitment to protect the environment, and a commitment to strengthen the communities in which they work*. It goes without saying that an economic downturn will mean

tighter budgets and fewer resources for corporate social responsibility activities. However, non-monetary community engagement, such as volunteer programs, board participation and education partnerships can make a modest corporate social responsibility budget go even further. And by engaging staff, businesses can ensure that corporate social responsibility becomes a part of their corporate culture, rather than just a token gesture" (Wilson, 2008).

b. When we are talking about changing a firms CSR-related behaviors, it is obvious that in the *last few decades* there have been designed and developed different – quantitative/practical as well as qualitative/theoretical – studies in order to identify if there is a connection (and what kind of connection is that) between corporate social responsibility and the financial-measurable performance of the firm. Although we can notice from the results of these studies the pre-eminence of the opinion arguing that the correlation is positive and strong (and there are a lot of more or less solid grounded arguments here), we cannot stop observing also the opposite opinion.

But, as the *global crisis* has emerged and developed, a *more responsible behavior* seemed to get through firms and their strategic management in their struggle for surviving and differentiating: the effect/result was the proliferation of *"cost-controlling" measures* aiming equally savings for the company and positive effects on different stakeholders. The *synergetic effects* that occur (and have to be valorized strategically) when *companies* which are *acting more "sustainable" are saving money at the same time* were emphasized into an article written by K. Wilhelm in December 2008, the first year of massive manifestation of the actual global crisis as follows:

- "*Energy* – The Washington State Convention Center installed more than 6,000 energy efficient lights and saved $120,000 annually with a payback of less than 1 year. Simple low cost ideas, such as ensuring that employees turn off their computers at night, can save $21/computer a year and over 920 pounds of CO2e, according to the Department of Energy;
- *Travel* – As air travel costs have sky rocketed over the past year, investments in videoconferencing software makes more sense than ever. A typical round trip flight from the Bay Area to NYC for instance can cost upwards of $750 for a coach ticket, and emits over 1,450 pounds of CO2e;
- *Waste* – Eliminating waste upfront and implementing recycling and composting alternatives helps lower waste costs and emissions. For example, the Hotel Monaco in Seattle composted its food waste and recycled its kitchen oil saving $20,000 annually. Umanoff and Parsons of Brooklyn, NY sold its leftover corrugated cardboard packaging to an outside shipping vendor and saved $2,500 annually in disposal costs;
- *Water* – SC Johnson's facility in Racine, WI landscaped with native and drought tolerant plants and saved roughly $2,000 annually in reduced water and maintenance costs;
- *Paper* – By setting printer defaults to double sided and margins to "1" instead of the typical "1.25," my own company has cut paper usage, emissions, and costs by over 50% in one year with zero effect on company behavior or performance" (Wilhelm, 2008).

This strategy of *saving money* ultimately means also *saving the planet* and *saving the people* – something that the concept and practice of the *triple bottom line* valorize the most. So, it is true that "financial crisis are times that are likely to be characterized by uncertain business environment. Both organizations and each party in the society try to avoid the effect of crisis by remedial actions; such as cutting costs by laying off workers, postponing investments,

reducing budgets for the following year in a contraction manner, consuming less. (…) However, *for long term sustainability and stability, CSR is required for all companies*. (…) *The demand for social projects is higher in times of financial crisis*; however, it seems that companies engage in such activities less rather than more in the present crisis" emphasized Karaibrahimoglu, when he has studied the effect of financial crisis on CSR of Fortune 500 companies: CSR indexes 2008 comparative to 2007 (Karaibrahimoglu, 2010).

Vice-President of the European Commission responsible for Enterprise and Industry, Gunter Verheugen has emphasized at the CSR Forum in 2009 some "*reasons why the crisis we are currently experiencing demands an ever more serious and strategic commitment to* corporate social responsibility:

- The main one is *trust*. (…) Europe can only flourish and can only meet its objectives of sustainable development in all three pillars – competitiveness, environmental protection and social inclusion – if *enterprises are trusted and actually trustworthy and valued for their contribution to society*. (…) Enterprises do this through the wealth they generate, the jobs they provide, and the goods and services they offer, while taking care of the environment and local communities where they operate.
- But the issue goes a step further – it is a question of *ethical behavior, of ethical standards*. The financial turmoil has revealed to us an unexpected degree of selfishness and greed existing in our society. This must be changed. Not by legislation, as ethical behavior cannot be decreed by law. Instead, *we must put in place an environment where such behavior is not tolerated but punished.*
- I strongly believe that the *companies to lead us out of the recession will be those which consider CSR as part of their core business strategy*. They will be the companies that have developed *innovative forms of cooperation with stakeholders in order to bring new products to new markets*. … They will be the companies that see commercial opportunity in helping to resolve societal problems – such as the car companies that can offer radically more efficient transport or IT companies that help reduce the need for travel altogether. (…)

Rebuilding trust, managing the human dimension, and seeing sustainability as an opportunity for new business are key to overcome the economic crisis. But beyond that – if we are really to build a more sustainable system in the medium term, then we will also need a shift in values, including amongst enterprises and those who lead them" (Verheugen, 2009).

Assuming a sustainable approach as well, the International Labour Organization admits that "applying *responsible and sustainable enterprise-level practices during a period of economic crisis is a challenge*. There can be *tensions* between the need to remain competitive and survive as an enterprise while at the same time considering and minimizing the social impact of cutting costs and restructuring the business. However, such tensions could be *minimized, if not eliminated,* if the enterprises are pursuing *long-term sustainable strategies, policies and practices*" (ILO, 2009).

6. Conclusion

"There is widespread recognition that the *long-term viability of an enterprises* means that its management should be based on the *three pillars of sustainability*: *economic, social and environmental*. At the enterprise level, sustainability means operating a business so as to grow and earn profit, and recognition of the economic and social aspirations of people inside and outside the organization on whom the enterprise depends, as well as the impact

on the natural environment. Sustainable enterprises need to innovate, adopt appropriate and environmentally friendly technologies, develop skills and human resources, and enhance productivity to remain competitive in national and international markets" (ILO, 2009).

Under these circumstances and considering these aggregate effects, we think that the most important approach for the strategic management of the firm in these turbulent times is to be able to *see and valorize opportunities which most of the competitors see as threats and avoid, on one hand, and to transform internal weaknesses into powerful strengths, on the other hand*. By doing this, it is possible for a firm to survive and even develop *a unique competitive strategy of differentiation* (from its competitors – through CSR related practices which, paradoxically, save money) *and focalization* (in terms of market segments and clients – by avoiding inutile costs that eventually would have reflect themselves into higher prices).

The recent bustling and global failure of the well known (and even blunt) "*doing well by doing good*" collocation (and what was happened after that until now) is summary explained into a very recent book by the fact "that *the adage was not true. Many companies did well by being bad. Creative accounting, unfair labor practices, corporate secrecy, monopolistic behaviors, externalizing costs, and shady environmental behaviors* could help beef up the bottom line. (…) But *today all this is changing*. (…) It's become clear that *business can't succeed in a world that is failing. We need to rethink and rebuild many of the organizations and institutions of the past around a new set of principles and behaviors*. (…) *Companies need to do good – act with integrity – not just to secure a healthy business environment, but for their own sustainability and competitive advantage*. Firms that *exhibit ethical values, openness, and candor have discovered that they can be more competitive and more profitable*" (Eccles and Krzus, 2010).

Agreeing, continuing and developing this idea, we think that a *new managerial approach has to emerge* and *a change of paradigm has to occur* in the field of strategic management in order to develop a comprehensive framework able to bring together, into a never ending process of self-development, a three steps approach, that will reunite: *value-based management* (business ethics, generally speaking, with everything this kind of approach supposes) --- *good corporate behavior* (corporate social responsibility in search for global sustainable competitiveness) --- *sustainable value-creation for* (all the firm's) *stakeholders* (as final and unquestionable measure of management performance and success). This is the *model of strategic management (based on business ethics and social corporate responsibility) in the context of globalization we propose by this chapter of the book*.

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3

Customer Challenges in Times of Global Risk and Uncertainty

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1. Introduction

Rapidly changing business conditions have made it more difficult and challenging for managers to keep customers (Carter, 2008). To build this process it is necessary to consult customers for preferences, build familiarity and knowledge to build a relationship and conduct business in a customized fashion. The process takes every opportunity to build customer satisfaction with each customer contact. It is an important process to have, since customers today are more demanding, sophisticated, educated and comfortable speaking to the company as an equal (Belk, 2003). Customers have more customized expectations so they want to be reached as individuals (Raymond and Tanner, 1994).
Also, a disproportionate search for new business is costly. The cost to cultivate new customers is more than maintaining existing customers (Cathcart, 1990). Other reasons that Customer Retention is necessary is because many unhappy customers will never buy again from a company that dissatisfied them and they will communicate their displeasure to other people. These dissatisfied customers may not even convey their displeasure but without saying anything just stop doing business with that company, which may keep them unaware for some time that there is any problem (Cathcart, 1990).

2. Causes of crisis

Poor customer relationship building can be a cause for crisis. About 91% of unhappy customers will never buy again from a company that dissatisfied them and they will communicate their displeasure to other people. There can be various reasons that customers become dissatisfied with a company. It can be on the basis of product or service quality, price, poor location, lack of attentiveness, complacency, not having a customer complaint system or a weak public image. In addition, about one third of all customers are dissatisfied because they were unappreciated and some of those customers will never complain to the company. Companies that offer employees a sense of long-term stability may satisfy customers and prosper at the expense of less effective competitors. So, the failure of managers to have a process to monitor and meet customer satisfaction needs can be devastating to a company. One particular cause of crisis is that senior executives too often do not understand the fundamentals of their business. They neglect to ask central questions, such as what precisely is their company's core expertise, what are reasonable long and short-term goals, what are the key drivers of profitability in their competitive situation.

The occurrence of a crisis and its aftermath can have a devastating effect on a company's sales. For every $100 million in revenue, two incidents per year occur that call on a company's emergency response plan. For every $8 billion of revenue, there is one major loss per year, representing about one percent of annual sales. One catastrophic loss every 10 years, equals 1.5 times annual profit.

Why do corporations fall short of objectives? Why do strategies that seemed eminently sensible turn out to be disasters? Just why do successful organizations, which once could do no wrong, suddenly begin to lose their way? As seen from the Barings Bank financial debacle, the role of sales management is crucial in today's global business arena role. Nick Leeson, as the trader who caused the Baring's Bank scandal in London, essentially performed in a sales role. To guard against billion dollar catastrophes and a host of lesser risks, the best line of defense is a solid crisis management process.

2.1 The consequences of crisis

Crisis can be characterized as a major unpredictable event that has potentially negative results. It can also be thought of as a turning point for better or worse. The crisis event and its aftermath may significantly change a sales organization and its salespeople, products, services, financial condition and reputation. So, the real consequences of crisis events to managers can mean the loss of future sales and reputation, the loss of consumer confidence, prolonged negative publicity, exposure to lawsuits, declines in stock values and increases in operating expenses.

2.2 Union Carbide

In the area of crisis management, few firms have experienced more than Union Carbide. In 1984, gases released from a pesticide plant of an affiliate — owing to a deliberate act of sabotage — killed about 2,000 people in Bhopal, India, and injured many more. The "Crisis" as such obliged the company and its Indian affiliate to pay $470 million to the Indian government to compensate victims and survivors. The "Crisis" also ultimately depressed the stock price so much that they were subject to an unfriendly takeover attempt. To fight it off, they had to sell off significant portions of the company and use the proceeds to pay a special dividend to the stockholders. To forestall another tragedy of such proportions, Union Carbide's management resolved to create the world's best episodic risk-management system (ERMS), one that ensures senior executive review of substantial risks. This incident really indicates what can be at stake with a crisis.

Starting in 1985, Union Carbide spent five years building a database of information that catalogs hazardous materials stored on site, size of storage tanks, vulnerability of local people to an explosion, and so on. Arthur D. Little, Inc. of Cambridge, Massachusetts, weighed the variables and ranked every one of the company's 1,400 operations. So, when the company initiated its ERMS program, responsibility was assigned to the senior line managers, not the risk manager. The company spent between $5 million to $10 million to develop its ERMS and spends about $1 million a year to manage it.

Another customer-tracking technique that can help prevent a crisis is considering the needs of customers all along the value chain, not just the end user. Every company must please the whole series of customers and target audience. Depending on the business this can be consumers, wholesalers, shippers, retailers, independent distributors, employees, stockholders and the financial community. By failing to meet the "customized" needs and

expectations of their customers, companies will find that over time they will lose these customers.

2.3 The success of Rohm Co.

Rohm Co., a Japanese firm, earned a record $267 million in the fiscal year ended March 31, on revenues of $2.8 billion. Its 17% pretax earnings margin compares with around 4% for Japan's electronics industry as a whole. Rohm is Japan's leading producer of laser diodes, semiconductors that function like phonograph needles in compact disc players. Rohm is also the leading producer of the chips used in computer floppy disk drive motors.

In a country where businessmen often wait for crisis to strike and then react, Rohm's management has demonstrated an ability to anticipate crisis. Most important, their managers assess the sales effort rigorously, even ruthlessly. Rohm's after-tax profit margins were slipping into the 2% range, which is not drastically low by Japanese standards. That same year Sony's net margins were around 3%, but Rohm's management was thinking ahead concerning what would happen to margins if sales started to slip?

Not content to wait for answers, Rohm's management shook up the company. They forced Rohm's salesmen to refuse unprofitable and low-margin orders. This was almost unheard of in Japan, where suppliers tend to do just about anything to please a customer. As a result of the changes, Rohm's sales rose by 21%, after tax margins were 9% and profits will grow about 10% annually over the next 3 years.

2.4 Summary

Success with customers in business globally, must be viewed as an evolutionary process. Growth within an organization stems from a few basic core strategies that result in maximized profit. For example, In Vilnius, Lithuania, outdoor common food vendors advertise their unique products by offering free samples of any food item customers are interested in. In Moshi, Tanzania, E. Africa, the Chaga tribe markets their freshly brewed banana beer by placing a branch of the yucca plant on the ground outside and in front of their brewery. This lets fellow Chaga tribe members know that freshly brewed banana beer is inside. The validity and appropriateness of risk policies need to be re-evaluated constantly. In addition, organizations must develop customer relationship building, have interaction with top executives from top customers, help customer satisfaction and loyalty, encourage top management to develop, a crisis management culture and philosophy that permeates the company.

3. Other causes of crisis: the global crisis 0f 2007-2009

An economy is said to be in crisis often during the recession or depression stages of the business cycle. The basic characteristics of economic crisis are slow down in production and distribution of goods and services, increase in unemployment due to layoffs, decrease in consumer confidence and hence expenditure, decrease in availability of credits, etc. An economic crisis can be caused by several factors. The 2008 global economic crisis is referred to as financial crisis because it started in the financial services sector. The trigger of the crisis is decline in the market prices of houses. The Standard and Poors' Case-Shiller home price index showed an aggregate decline in home prices of more than 20% since 2007.

Why would decline in home prices cause global financial crisis instead of just crisis in the real estate sector? Three factors contributed to the escalation of the housing crisis into global

financial crisis. These are (1) the loosened financial regulation, (2) the increasing securitization of loans including mortgage loans, and (3) the expectation that house prices would continue to increase.

3.1 The regulatory environment

In 1933, the US Congress passed the Glass-Steagall Act that separated commercial banking, investment banking and insurance services. The objective of the Glass-Steagall Act was to minimize conflict of interest when the same institution acts as lender as well as securities broker. In 1999, Congress passed the Gramm-Leach- Bliley Act that repealed the Glass-Steagall Act. This allowed commercial banks to engage in investment banking activities. For example Citicorp, a commercial bank expanded into investment banking by acquiring Smith Barney, an investment bank. Subsequently, it merged with Traveler's Insurance, which already acquired Solomon Brothers, and formed CitiGroup, a bank holding company with multiple financial services[1]. The trend seemed toward increasing integration of financial services industry and the creation of multi-tasked one-stop-shop companies.

There are two main reasons for the repeal of the Glass-Steagall Act. First there is no such law in other countries. Increasing globalization of the financial services industry put the US companies at a competitive disadvantage. Second, there was pressure to deregulate the financial services on the assumption that the companies themselves put in place adequate risk management systems. This assumption is based on the increasing application of computer systems and complex mathematical models in the design and implementation of risk management systems. These facts not only loosened regulatory rules but also reduced the ability of bank regulators to enforce the existing rules. Financial institutions were able to classify complex assets to suit their purpose.

One of the safety and soundness regulatory tools is risk based capital adequacy requirement. Bank assets are classified into risk categories and risk weights assigned with risky assts having higher weights. The risk-weighted total asset is the basis for determining capital adequacy. The Basel Committee on Bank Supervision proposed a minimum capital requirement of 8%[2]. This ratio has been implemented in the US for many years.

Maintaining high level of equity capital is good for safety of the financial institution. But its return on equity will be enhanced if the bank is financed with a greater proportion of debt. The return on equity is related to the proportion of capital by the following formula:

$$ROE = ROA*A/E$$

Where ROE = Return on equity (to the shareholders)
ROA = Return on assets (return on total investment)
A/E = ratio of assets to equity, which is the reciprocal of capital ratio.

For example, if a bank earns a rate of return on assets of 4% and its capital ratio is 8%, its return on equity will be 4%*1/0.08 = 50%. If the capital ratio is decreased to 5%, the ROE would increase to 4%*1/0.05 = 80%. So the motive of the banks not to invest more of own

[1] The mergers actually took place in 1998, before the repeal of the Glass-Steagall Act in 1999. The merger was allowed on the condition that Citi would divest some of the divisions within the following five years. But the passage of the Gramm-Leach-Bliley Act rendered enforcement of the divestment unnecessary.

[2] Basel Committee on Banking Supervision (2004) "International Convergence of Capital Measurement and Capital Standards." (http://www.bis.org/publ/bcbs107.htm).

equity capital is to lever up profitability by using debt to finance operations. But low capital ratio reduces the capital cushion and increases risk.

Just like the bank assets are grouped into risk categories, bank capital is also grouped into two tiers. Tier 1 capital is made up of contributed common stock plus retained earnings. Tier 2 capital is composed of preferred stocks and some subordinated long-term debentures. With the complexities of the securities the banks issue directly and through their brokerage arms and the assets in which they invest, it is difficult to enforce capital adequacy rule satisfactorily. Banks created special purpose entities for the purpose of carrying risky assets on their balance sheets instead of on the balance sheets of the banks. Profits from such risky assets accrue to the banks through intercompany transfers of profits but since the banks are not maintaining adequate capital and regulators find it hard to implement capital adequacy requirements based on off-balance sheet assets, the risk would be very high. It is a high risk game with inadequate cushion for emergency. When house prices declined in 2008 and the mortgage loans became non-performing, many banks went bankrupt or were taken over at fire-sale prices.

3.2 Securitization

Securitization is a process by which a tradable security is created and issued supported by a pool of other assets. The tradable security so created is sometimes referred to as asset backed security (ABS). The pool of assets that support the ABS could be any financial instruments with streams of cash flows. A typical example is the securitization of mortgages. ABSs supported by a pool of mortgage loans are known as Mortgage Backed Securities (MBS).

Securitization of mortgages helps increase the volume of funds available to finance home purchases. Financial institutions can issue the MBS in the capital markets, raise more funds and lend to finance more real estate purchases. Fannie Mae and Freddy Mac are instrumental in the purchase of mortgages and their securitization. Securitization also bundles assets of different risk categories. For example some sub-prime mortgages may be bundled together with high quality mortgages to create an MBS. Such MBSs are very risky even if the proportion of sub-prime loans included is small.

The objective of the banks in securitization is to remove the loans from their balance sheets. Loans are assets for banks. Capital adequacy regulation requires banks to maintain capital based on risk-weighted assets. Loans have higher risk weights than cash for capital adequacy purposes. So securitization and removal of loans from bank balance sheets help them reduce the amount of capital they need to maintain. In many cases, the banks transfer the loan to their securities brokerage arm and in some cases, they establish special purpose entities that finance the securities purchase with commercial paper issues of their own[3]. The funds raised by selling MBS are then used to finance more home purchases, which are in turn securitized, and the expansion continued.

According to Acharya and Richardson (2009), securitization worldwide went from $767 billion at the end of 2001 to $1.4 trillion in 2004 to $2.7 trillion in 2006. Although there are AAA rated tranches in the MBS, there are many which are supported by sub-prime mortgages. The rating agencies are accused of giving high ratings to many sub-prime supported MBS because of self interest. These mortgages also have different sub-categories. Some are fixed rate conforming mortgages where periodic payments by the borrower

[3] Acharya, V.V. and Richardson, M. (2009) "Causes of the Financial Crisis." Critical Review, 21(2-3) 195-210.

include interest plus principal. There are also variable rate mortgages, where interest rate is variable for the first several years and then reset to a fixed rate after that. There are also interest only mortgages, where the borrower pays interest only for the first several years and then interest plus principal repayment starts thereafter.

The increase in supply of loans for home purchases due to securitization increased home purchases. Real estate prices also rose resulting in what is referred to as the house price bubble. Many people cashed the equity on their homes. Banks were attracted by the profitability of mortgage loans that could be securitized and removed from the balance sheet and increased lending liberally. The relatively low interest rates of the 2001-2003 and the expectation that home prices would continue to increase attracted both the lenders and the borrowers.

In 2006, interest rates started rising and many of the adjustable rate and interest only mortgages were ready to reset to a fixed rate. At the new high interest rate, many home owners couldn't afford to pay their new monthly obligations. Default rates increased and the demand for houses decreased. Banks could not sell repossessed homes at high enough prices to recover their loans. With huge amount of outstanding mortgages that were securitized and put on the balance sheets of special purpose entities, with banks that were not adequately capitalized, and with decrease in real estate prices, the stage was set for the bubble burst and the financial crisis. Many banks tightened credit, which made refinancing difficult and further reduced home prices. This in turn decreased consumer confidence and consumer expenditure. Consumer expenditure accounts for about one third of the US economy. Decrease in expenditures decreased demand for goods and services and the crisis spread to all the sectors of the economy. Businesses reduced inventory restocking in the event of decreased demand, and also reduced expenditures on machinery and equipment investments. Decrease is sales affected companies across the economy. Banks wrote off billions of dollars worth of MBS and other real estate related loans. Many companies filed for bankruptcy. Business bankruptcy filings increased from 4,086 in the first quarter of 2006 to 16,014 in the second quarter of 2009[4].

3.3 House price expectations

The third factor that contributed to the crisis is the expectation of continuous increase in home prices. With the increase in the supply of real estate loans and liberal credit policies, home prices increased continuously. According to FHA home price index data, home prices more than doubled from the early 1990s to 2006. See figure 1.

As Figure 1 shows, house price increase accelerated after 2001 and surpassed the GDP growth. Such increase in real estate prices enticed banks to lend liberally with the assumption that any mortgage defaults would be recovered by repossessing the property and selling it at higher price than the loan balance. Many of these loans are sub-prime loans with various liberalization incentives such as variable rate mortgages and interest only mortgages. These mortgages usually reset to fixed rate in five years time. The growth in home prices started stabilizing in 2006 and reached a peak in the second quarter of 2007. Then the decline started triggered by reset of mortgage rates to a fixed and a higher level, which caused defaults. Banks tightened credits. Businesses and consumers lost confidence and decreased expenditures. These decreased the overall economic activities.

[4] American Bankruptcy Institute (http://www.abiworld.org).

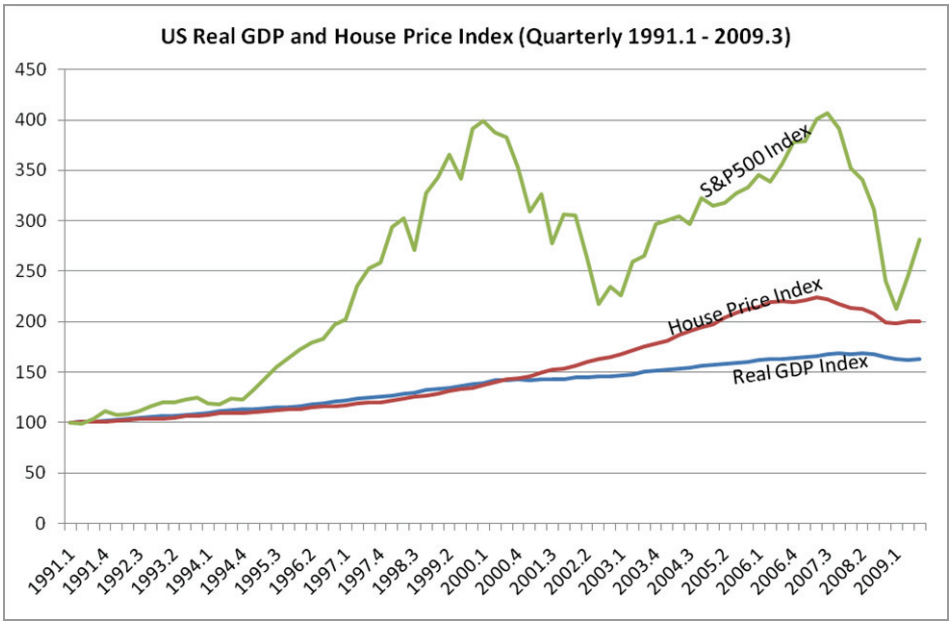


Fig. 1. Comparison of Real GDP, home prices and stock market index in the USA from first quarter of 1991 to the third quarter of 2009. The graphs represent the three indexes rescaled by setting 1991.1 to 100 to facilitate comparison. GDP data are obtained from Bureau of Economic Analysis (http://www.bea.gov), home price index data are obtained from Federal Housing Finance Agency (http://www.fhfa.gov/Default.aspx?Page=87) and the stock price index data are from Morningstar EnCorr database

As Figure 1 shows, decline in house prices preceded decline in real GDP and decline in the stock prices. Clearly, the cause of the crisis is the decline in house prices. Stock indices lost about half of their pre-crisis value.

3.4 Consequences

Financial institutions specifically got stuck with huge amounts of illiquid MBS that they couldn't sell. Many wrote them off. Some couldn't sustain the losses and made strategic moves such as merger with other companies. Bear Sterns, Merrill Lynch, Countrywide Financial and Wachovia were taken over by other financial institutions. Lehman Brothers went bankrupt. JP Morgan Chase and Morgan Stanley became bank holding companies in the hope that they could attract deposits and get access to the Federal Reserve's Discount Window facilities. Fannie Mae and Freddie Mac, the two government-sponsored entities established to provide home financing through the purchase of mortgages, were taken over by the government. The US Government spent billions of dollars to bail out banks and insurance companies. American International Group (AIG) and Citigroup were saved by government bailout. Many other regional financial institutions had to make similar strategic moves. Some went bankrupt and others were taken over by other stronger institutions.

Outside the financial services industry, the auto industry was severely affected. The three major auto makers sought government assistance to avoid bankruptcy. General Motors and

Chrysler obtained massive government assistance in the form of loans or acquisition of preferred stocks. Still General Motors filed for Chapter 11 bankruptcy protection. Several other companies in the auto industry were affected. Lear Corporation, supplier of car seats, filed for Chapter 11 bankruptcy protection and wiped out original shareholders' value and reorganized by issuing new shares. The main cause of weakness in the auto industry is also decrease in consumer expenditure. In addition, the US automakers are not up to date in terms of innovation compared to European and Japanese auto makers.

The retail industry also suffered a great deal. Retail sales declined by up to 12% because of decrease in consumer confidence and hence consumer expenditures. Consumer confidence index fell below 30 in the first quarter of 2009 (see Figure 2). Consumer confidence below 50 indicates recession (contraction). When the banks restricted credit, some of the weaker retail businesses couldn't sustain and went bankrupt. Examples include Circuit City Stores, Linen and Things, and Bernie's. These companies couldn't secure financing from banks and neither could they attract any acquirer. Blockbuster tried to buy Circuit City, but it withdrew the offer after getting access to the latter's books during the due diligence investigation. Many people also thought it would be a strategic mismatch to merge Circuit City with Blockbuster.

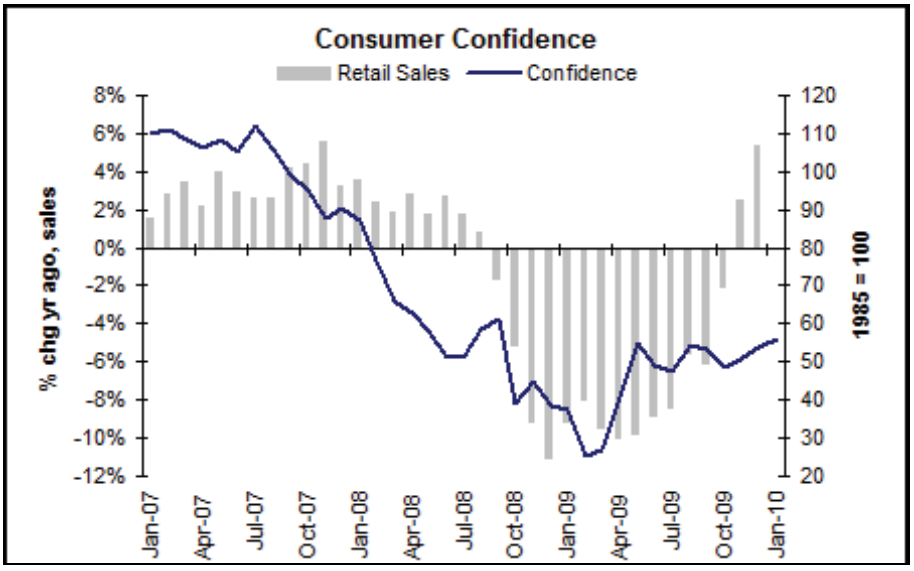


Fig. 2. Percentage change in retail sales (left scale) and level of consumer confidence (right scale) 2007 – 2009. Source: http://www.bloomberg.com/markets/ecalendar/index.html

The hi-tech industry suffered loss of sales and loss of value, but there are no major bankruptcies. The industry suffered decline in sales due to decline in expenditures by individuals as well as businesses. Most of the computer makers and software developers had adequate cash on hand that helped them withstand the adverse consequences of the recession. But there have been some consolidations with relatively stronger companies acquiring the relatively weaker ones. For example, Oracle took over BEA Systems in 2008 and Sun Microsystems in 2009. Microsoft Corporations bid for Yahoo, Inc. faced resistance

and failed, however. The decline in stock prices increased merger and acquisition activities in other industries too.

In general, the crisis started in the financial services sector spread to all the other industries and across the globe and resulted in loss of confidence, loss of sales to businesses, loss of wealth to investors, loss of jobs and bankruptcy of many companies. Unemployment rate exceeded 10% in the third quarter of 2009, a record for several decades. Stock markets lost about half of their value.

3.5 Government reaction

The US Government reacted to the crisis swiftly and on a scale unprecedented in recent memory. The Department of the Treasury, the Federal Reserve Bank and the Federal Deposit Insurance Corporation (FDIC) are the main government agencies directly involved. All the three made significant changes in terms of both the magnitude and nature of their involvement in the economy.

Department of the Treasury: The Department of the Treasury developed the Troubled Assets Relief Program (TARP) through which it engaged in outright bailout of companies in the form of lending, acquisition of securities and guaranteeing of loans. The initial capital set for the TARP amounted to $800 billion. As of September 2009, $364 billion of this capital had been disbursed. The major recipients are AIG[5] ($70 billion), Citigroup ($45 billion), Bank of America[6] ($45 billion), General Motors Corporation[7] ($49.5 billion), Wells Fargo ($25 billion), JP Morgan Chase ($25 billion), Goldman Sachs ($10 billion), Morgan Stanley ($10 billion) and several regional banks[8]. These assistances came with restrictions on the part of the companies in the form of restrictions on executive compensation, dividend payments, corporate expenses and other measures. Banks could repay these loans only after passing a stress test assessment, which included ability to raise debt and equity capital in the financial markets without government guarantees. The lions' share of the Treasury's assistance went to the financial services industry because they wanted the banks to release funds to businesses and individuals in the form of increased credit facilities and reinvigorate the economy. But assistance also went to the auto industry and local governments.

In addition to loans and investment in companies, the Treasury undertook consumer and business lending initiatives. Tax credit of up to $8,000 is offered to households who purchased homes in 2008 and 2009. The cash-for-clunkers program offered credit for

[5] Treasury's assistance to AIG took the form of $40 billion purchase of preferred stock and about $30 billion loan facilities, out of which AIG drew only about $3.2 billion. AIG received additional credit facilities of up to $85 billion from the Federal Reserve Bank.

[6] This sum represents preferred stock purchases of Bank of America and Merrill Lynch in October 2008 of $15 billion and $10 billion respectively. After Bank of America completed it acquisition of Merrill Lynch, the Treasury purchased an additional $20 billion preferred stock in January 2009.

[7] These include a total of $19.4 billion loans before GM filed for bankruptcy on June 1, 2009 and $30.1 billion debtor-in-possession loans with the bankruptcy. GM filed for bankruptcy restructuring on June 1, 2009 and subsequently reorganized under a New GM. Old GM common equity was wiped out. Treasury's loans to the Old GM were transferred to new GM in the form of preferred stock and common stock. The US Government owns about 61% of the New GM.

[8] These figures represent aggregate amounts disbursed under different programs. Some are loans and some are Targeted Investment Programs. See the details in United States Department of the Treasury, Office of Financial Stability "Agency Financial Report, Fiscal Year 2009" available at http://www.treas.gov/press/releases/OSF%20AFR%2009.pdf.

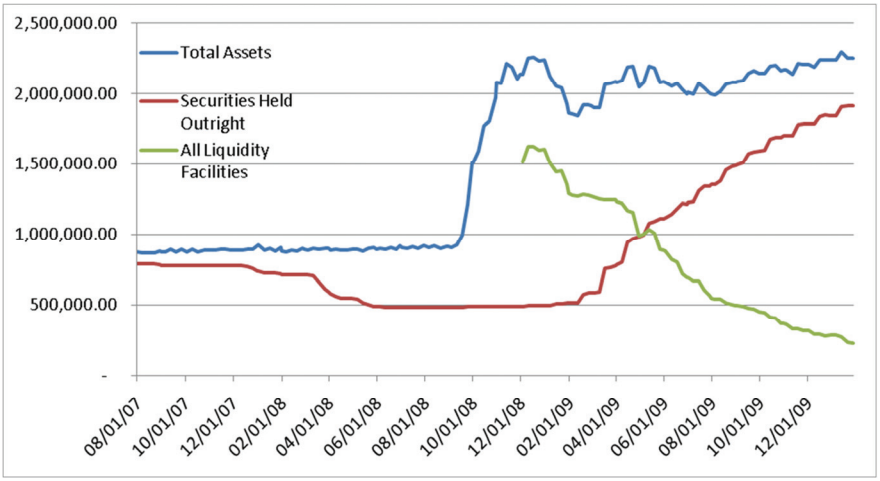
trading-in less gas efficient cars for more gas-efficient cars for a limited period during 2009. Both programs were popular and received high publicity.

The results have been encouraging. The economy started recovery in mid 2009. Real GDP grew by an annualized 4.6% during the third quarter and 5.7% during the fourth quarter of 2009. By the end of 2009, several of the financial institutions that received government assistance repaid the loans and redeemed the preferred stocks. These include Goldman Sachs, JP Morgan, Morgan Stanley, and Bank of America.

The Federal Reserve Bank: As the monetary policy maker of the country, the Federal Reserve Bank controls money supply, regulates financial institutions and acts as bank of banks. Its monetary policy tools are the federal funds rate, an overnight interest rate at which banks borrow from each other, open market operations through which it monitors amount of money in circulation, reserve requirement on commercial banks deposits, and discount window facilities, through which it lends short-term funds to commercial banks. The Fed increases the federal funds rate when there is fear of increased inflation and decreased the federal funds rate when there is fear of economic contraction. The Fed enforces its interest rate policy through open market operations. If it buys Treasury securities thereby releasing more currency into circulation, it reduces interest rate, and if it sells Treasury securities thereby reducing the amount of money in circulation, it increases interest rate. Buying Treasuries is expansionary monetary policy and selling Treasuries is contractionary monetary policy. Thus the size of the balance sheet of the Federal Reserve shows whether it is following expansionary or contractionary monetary policy. The assets of the Federal Reserve include securities it purchased, loans to financial institutions and governments, and any gold and foreign currency reserves. Its liabilities are currencies in circulation and deposits of financial institutions and government agencies.

To mitigate the impact of the financial crisis, the Fed obviously followed an expansionary monetary policy. The magnitude and the composition of its balance sheet changed tremendously. As Figure 3 shows, total assets of the Federal Reserve increased from around $870 billion in August 2007 to about $2.24 trillion in December 2009. The biggest jump was made in September 2008. This is the largest expansion in the history of the Fed and resulted from the Fed's attempt to fight the recession. The composition of its assets also changed.[9] Traditionally, the Fed bought and sold only short-term Treasury securities and overnight secured agency debts in the form of repos. This time, its purchases included long-term Treasuries and government agency securities with up to ninety day maturity. The *Securities held outright* in Figure 3 represent Treasuries as well as agency and agency-guaranteed MBS and loans extended to AIG. These agencies are mainly Fannie Mae, Freddie Mac and Ginnie Mae. These securities holdings increased from around $500 billion during the pre-crisis period to over $1.90 trillion in 2009. The Fed also extended short-term liquidity facilities to support commercial paper loans, collateralized debt obligation (CDO) loans, and other term loans. These facilities are new and amounted to over $1.6 trillion in the late 2008 and early 2009. These loans focused on large companies with systemic impact on the economy. Traditionally, the Fed acted as lender of last resort for depository institutions. Lending to some non-depository institutions was a departure from this traditional policy. These loans gradually decreased as the economy recovered and repayments are made on the loans.

[9] For a brief discussion of the Fed's actions and the composition of its lending facilities, see Statement by Ben S. Bernanke for the Committee on Financial Services, US House of Representatives, February 10, 2010 available at http://www.federalreserve.gov.



All Liquidity Facilities includes: Term Auction credit; primary credit; secondary credit; seasonal credit; Primary Dealer Credit Facility; Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility; Term Asset-Backed Securities Loan Facility; Commercial Paper Funding Facility; support for American International Group, Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC, and central bank liquidity swaps.
Securities held outright include Treasury, agency, and agency-guaranteed mortgage-backed securities under the large scale asset purchase program announced by the Fed.

Fig. 3. Total Assets and selected assets of the Federal Reserve Bank (2007-2009). Figures are in millions of dollars.
Source: The Federal Reserve website
(http://www.federalreserve.gov/monetarypolicy/bst_recenttrends.htm)

In addition to the expansion of its balance sheet, the Fed decreased the federal funds rate to an unprecedented level. In 2008, the federal funds rate was reduced to 0-0.25% range and it has been kept that way since then. The federal funds rate is a conduit that influences the general level of interest rate in the economy. The objective of the Fed in keeping the federal funds rate so low is to encourage banks to lend and businesses and individuals to borrow and invest and speed up the economic recovery.
Federal Deposit Insurance Corporation: If a bank fails, the available cash is distributed to the depositors on a first-come first-serve basis. So depositors have to act fast to get their money. Then the depositors will lose confidence in the banking system and start withdrawing their deposits even from healthy banks and cause bank run. To minimize such bank runs, the Federal Deposit Insurance Corporation (FDIC) guarantees deposits up to $100,000 per depositor in each insured bank. If a bank is in trouble, the FDIC either bails it out or let it fail and pays depositors up to a maximum of $100,000. With the advent of the financial crisis, many banks failed. The number of bank failures was exceptionally high compared to other years (see the table of bank failures). In 2008, 25 banks failed and in 2009, 140 banks failed. FDIC facilitated the takeover of some of these banks by other relatively healthy ones. Merger with other healthy banks were facilitated by FDIC in cooperation with the Federal Reserve and the Department of the Treasury.
To mitigate the probability of depositors causing bank runs, the FDIC increased the deposit insurance limit to $250,000 per depositor in 2008. This limit increase will last until the end of

2013. In addition, the FDIC implemented a temporary liquidity guarantee program in 2008 to provide liquidity to banks and also guarantee some loans.

Year	Count
2001	4
2002	11
2003	3
2004	4
2005	0
2006	0
2007	3
2008	25
2009	140
2010	15*
Total	205

*2010 frequency is for the month of January only.

Table 1. Frequency of bank failures by year (2001 – 2009) closed by the FDIC
Source: Compiled based on data from the web site of FDIC at http://www.fdic.gov

Such coordinated effort and the scale of intervention by the government is unprecedented. The efforts appear to be successful for the stock market gained about 40% during the last three quarters of 2009 and real GDP increased during the third and fourth quarters. The efforts saved the economy from falling into the scale of the Great Depression. With the increased liquidity in the economy, there is fear of increased inflation in the near future. The Fed may have to reverse its policy and tighten monetary policy to fight such fears.

3.6 Crisis management at firm level

What should companies do to minimize the impact of crisis on their performance? Crisis of the 2007-09 proportion, affect every company. Some companies do not survive while others emerge stronger. What are the basic characteristics of companies that survive the crisis and what are the basic characteristics of those that don't survive the crisis? Two basic features stand out when we compare the survivors and the vanquished. These are having good fundamentals and maintaining adequate liquidity.

Good fundamentals: companies with good fundamental financial positions have the strength to withstand adversities in the event of crisis. Companies with poor fundamentals will find it harder to get credit and maintain adequate customer base. In the 2007-09 crisis, financial institutions tightened credit across the board. Companies with poor financial positions find it harder to get the usual credit because they are not qualified based on the new stringent criteria the banks have established. For example, Bernie's is liquidated for this reason. Companies with good fundamental financial positions may not be desperate for external financing and even if they seek external financing, they qualify. The following tables present comparisons based on fundamentals for selected group of companies. The companies selected for comparison are in the same industry. For example Best Buy and Circuit City Stores are competitors and the former survived and the latter went bankrupt.

Panel A. Revenue Growth of selected companies: 3-Year compound annual growth rate (%)

Company Name	2000	2001	2002	2003	2004	2005	2006	2007	2008
BANK OF AMERICA CORP	38.615	0.866	-3.459	-5.399	7.183	22.422	33.152	22.119	9.963
COUNTRYWIDE FINANCIAL CORP*	25.504	16.205	50.54	40.863	30.399	19.099	20.948	21.986	n.a.
WACHOVIA CORP*	16.883	1.303	2.225	2.269	7.814	15.031	24.13	25.537	n.a.
WELLS FARGO & CO	41.979	11.478	10.273	4.875	6.085	11.403	14.694	16.521	8.528
BEAR STEARNS COMPANIES INC*	19.137	2.926	-4.381	-10.387	-1.167	18.796	30.805	24.349	n.a.
GOLDMAN SACHS GROUP INC	17.326	11.475	-3.413	-10.545	-1.41	23.826	43.189	43.388	7.283
LEHMAN BROTHERS HOLDINGS INC*	16.138	4.022	-4.037	-13.214	-1.73	24.547	39.282	40.552	n.a.
MERRILL LYNCH & CO INC*	12.244	2.622	-6.893	-14.807	-5.604	19.286	35.236	24.514	-29.482
MORGAN STANLEY	18.732	11.992	-1.685	-8.374	-3.292	17.333	29.889	29.217	3.524
BED BATH & BEYOND INC	30.978	27.968	24.969	23.166	20.693	16.596	13.903	11.046	7.456
LINENS N THINGS INC*	21.618	19.595	18.872	15.057	13.426	n.a.	n.a.	n.a.	n.a.
BEST BUY CO INC	22.399	24.872	18.795	17	11.865	13.774	13.545	13.417	13.425
CIRCUIT CITY STORES INC*	9.357	0.89	-1.87	-2.216	2.996	5.009	8.327	3.875	n.a.

Panel B. Return on Investment (%)

Company Name	2000	2001	2002	2003	2004	2005	2006	2007	2008
BANK OF AMERICA CORP	7.446	6.467	8.459	9.724	7.506	8.602	7.994	4.715	0.635
COUNTRYWIDE FINANCIAL CORP*	3.197	2.299	3.373	4.943	5.116	4.737	5.271	-1.261	n.a.
WACHOVIA CORP*	0.285	2.472	5.355	6.363	5.674	6.634	4.431	3.167	n.a.
WELLS FARGO & CO	7.933	6.128	8.996	7.224	7.241	7.528	7.171	6.264	0.758
BEAR STEARNS COMPANIES INC*	3.206	2.248	3.274	3.451	3.319	3.009	3.375	0.3	n.a.
GOLDMAN SACHS GROUP INC	6.905	4.691	3.663	3.738	4.232	4.276	4.959	4.608	0.811
LEHMAN BROTHERS HOLDINGS*	4.551	2.982	2.245	3.211	3.508	3.975	3.826	2.805	n.a.
MERRILL LYNCH & CO INC*	5.361	0.696	3.02	4.105	3.361	3.402	3.929	-3.822	-16.922

MORGAN STANLEY	10.919	5.805	4.532	4.575	4.07	4.124	4.612	1.306	0.881
BED BATH & BEYOND INC	21.043	20.067	20.812	20.066	22.914	25.32	22.431	21.969	14.169
LINENS N THINGS INC*	14.148	5.971	10.355	9.823	7.478	n.a.	n.a.	n.a.	n.a.
BEST BUY CO INC	19.763	17.097	17.482	20.492	18.766	20.975	20.173	27.315	15.966
CIRCUIT CITY STORES INC*	6.517	7.411	1.767	-0.035	2.854	7.531	-0.553	-20.597	n.a.

*company did not survive the crisis. It either went bankrupt or is taken over by other company at low price.

Table 2. Comparison of Fundamentals for Selected Companies
Source: Compiled based on data from Research Insight

Table 2 shows three year compound annual growth rate in sales (Panel A) and return on investment (ROI) (Panel B) for selected groups of companies. The first group has commercial banks. The second group has investment banks. There are no significant differences in the sales growths and ROIs of companies in these groups. Although Countrywide Financial Corp and Wachovia Corp didn't survive the crisis, their fundamentals in terms of revenue growth and profitability are not different from the other banks. Similarly, from the investment banking group, Bear Sterns, Lehman Brothers and Merrill Lynch didn't survive the crisis. But their revenue growth and ROI are not any worse than the other investment banks that survived.

When we compare the retail groups, Linens N Things clearly performed worse than its competitor Bed Bath and Beyond. For example in 2004, Linens N Things compound annual sales growth rate was 13.43% compared to 20.7% for Bed Bath and Beyond. Similarly, the ROI of Linens N Things was only 7.5% compared to Bed Bath and Beyond's 22.9% in 2004. Similar differences can be observed for the other years for which data are available. Similarly Best Buy's sales growth and ROI significantly exceeded those of Circuit City Stores. In fact, Circuit City Stores incurred negative ROIs of -0.55% and -20.6% compared to Best Buy's 20.17% and 27.32% for 2006 and 2007 respectively. Unlike the comparison of financial services firms, here we see clear differences in the fundamentals between the companies that survived the crisis (Bed Bath and Beyond and Best Buy) and those that didn't survive (Linens N Things and Circuit City Stores). The bankruptcy of Linens N Things and Circuit City Stores is due to poor fundamental performances over the years. Companies with poor growth prospects and poor profitability cannot survive such severe downturns. Companies with good fundamentals can withstand adversities.

Liquidity: refers to the ability of a company to quickly sell its assets and raise cash. Cash and short-term marketable securities are the most liquid of the assets. Companies that can sell their non-cash assets quickly when they need them to pay short-term obligations are considered liquid. Liquidity is important because if a company cannot pay its short-term obligations, the creditors can file for bankruptcy. During crisis, it is difficult for companies to sell stocks at reasonable prices to raise capital. Because investors lose confidence and stock prices decline.

Many financial services firms either went bankrupt or were taken over by others at fire-sale prices due to poor liquidity. Bear Sterns was taken over by JP Morgan & Chase at $10 per

share price[10] on March 24, 2008. Only about a month before, Bear Sterns shares were trading above $80 per share. In August 2008, Lehman Brothers faced a similar problem. In spite of support by the Department of Treasury and the Federal Reserve, Lehman Brothers could not sell itself and in September, it filed for bankruptcy. In December 2008, it was Merrill Lynch's turn, which sold itself to Bank of America. As we have seen in Table 2 above, these companies had sound fundamentals. The main cause of their collapse was lack of liquidity. They could not issue new securities to raise new capital, nobody wanted to deal with them because of lack of confidence, and unlike commercial banks, they could not have access to the Federal Reserve Discount Window Facilities. This indicates that the importance of liquidity cannot be overstated. Companies should maintain adequate cash and other liquid assets reserves for such eventualities.

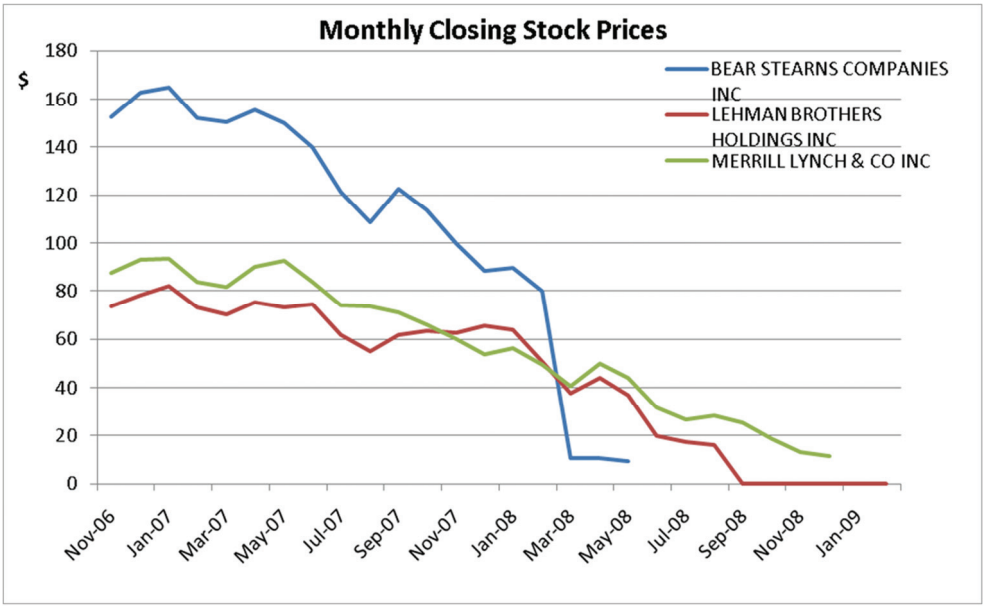


Fig. 4. Monthly closing prices of three investment banks that could not survive the crisis. Source: Based on price data obtained from Research Insight

Figure 4 shows how fast the stock prices of the three investment banks fell due to lack of liquidity. The surviving investment banks such as Morgan Stanley and Goldman Sachs immediately applied for bank holding company status. The bank holding company status allows them access to the discount window facilities of the Federal Reserve Bank.

A word of caution on the liquidity issue is that too much liquidity is unproductive. Cash and other liquid assets do not generate value by themselves. Value is created when the resources are invested in productive activities. Keeping large cash balances as reserve actually can result in a loss if inflation reduces the purchasing power of money. Therefore,

[10] The initial selling price agreed upon was $2.00 per share and the Federal Reserve Bank of New York supported the takeover. The offer price was increased later on to $10 per share to minimize the chance of shareholders' opposition to the deal.

appropriate balance should be maintained between the demand for liquidity and the need to invest available resources for productive purposes.

Forecasting and Planning: the other precaution a company should make is proper forecasting and planning. Forecasting and planning don't prohibit crisis from occurring, but they force advance thinking and preparation for possible eventualities. With forecasting and planning, the chance of surprises is reduced. Forecasts of many economic variables are available. Examples include gross domestic product, interest rates, government budget, exchange rates, etc. A company can relate its sales to these economic variables and estimate its future sales. Once sales forecast is determined, other financial aspects of the company can be projected. These projections will tell if the company needs to build up inventories, build facilities, raise more external capital, etc. The company should be prepared to act accordingly. The forecast should not be an estimation of a single figure. There should be scenario and what if analyses. These analyses help project possible deviations of economic conditions from the expected forecast and their possible consequences. Managers should make preparations accordingly.

Strategic Adjustment: despite all the precautions and preparations, crises do occur. Crisis management involves visionary thinking and making strategic decisions. Such strategic decisions could be merger with other company, divestment of divisions, changing business model and legal status, etc. For example, during the 2007-2009 crises, Morgan Stanley and Goldman Sachs became bank holding companies. As investment banks, they could not accept demand deposits and access the Federal Reserve's discount window facilities. The discount window facilities are available only to commercial banks. So conversion to bank holding company status allowed Morgan Stanley and Goldman Sachs to attract deposits and also access the discount window facilities. These allowed them to overcome their short-term liquidity problems while at the same time engaging in their core business of investment banking. Bear Sterns and Merrill Lynch merged with JP Morgan Chase and Bank of America respectively when they faced the same liquidity problem. Lehman Brothers could not do either and went bankrupt resulting in total loss to its stockholders. Citigroup sold some of its divisions and raised capital. The managers have to make such strategic decisions to assure survival and also increase shareholders' wealth.

3.7 Summary

The financial crisis of 2007-09 was triggered when real estate prices declined and mortgage defaults increased. Mortgage lenders were unable to recover the full balance of the loan due to decline in home prices. The effect is exacerbated because the mortgages have been securitized and floated in the markets and the resulting capital raised was loaned to finance more home purchases. The financial institutions were also undercapitalized due to a lapse in regulation. The repeal of the Glass-Steagall Act allowed banks to engage in securities activities and investment banks to engage in commercial banking. With the creation of special purpose entities, banks were able to remove mortgage backed securities off of their balance sheets and report in the balance sheet of such special purpose entities. This made it difficult for regulators to adequately enforce capital adequacy rules.

With the crisis in the financial services sector, banks tightened credit to both households and businesses. This further reduced consumer confidence and discouraged spending, which caused spread of the crisis to all the economic sectors. Unemployment rate increased and exceeded 10%, many companies went bankrupt and stock markets lost about half of their values.

The Department of the Treasury, the Federal Reserve Bank and the Federal Deposit Insurance Corporation made a coordinated effort to mitigate the impact of the crisis and speed up economic recovery. These government interventions took the form of outright lending of funds to troubled institutions, purchasing securities from these institutions, facilitating merger of weaker institutions with stronger ones, reducing interest rates and other general expansionary monetary policy to enhance liquidity and credit flow. The economy showed signs of recovery in the third quarter of 2009.
The lessons that can be learned from the crisis are that companies with sound fundamentals and adequate liquidity have better chance of survival than those with poor fundamental and inadequate liquidity. In addition, prudent management requires making strategic adjustments in the form of mergers, changing business model, divestiture and other major decisions. Forecasting and planning with scenario and what-if analyses are also indispensable business management tools.

4. Global contextual issues and adaptive selling

A key global marketplace solution for the volatile business challenges in today's global economy has been seen in the concept of Adaptive Selling. Adaptive selling is defined as the salesperson's ability to perform or "to take advantage of the unique communication elements associated with personal selling" (Weitz et al., 1986: 174). The latter, too, is important, according to those researchers: "Personal selling is the *only* [emphasis added] communication vehicle in which the marketing message can be adapted to the specific customer's needs and beliefs" (174). The ideal concept of the practice of adaptive selling implies that the salesperson has the appropriate capabilities and sales conditions in place (Weitz et al., 1986). These ideal capabilities and conditions lead to the most effective of adaptive selling. At the extremes, a salesperson prepares a sales presentation for each customer (adaptive selling) or he/she uses the same presentation for all customers (adaptive selling's opposite). The perceived information about the nature of the selling situation is the basis for the form of adaptive selling (Spiro and Weitz, 1990; Weitz et al., 1988). Extensive research has been conducted on the positive magnitude of the differences between adaptive selling and outcome performance and sales organization effectiveness measures (Babakus et al., 1996; Boorom et al., 1996; Piercy et al., 1999; Sujan et al., 1994). Little, however, has been written about the contextual issues of adaptive selling.
This part of the chapter aims, then, to contribute to that aspect of the topic, and is divided into three main sections. The first presents a framework for examining adaptive selling and contextual issues. Prior research on contextual issues, and how they are related to adaptive selling, is discussed in the second section. This part of the chapter concludes with a discussion of contextual variables that support salespeople in practicing adaptive selling and learning from their experiences.

4.1 A framework of contextual issues and adaptive selling

The model for "An adaptive Selling Framework" from Weitz et al. (1986) includes environmental conditions that we relate to global contemporary contextual issues to the practice of adaptive selling. This model identifies some key aspects associated with environmental conditions and adaptive selling and suggests the ways in which these are interrelated. It is not intended to describe the variables and processes of the practice of adaptive selling itself. The model of adaptive selling focuses on the behavior of the

salesperson and is influenced by the characteristics of salesperson and sales management variables (Weitz et al., 1986). This model is consistent with recognized research paradigms (Walker et al., 1979; Weitz, 1981; Weitz et al., 1986; Baldauf & Cravens, 2002) and uses moderators represented by salesperson capabilities (which can be separated, for example, into selling skills, product knowledge, and information collection), and motivational (intrinsic reward orientation and strategic analysis), organizational (type of product), and environmental (industry growth) differences. This section relies on previous research surrounding the relationship between the practices of adaptive selling and the behavior of the salesperson moderated by the environmental conditions in which the sale takes place. Weitz et al. (1986) suggest three main characteristics of the selling environment that influence the outcome of adaptive selling: "(1) the variety of customer needs and type encountered by the salesperson, (2) importance of the typical buying situation encountered, and (3) the resources provided by the company to the salesperson" (176). In this section, similar environmental conditions are examined, but within contextual issues extracted from theories of contextualization.

Contextualization theories include the contributions of the Chicago School of Sociology (Barley, 1989), the social theory of Pierre Bordieu (1977), the structuration theory of Anthony Giddens (1984), and others.

The main issues from previous contextual theories selected as relevant to adaptive selling are the context of work, the context of origin, the context of society and culture, and the global context.

Proposition 1: The practice of adaptive selling is moderated by the characteristics of the selling environment and by the larger context of work, in the context of origin, in the context of society and culture, and in the global context.

Focusing on salesperson behavior, as suggested by Weitz et al. (1986), the variety of customer needs, the typical buying situation, and the resources provided by the company are interrelated with the context of work, the context of society and culture, and the global context. These issues are discussed in greater detail with other propositions in the next section.

4.2 The context of work needed to practice adaptive selling

In the world of working and organizing, substantial changes have been observed over the past decades. The practice of adaptive selling faces issues such as new forms of working and organizing and work-related social relationships.

There is no global uniformity, and countries differ to a considerable degree in the flexibility of labor markets, with a tendency toward deregulation of national employment systems, and increasing importance placed on global markets (Dore, 2004). New forms of working and organizing have been an important theme in management research (Ruigrok et al., 1999; Whittington, et al. 1999) as well as for political decision makers over the past decade (Savage, 2001). With the changing organizational environment that is constituted by new information technologies (Gattiker & Coe, 1986), there are new ways of working, which include workers holding multiple jobs, enduring precarious working arrangements, and undergoing frequent occupational changes.

Proposition 2: New contextual forms of working are critical to adaptive selling. When confronting a sales situation that involves customers holding multiple jobs, working under precarious labor contracts, or undergoing frequent occupational changes, adaptive salespeople tend to make an effort to integrate and follow customers on the basis of their working arrangements.

The variety of customer needs grows with higher uncertainty in housing, income, and relationships. They may not buy the same products as before, for example expensive furniture items, since they must move frequently, enjoy lower disposable incomes, or prefer to invest in other types of assets (such as reliable financial products). Company resources for the salesperson targeting customers in the new working conditions of today differ significantly. Since these customers seldom place large orders and do without large investment-information-based purchases, the benefits for the adaptive salesperson may not be substantial. Companies may adopt, for example, self-service or web-based means of selling their products and services, reducing adaptive selling related to salesperson behavior.

The social environment is another important issue for adaptive selling, since individuals can mirror themselves in the larger social context. Estimations about one's relative position in a social context are not developed autonomously. Social comparisons are influenced by the social identity of individuals. The image the social environment holds about individuals contributes to that with which they are entrusted, which development offers they receive, and how they are evaluated.

Proposition 3: The relative position of the salesperson in a social context is critical for adaptive selling. When the salesperson confronts the image the social environment holds about him/her, it contributes to that with which he/she is entrusted in sales.

Proposition 4: The relative position of individuals in a social context is critical for adaptive selling. When an individual desires to make a difference in the image the social environment holds of him/her, the adaptive salesperson can customize and tailor to the needs of his/her customers.

The first proposition relates to company resources. The image customers hold about the salesperson is important for the practice of adaptive selling. If the salesperson has no credibility in the applicable social environment, he/she may be precluded from advancing his/her sales practice. This situation may come about for several reasons, for example, if the salesperson has been involved in a publicized litigation issue. Under this circumstance, the company may withhold the resources the salesperson needs to conduct adaptive selling.

The second proposition is highly inspiring for adaptive salespeople. If individuals in the environment in which the sales are practiced consider individual customization an important feature to differentiate their social images, the salesperson will come to the typical buying situation with a variety of tools (company resources) to meet those customer needs.

Other important contextual issues within the context of work are networking and mentoring both outside and within organizations.

Networking is the process of building up and maintaining a set of informal, cooperative relationships in the social structure of an organization (Burt, 1992). Networks provide opportunities. They offer contacts and supporters that increase positive outcomes in negotiations and the number of options and choices available.

The issue of mentoring is linked with the topic of networking. It is a particular kind of interpersonal relationship in which protégés receive a broad range of job and psychological help from senior managers (Kram, 1988). It has been connected with training and the development of capabilities (Hunt & Michael, 1983).

Proposition 5: Networking is important for salespeople practicing adaptive selling. Increasing contacts and supporters (interest on the product or service) is crucial since it engenders a greater variety of customer options and choices.

Proposition 6: If the salesperson is mentored by a senior colleague, the salesperson's capabilities for adaptive selling in identifying contextual work situations are facilitated.

These two propositions regard company resources provided to enhance the practice of adaptive selling. The salesperson can identify the ideal contextual work conditions regarding company resources.

4.3 The context of origin

Regarding society and culture, four major aspects can be said to constitute the important contextual elements for adaptive selling: gender, ethnicity, demography, and communal and societal ties.

When authors discuss gender as a contextual variable, they tend to use it as a control variable (see Turban & Dougherty, 1994) or in line with change reflecting societal conditions that provide opportunity structures (see Fielden & Davindson, 2010). For adaptive selling, gender income differences and the participation of males and females in the labor market are important.

Proposition 7: The context of origin needed to practice adaptive selling needs to take into account gender income differences.

Identifying gender income differences allows the salesperson to identify the respective purchase power of males and females as well as their needs.

Ethnicity concerns the question of discrimination based on race or membership in an ethnic minority group. A reduction of opportunities exists for ethic others within a homogenous population. Homogeneousness is the degree of demographic and identity similarity of interacting individuals (Ibarra, 1993).

Proposition 8: The context of origin needed to practice adaptive selling needs to take into account how individuals interact in the context wherein the sales are practiced.

Identification of the importance of contextual ethnicity informs the salesperson about the typical buying situation and whether within ethic groups there are different customer needs. If the salesperson identifies with a certain ethic group, the practice of adaptive selling is facilitated.

Often, demographics are related to world regions, nation states, or occupations, and serve as a point of reference for many disciplines. Regarding adaptive selling, the composition of corporate elites (Stanwroth & Giddens, 1974), and the perception and consequences of age (Lawrence, 1988) may be important contextual aspects of origin.

Proposition 9: The context of origin needed to practice adaptive selling involves analyzing the composition of social elites.

Proposition 10: The context of origin needed to practice adaptive selling involves analyzing the perception and consequences of age.

The context of origin regarding demographic fluctuations and perceptions of social elites and age is important if the salesperson is to identify the purchasing power and needs of local customers.

For example, if the local population is elderly and elitist, it may be the case it has unique and expensive tastes in products and services.

The role of community is another important context of origin since it concerns the integration of individuals into the local context of civil, political, and religious cooperation.

Proposition 11: The context of origin needed to practice adaptive selling needs to take into account how individuals are integrated in the local civil, political, and religious communities wherein the sales are practiced.

The context of origin, regarding the ways in which individuals are integrated in local civil, political, and religious communities, facilitates adaptive selling in recognizing the typical

buying situations and variety of customers. For example, if the local community holds strong political views about the certain country wherein a product is manufactured, its members may refuse to buy the product. The same can be said for religious views, for example, regarding food, or community civil views, for example, regarding sexual services.

4.4 The global context

Due to the increasing amount of business conducted at an international level, individuals and companies work hard to try to access international labor markets (Vance, 2002).

Virtualization is one of the societal developments to have received considerable attention mainly within the study of virtual teams (Jong et al., 2008). These virtual interactions go beyond frequent commuting, continuous short-term visits, or enhanced communication opportunities such as video conferencing (Mayerhofer, Hartmann, Michelitsch-Riedl, & Kollinger, 2004).

Virtualization practices in organizations increase the interpretive complexity of contextualization conventions (Von Glinow et al., 2004). Moreover, people tend to interpret the meaning of virtual procedures according to their contextual knowledge or to what is local to them (Von Glinow et al., 2004). In virtual management, conventions subsist and the awareness of the other side's networks of relationships and their interpretations may be unknown. Since virtual management provides no contextual meaning of informality, assumptions about others and their contexts are drawn, which causes constraints in the flow of business.

Proposition 12: New contextual forms of work-related social relationships are critical for adaptive selling. When confronting a sales situation that involves networking with virtual relationships, adaptive salespeople tend to assume the context of the sales interaction.

The global context regarding virtualization implies changes in the ways traditional adaptive selling has been recognizing typical buying situations and the varieties of customers that exist worldwide.

4.5 Summary

Personal adaptive selling is an active process that can be facilitated or hindered by contextual conditions. This section discussed the customer contexts of work, origins, society and culture, and virtual interactions in the global context.

Most studies to date have focused on the relationship between salesperson behavior and performance and outcomes in sales for organizations, including the research on moderators such as capabilities of the salesperson, type of industry growth, and type of product (see Baldauf and Cravens, 2002). However, contextual issues have been largely ignored. This section provides a means for the development of measures of the key constructs to test propositions.

These measures must be validated in the area of the personal adaptive selling domain. An obvious way to measure the practice of adaptive selling is by assessing the degree to which salespeople vary their behaviors across contexts, including the variance of contextual selling situations encountered by the salesperson.

The salesperson's attention to contexts and his/her capability to recognize typical situations and customer variety allows for the forging of appropriate adaptive selling strategies. This section suggests a salesperson acts as a "chameleon" by modifying and controlling sales presentations. Sales may not be facilitated in all contexts, particularly those where issues of

origin (such as ethnicity and gender) may be at stake, unless the salesperson has a strong identity relating to such groups.

The proposed framework suggests methods for developing contextual structures and guides for salespeople in identifying important issues in adaptive selling. It enables salespeople to exploit unique opportunities for sales facilitated by contextual influence as well as situations wherein their interpersonal influence may be difficult to apply. These future directional contextual aspects warrant further research attention because they are not typically related to the development and utilization of the skills needed to operate effectively, but rather to how the capabilities can be easily used or hindered in different contexts.

These propositions represent a new direction in the practice of adaptive selling. In outlining the testable propositions, some evidence was provided, largely drawn from domains other than personal selling. Thus, it is necessary to be prudent in interpreting the propositions until they are tested in the adaptive selling domain. Most of these propositions can be tested with survey methods, whereas others are open to experimental design.

It was not the aim of this section to propose effective sales approaches, but rather the ways in which contexts can support salesperson's capabilities in and motivation for adaptive selling.

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4

Globalization and FDI from Developing Countries: Proposition of a Framework

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1. Introduction

In the last decade, and beginning of the 21th century, one of the most notorious features of the new trends toward globalization has been the increased participation of developing economies in the world economy. This relative importance is not only related to their position in the world trade, but also, in terms of the surge of new competitive companies operating worldwide, in different forms; sale subsidiaries, production subsidiaries, with Greenfield FDI and acquiring high competitive firms in developed and developing countries. This process of internationalization has been qualified as the genesis of Multinational Companies from developing countries, or from emerging countries (EMNCs). Even though, the growth of such global activities is mostly observed in large countries, with high level of economic growth and higher participation in the world trade (BRICs countries), MNCs have also emerged in other developing countries around the world, in Asia, Latin America, and also in Africa.

On the last two decades, the Foreign Direct Investment outflows (OFDI) from such economies grew at a higher year average than those from developed economies, and their outward stock reached more than 15% of the world FDI outward stock, compared with a performance of less than 10% in the 1990s. Several studies have pointed out that this growing performance should continue on the coming years. Cheaper access to capital, successful business model and sizeable assets will lead Multinational Companies from developing countries (EMNCs) to challenge even more some traditional firms from developed economies (Santiso, 2007). Recent financial performance enhanced the FDI stocks level of EMNCs and turned them less dependent upon banking loans to finance their foreign investments projects (UNCTAD, 2008), and the stocks and assets depreciation of firms in developed countries due to the global crisis may have contributed significantly to increase the participation of EMNCs in the world FDI stock through new acquisitions (ECLAC, 2009).

Several studies have been discussing patterns and determinants of EMNCs international FDI performance. It is argued that they do not hold the same property structure as those from well developed countries (Filatotchev et al, 2007), which means that factors related to the country of origin might influence significantly the international competitiveness of firms. Cuervo-Cazurra (2007) classified the MNCs from developing countries as those that seek on developing ownership advantages abroad and those that aim on exploring abroad

the advantages acquired in their domestic market. Those firms that desire to develop new capabilities abroad should choose to establish a foreign subsidiary on developed economies, if they seek access to higher technology, or on developing economies, if they aim on obtaining access to a country's abundant resources. Other authors have focused more on how EMNCs overcome the liability of foreignness (Zaheer, 1995; Luo and Tung, 2007).

In this context, in which OFDI from developing countries is increasing rapidly, some few questions become relevant. First, in which extend the theoretical models in International Business explain the genesis and patterns of EMNCs? And, what are the determinants of OFDI from developing countries? What is the role of the home country, and in which extend, factors related to the host country explain patterns and strategies of EMNCs?

The aim of this chapter is to address the determinants of OFDI from developing economies and to show how the institutional perspective contribute to the understanding of the dynamic and strategies of EMNCs.

In order to address these questions, we have structures the chapter in six sections. In section one, we introduced the topic. Section 2 describes the evolution and patterns of world outward FDI and the role of developing countries. In section 3, we provide an overview of the theoretical backgrounds of FDI. In section 4, we show how EMNCs have been addressed in the literature of international business. In section 5, we will present a general framework of EMNCs, and section 6 will conclude the chapter.

2. Evolution and patterns of FDI: the role of developing economies

In this section, we will describe the evolution and patterns of OFDI from developing countries. First, we will show some indicators of the internationalization of production, and then we discuss, in particular, the case of FDI from developing countries.

In a historical perspective, the expansion of FDI can be observed in the early 1980s, particularly flows from developed to other developed countries. Between 1990 and 1995, FDI flows expanded at an average rate of 16.8%, while the export of goods and services registered a growth rate of 8%, and world GDP growth only 6% (Unctad, 2010).

It was a trend toward a growing role of MNCs compared with the after Second World War, where the export has been the driver of economic activities, growing on a higher rate than the world output. This process of increased world FDI outflows covered all the period of the 1990s, until 2008, the year as the global financial crisis brook up worldwide, affecting all the developed countries, and partly emerging economies.

The period from 1990 to 2008 represented a long cycle of world FDI outflows, which has contributed to a significant expansion of the total assets and exports of foreign affiliates of MNCs. Furthermore, in the beginning of the 1990s, the world outward stock of FDI was US$ 2,087 billion, and reached in 2009 the amount of US$ 18,982 billion, growing more than 900% in nominal values. As a consequence of this fast growing performance of MNCs activities abroad, the ratio between outward stock of FDI and world GDP rose sharply, from 9% in 1990 to 35% in 2009, sitting up a tendency toward deep interdependencies among economies, and where the MNCs are the main agents of changes and growth in the world economy.

However, the global financial crisis has significantly affected the foreign activities of MNCs abroad. The outflows of FDI decreased in 2008 and 2009, and have been more sensitive to the crisis effects than world GDP and world trade of goods and services, which have registered negative performances, in 2009, of 9.5% and 21.4% respectively, while the FDI outflows decreased at 42.9%.

What are the reasons for the upsurge of FDI in the early 1990s, and what explains the long cycle of worldwide expansion of MNCs activities abroad during all the period from 1990 until 2008?

A variety of factors have contributed to the fast acceleration of the activities of MNCs abroad and the long cycle of their expansion.

Some of the factors are related to the own changing driven by the globalization process. Others are, more specifically, related to the specific actions of the states to promote FDI inflows and the consequent changing in the different FDI policies in developing and transition economies.

On the other hand, besides the globalization has been a phenomenon of growing performance of MNCs from developed countries, since middle 1990s, the data of world FDI outflows showed also a growth of the activities of firms from developing countries abroad, which have changed significantly the regional distribution of world FDI, and the surge of new countries in Asia and Latin America as the source countries of FDI. This phenomenon was called as the genesis of emerging MNCs, to differentiate them from the traditional model of internationalization of firms from developed countries, and represents one of the major characteristics of the new phase of globalization.

What are the main countries of origin of FDI from developing countries? How relevant are their participation in the world FDI outflows and stocks? And what are the main strategies of MNCs from developing countries? And, finally, what are the determinants of outward FDI from developing countries? We will address all these questions in the following sections.

2.1 Growth and patterns of Outward FDI from developing countries

The growing internationalization of firms from developing countries can be described as a major characteristic in the current world economic scenario. On the last two decades, the Foreign Direct Investment outflows (OFDI) from such economies grew at a higher year average than those from developed economies, and their outward stock reached more than 15% of the world FDI outward stock, compared with a performance of less than 10% in the 1990s, according to Unctad (2010). In terms of their participation in the world outflows of FDI, developing economies have registered a significant performance in the last 15 years. From a participation of 14% in 1995, MNCs from developing economies reached a performance of 21% in 2009, which represents a value amount of US$ 229.2 billion., as can be shown in the table 1 below.

	1995	1996	1997	1998	1999	2000	2007	2008	2009
World	355.3	391.6	466	711.9	1005.8	1149.9	2267.5	1928.8	1100.9
Developed economies (DE)	305.8	332.9	396.9	672	945.7	1046.3	1923.9	1571.9	820.7
Developing economies (DgE)	49	57.6	65.7	37.7	58	99.5	292.1	296.3	229.2
Share of DE in world FDI	86%	85%	85%	94%	94%	91%	85%	81%	75%
Share of DgE in world FDI	14%	15%	14%	5%	6%	9%	13%	15%	21%

Source: UNCTAD, 2011: www.unctad.org Database on FDI.

Table 1. OFDI distributions by developed and developing countries, in US$ Billion, and % participation

Most part of the FDI stock from developing countries, over 70%, is originated from Asia, especially from China and some few emerging Asian Countries. Latin America is in the second position, with 24% of the total FDI stocks from developing countries, being Brazil, Mexico, Chile the main origin countries. Africa's outward FDI stock represent 4% from the developing countries total, and South Africa alone is the major FDI source within the continent, as can be shown in the table below 2

	1990	2000	2009
World	**2086818**	**7967460**	**18982118**
Developed Economies	1941646	7083493	16010825
Share of DE in Total stock	93%	89%	84%
Developing Economies	**145172**	**862628**	**2691484**
Share of DgE in Total stock	7%	11%	14%
Africa	**19826**	**44147**	**102165**
Share of Africa among DgE	14%	5%	4%
Latin America and The Caribbean	**57643**	**204430**	**643281**
Share of Latin America	40%	24%	24%
Asia and Oceania	**67703**	**614051**	**1946038**
Share of Asia and Oceania	47%	71%	72%
South East Europe and the CIS		**21340**	**279808**
Share of East Europe		0%	1%

Source: UNCTAD, 2011: www.unctad.org Database on FDI.

Table 2. FDI outward stock, by region and economy, (In US$ Million)

In terms of the countries of origin, FDI outflows from developing countries are highly concentrated. The ten largest countries of origin of FDI are responsible for over 70% of the total amount of OFDI from all developing countries, being seven of the ten are from Asia, as can be seen in the tale 3 below. Hong Kong and China are in the first two positions, Brazil on the 5th position, and South Africa and Mexico are at the end of the list of ten.

The increase role of MNCs from developing countries is particularly due to the high growth of the internationalization of firms from Asia, mostly from China and India, but also from Russia, and some few Latin American countries, Brazil and Mexico. Thus, the shift in the dynamic of the world OFDI is also reflected in the changes in the MNCs landscape (Unctad, 2010). When in 1992, only 8% of MNCs were headquartered in developing countries, in 2008 they were 28% of a total of 82,000 MNCs worldwide (Unctad, 2010). The shift in the pattern of international production is not only reflected in the growing number of MNCs from developing countries, but also in their participation in the foreign assets and sales of the top 5,000 MNCs worldwide. According to the Unctad (2010), MNCs from developing economies accounted in 2008 for nearly 10% of the foreign sales, and 8% of foreign assets of the top MNCs in the world. One of the indicators to measure the degree of internationalization and importance of international transactions in the global activities of a firm is from UNCTAD developed index, called Transnationality Index (TNI), which is calculated considering the

average of three ratios: foreign assets to total assets, foreign sales to total sales and foreign employment to total employment of a firm (Unctad, 2010, p.18).

	1990	2000	2009
Total Developing Economies (DgE)	**145172**	**862628**	**2691484**
Hong Kong	11920	388380	834089
China	4455	27768	229600
Singapore	7808	56755	213110
Taiwan	30356	66655	181008
Brazil	41044	51946	157667
Korea, Republic of	2301	26833	115620
India	124	1733	77207
Malaysia	753	15878	75618
South Africa	15004	32325	64309
Mexico	2672	8273	53458
Total top Tem	116437	676546	2001686
Share of Top Tem	80%	78%	74%

Source: UNCTAD, 2011: www.unctad.org Database on FDI.

Table 3. Top Ten countries of origin of OFDI, in Millions of US$

Variables	**100 largest TNCs worldwide**			**100 largest TNCs from Developing and Transition Economies**		
	2007	**2008**	**% Change**	**2007**	**2008**	**% Change**
Assets						
Foreign	6116	6172	0,9	808	907	12,3
Total	10702	10760	0,9	2311	2680	16
Foreign as % of total	57	57	0,2	35	34	-1.1
Sales						
Foreign	4936	5173	4,8	805	997	23,9
Total	8078	8354	3,4	1699	2240	31,8
Foreign as % of total	61	62	0,8	47	45	-2.9
Employment						
Foreign	8440	8905	5,5	2648	2652	0,2
Total	14870	15408	3,6	6366	6779	6,5
Foreign as % of total	57	58	1	42	39	-2.5

Source: Unctad, 2010, p.8.

Table 4. Foreign activities of MNCs by developed and developing economies, in US$ Millions, and %

Although the data show a real increase of the international transactions of EMNCs, their TNI is still lower than the index of MNCs from developed countries, as can be observed in the table below. Comparing the foreign sales, foreign assets, and foreign employment in the total of the 100 largest MNCs in developed and developing countries, EMNCs have a lower TNI, and have been more sensitive to the effects of the global crisis, reducing their international transactions between 2007 and 2008, in the meanwhile MNCs from developed countries have registered a positive variation, and, therefore, increased their foreign assets, foreign employment and foreign sales of their subsidiaries worldwide (see tables 4 and 5). On the other hand, considering the period before the global crisis, EMNCs have improved the TNI, increasing their international transaction and their share in the total assets and sales.

	100 largest TNCs from Developing and Transition Economies				
Variables	2005	2006	2007	2008	% Change
Assets					
Foreign	471	571	808	907	92.63
Total	1441	1694	2311	2680	86.0
Foreign as % of total	33	34	35	34	3.0
Sales					
Foreign	477	605	805	997	109.0
Total	1102	1304	1699	2240	103.3
Foreign as % of total	43	46	47	45	4.7
Employment					
Foreign	1920	2151	2648	2652	38.1
Total	4884	5246	6366	6779	38.8
Foreign as % of total	39	41	42	39	0

Source: Unctad, World Investment Report, different years.

Table 5. Snapshot of the world's largest TNCs from developing economies, (Billions of dollars, thousands of employees and per cent)

However, in the total average, the TNI of MNCs from developed economies lies by 63.4, while by developing countries the index is around 50, according to Unctad (2010), suggesting a still limited and geographically oriented global expansion of EMNCs. However, there are differences among developing countries. In Latin America, the TNI is 42.5, and in South Asia is 57.8, showing a higher engagement of Asian MNCs in the global economy in comparison with other home region (Unctad, 2010).

3. Economic approach of MNC

Since the beginning of the literature about MNCs, a strong economic focus was adopted to explain how firms place their assets abroad. Hymer (1960) considers onerous to operate in

foreign market, so the firm should own competitive advantages to be exploited over market imperfections. On the other hand, Vernon (1966) believes that foreign markets are an opportunity to extend a product's life cycle by reproducing abroad the same methods applied in the home market, implying on minimal marginal costs and enhancing a product's profitability. Williamson (1975) focused his analysis on comparing the costs of trading a product with foreign markets and producing this same product abroad in order to evaluate which modality would imply on lower costs, being, this way, more attractive to the firm. Buckley and Casson (1976) determined that the company would perform FDI according to two kinds of advantages: ownership advantages and localization advantages. This concept was later developed by Dunning (1988) on his Eclectic Paradigm, culminating on the Investment Development Path - IDP (Dunning & Narula, 1996).

The Eclectic Paradigm, also known as the OLI Theory, is the result of an attempt made by John Dunning to integrate in one single model the several different scopes contained in the International Business literature in order to explain the why, where and how of the international expansion of firms. For two decades the model remained the dominant analytical basis of most of empirical studies about determinants of FDI. The principal hypothesis on which the eclectic paradigm of international production is predicated is that the level and structure of a firm´s foreign value-adding activities will depend on four conditions being satisfied: these are (Dunning & Lundan, 2008, p.99-100):

1. The extent to which it posses unique and sustainable ownership-specific (O) advantages vis-à-vis firms of other nationalities, in the servicing of particular markets or groups of markets. The ownership advantages are inherent to the company and crucial to the internationalization, because they are a matter of differentiation among firms, they are related to the intangible assets and the position conquered by the firm, such as innovation capacity, qualified labor and financial status that allows it to compete in foreign markets.
2. Assuming that condition (1) is satisfied, the extent to which the enterprises perceives it to be in its interest to add to its O advantages rather than to sell them, or their right of use, to independent foreign firms. These advantages are called market internalisation (I) advantages. The internalization advantages come from the benefits of the firm to use its own assets to produce abroad its products instead of allowing others to produce or distribute them, which might contribute to reducing exchange costs, information property, uncertainty diminish, and more control over supply, markets, contracts and business. In other words, internalization advantages are the outcome between the mix of ownership and location advantages
3. Assuming, that conditions (1) and (2) are satisfied, the extent to which the global interests of the enterprises are served by creating, accessing or utilising, its O advantages in a foreign location. The location advantages are host-market specific aspects that turn such location positive for the firm to settle a production plant in it, especially regarding transportation, access to labor force, cultural barriers and market potential.
4. Given the configuration of the ownership, location and internalisation (OLI) advantages facing a particular firm, the extent to which a firm believes that foreign production is consistent with the long term objectives of its stakeholders and institutions underpinning its managerial and organizational strategy.

Based on the four sets of advantages, Dunning (2000) also suggested, based on the motivation of MNCs, four different types o FDI projects: the market-seeking projects, the performance seeking projects, the resource-seeking projects and the asset-seeking projects.

Later on, a complementary model to the Eclectic Paradigm was developed, which is the IDP model, relating the development level of an economy to the propensity of local firms to do business abroad, being the assumptions from the IDP model closely related to the basic concepts from the Eclectic Paradigm, given that this relationship between the development level and the firms' propensity to internationalize themselves will be based on extent of ownership advantages held by these firms, the location advantages offered by their home markets and the presence of transaction advantages arising from the commercial benefits of intra-company transactions.

The IDP model determines that there are five different development levels among countries, where they let being only a FDI destination to perform FDI as they progress to these levels. Stage 1 is related to countries with limited location advantages to attract FDI, so the role of governmental measures is important to turn the economy attractive to foreign investors. Markets on Stage 2 have a larger extent of location advantages, which turn them a attractive destination of FDI. The stage three describes the development of this process and shows that the enlargement of the activities of foreign firms in the host country will contribute, through spillover effects and technology transfer, to create and increments the ownership advantages by local firms, turning them more prone to perform FDI, especially on less-developed markets. On Stage 4, firms from the home market stop being predominantly FDI receivers to be investors, and when they achieve the final level, Stage 5, their strategies will be more influenced according to their own resources and capabilities and less by governmental measures.

In this perspective, foreign MNCs have a determinant role on the IDP model, given that these firms, by owning advanced resources, generate benefit through spillover effects in the host market, such as training local professionals and developing already-existing technology in developing countries (Blomstrom & Kokko, 1996). This process contributed largely to stimulate the creation and expansion of MNC from developing countries.

4. EMNCs in the international business literature

Due to the growing importance of developing countries MNCs (DMNCs) in the current world economy, their role in the International Business Literature has grown in importance in the same pace. The studies on EMNCs (MNCs from emerging economies) can be classified in three main perspectives. A FDI perspective, which is more focused on suggesting theoretical and empirical models to understand the strategies of EMNCs and the determinants of the Outward FDI from developing economies. The second perspective is the institutional perspective, which focused on how institutions from home and host countries of FDI affect the international expansion of firms. The third perspective is more related to studies that have addressed differences and similarities of the internationalization processes of MNCs from countries with different level of development (Developed and developing economies). While the first perspective is, in large part, based on the economic theory of FDI, and specifically, the contributions of Hymer (1960), Bukley and Casson (1976), and Dunning (1988, 2000). The second perspective introduced insights and concepts of the neo-institutionalism to explain the phenomena of MNCs. The third perspective, including some contributions of the behavioral approaches (Uppsala), focused more on how EMNCs create ownership advantages, and how they overcome the liability of foreignness.

The FDI perspective:

It is believed that developing countries MNCs share some common characteristics, such as the easy access to natural resources (BCG, 2009) and the comparative advantages related to the factor endowment resources in their home countries, that allow them to be internationally competitive due to their low prices (Pangarkar and Lim, 2003; Enderwick, 2009). That said, most of these firms offer commodities and low value products and they end up developing their R&D activities abroad on developed markets (Li, 2003; Rugman and Oh, 2008). Cuervo-Cazurra (2007) argues that the access to technology is the main reason for firms to perform FDI in developed countries. As matter of fact, the relationship between the EMNCs´ competitiveness and the home market characteristics are so significant that Kalotay and Sulstarova (2010) suggest that a "H" should be added to the OLI Theory for "home market". Gammeltoft, et al (2010) also highlight the extent in which the home market characteristics affect the competences from developing countries MNCs, stating that institutions also play a vital role, but there are evidences that these firms are moving on and acquiring competences of their own, making them achieve a higher level of competitiveness and climbing on the IDP Model stages (Goldstein and Pusterla, 2010). Fleury and Fleury (2009) also state that many MNCs from developing countries build up their ownership advantages in the home market, but they need to invest on their sales and marketing staff to sale their products abroad and also to reevaluate their R&D competences to gain more added value.

In order to understand the patterns and strategies of EMNCs, Fan, Nyland and Zhu (2008) set four different kinds of strategy based on the interaction between the firm's international integration and the foreign market's local responsiveness. MNCs with high international integration will choose a global strategy, in the case of low local responsiveness, or a transnational strategy, in the case of high local responsiveness. But in the case of low international integration, the firm will choose an international strategy, in the case of low local responsiveness, or a multi-domestic strategy, in the case of high local responsiveness. The domestic market is relevant even for global-orientated MNCs (Banalieva and Santoro, 2009).

There are also several studies dealing with the role of the home market in the FDI performance of EMNCs. More specifically, to address how macroeconomic and institutional factors of the home market of the EMNCs determine their outward FDI.

Factors like GDP, exchange rate, trade and inflation, with the aim to estimate the effects of the market size, trade openness, macroeconomic stability, and the quality of institutional governance.

There is no real alignment among the scholars about the role of the GDP on the OFDI. (Bae and Hwang, 1997; Thomas and Grosse, 2001; Frenkel et al., 2004; Kyrkilis and Pantelidis, 2003, 2005). Results of empirical studies have shown opposite effects. Some authors tested the effect of the GDP per capita variable, since it may be a better indicator of a country's real development level and it is also a proxy of demand structures, in the sense that a market with higher per capita income will have a preference for more advanced products (Kyrkilis and Pantelidis, 2003, 2005; Faria and Mauro, 2009). On the other hand, the interest rate has revealed to present a negative relation to the outward FDI (Bae and Hwang, 1997; Thomas and Grosse, 2001; Kyrkilis and Pantelidis, 2003, 2005).

The relationship between FDI and both trade and exchange rate is also uncertain. The outward FDI may replace trade on the case of market-seeking projects, but cases of

efficiency-seeking or resource-seeking projects may create an intra-firm trade (Swenson, 2004; Seo and Suh, 2006). As for the exchange rate effect, it also depends on the FDI's nature. A high exchange rate (devaluated currency) may be positive for firms willing to maximize their profits in the home market, a feature from market-seeking projects, while a low exchange rate (evaluated currency) will reduce production costs, which is common in the cases of performance-seeking projects (Chen et al., 2006; Xing and Wan, 2006).

Just recently there were some studies trying to combine non-traditional variables with the traditional ones. Amal et al. (2009) unveiled that, besides the GDP, the inflation and inward FDI stocks, education and globalization levels were also positive for the outward FDI, while the exchange rate and the economic freedom were negative. The economic freedom was also negative to the outward FDI for Kapuria-Foreman (2008), leading the author to argue that this variable need to be disaggregated to function properly, being its most relevant index the property rights. Chitoor et al. (2008) cite that economic freedom acts indirectly towards the outward FDI by improving the inward FDI levels, which will promote the competitiveness from local firms. Faria and Mauro (2009) argue that the GDP per capita, the financial development, the human capital, the economic openness and the governance indicators are positive and relevant for the countries' foreign capital structures, while the natural resources were significant but presenting a negative correlation with the OFDI. Some other empirical evidences from structural changes boosting the outward FDI from developing countries are the governmental regulations to promote outward FDI in China (Rasiah et al., 2010) and the reforms in the Brazilian industry during the 1990s, related to a wider economic openness and the privatization of firms and services (Arbix, 2010) have been also tested and have presented significant effects.

The institutional perspective:

The FDI theory has traditionally seen the macroeconomic variables as the country of origin elements responsible for the international performance of MNCs. After some studies unveiled the imperfect markets functioning, the economists' perception of other elements affecting the FDI grew (Amal et al., 2009). The institutions role is related to their ability to improve the markets' structure efficiency by reducing transaction and information costs and also the uncertainty and instability levels (Mudambi & Navarra, 2002; North, 1990). Bevan et al. (2004) understand that both informal institutions and government arrangements should affect corporate strategies.

Given the institutions importance on improving markets efficiency, Peng et al. (2008) see them as vital on improving the competitiveness of firms from developing countries, since their institutions differ significantly from those from developed economies. The authors describe institutions as structures responsible for the social behavior interaction, managing transactions on politics (such as corruption and transparency), law (such as economic freedom and regulatory regime) and social (such as ethical rules and business climate). McMillan (2007) also consider that institutions play a more important role on developing economies, since the developing markets poor function may be a sign of poor institutions, restricting local firms, since institutions are relevant over strategies implementation and competitive advantage development by local firms.

But, in the other hand, there are authors like Witt and Lewin (2007) that pointed out the possibility of a negative institutional scenario also having positive impact over the FDI, since companies may feel encouraged to operate across borders to run away from some home market restrictions. The BCG (2009) believes that the experience of developing

business on negative institutional scenarios has implied on significant competitive advantages for MNCs from developing economies, such as creative, innovative and flexible processes that helped them to take fast and efficient decisions. Luo et al (2010) called such behavior as institutional escapism, and affirm that both of the situations approached by the literature co-exist and boost the international engagement of MNCs from developing countries, but their effects are different among firms and industries. Whereas firms do seek foreign markets to obtain access to technology and knowledge which are not available at their home market, public policies are also important to neutralize intrinsic competitive disadvantages from DMNCs (Luo et al., 2010)

The managerial perspective:

The literature on International Business (IB) showed that foreign firms face different barriers that exist because of different levels of geographic distance, psychological, cultural and institutional relationship between the country of origin and host countries of their investments (Zaheer, 1995; Nachum, 2003), the barriers are often called "Liability of foreignness (LOF). According to Madhok (2010), LOF occurs for several reasons:

- Foreign companies have disadvantages related to the low level of knowledge about host markets of their investments;
- Secondly, companies must adapt their ownership advantages to different cultural and institutional environments, which should generate different costs and barriers that domestic firms do not have; and
- Finally, foreign companies need to establish legitimacy and be accepted into the host country.

On the other hand, the following features regarding the internationalization patterns between developed and emerging economies have been pointed out in the literature:

- EMNCs are based in countries with low average income per capita, and presenting weak institutional infrastructure;
- EMNCs present limited ownership advantages, such as technology, brand when developing international operations.
- They are late comers (Ramamurti and Singh, 2009), following apparently different paths in terms of countries of destination of their investments. They use to invest in other emerging countries, but also in developed countries (Sirkin et al, 2008), acquiring other companies as part of their internationalization strategy (UNCTAD, 2006; Gubbi, et al, 2010).

Cuervo-Cazurra (2007) classified the MNCs from emerging countries as those that seek to develop ownership advantages abroad and those that aim on exploring abroad the advantages acquired in their domestic market. Those firms that desire to develop new capabilities abroad should choose to establish a foreign subsidiary on developed economies, if they seek access to higher technology, or on developing economies, if they aim on obtaining access to a country's abundant resources.

To overcome the liability of foreignness, measured as the cost of doing business abroad (Zaheer, 1995) and their disadvantage as latecomers, EMNCs may opt for an audacious international strategy to quickly establish their reputation among foreign customers, such as the acquisition of strategic assets and already established brands (Luo and Tung, 2007; Bonaglia, Goldsten and Matthews, 2007). That means that the investments of EMNCs will act as a springboard to address firm-specific disadvantages via international acquisitions of new assets. Heavy investments on R&D and networking are also assets of major importance

for a successful internationalization process by a latecomer MNC (Yu, Lau and Bruton, 2007).

Several studies about MNCs from developed countries have discussed different issues, most of them related to the determinants and patterns of their strategies, and also the relationship between the degree of internationalization and their performance. On the other hand, an evolution in the internationalization of MNCs from developed countries points out the tendency of conducting R&D activities abroad, while the traditional view considers that firms would only reproduce abroad their methods developed on their home markets (Pearce, 1992). Currently, researchers understand that MNCs seek for complementary assets abroad to enlarge their ownership advantages (Serapio and Dalton, 1999; Hayashi and Serapio, 2006), which means that EMNCs are not the only ones to develop ownership advantages abroad.

In terms of competitiveness assets, it is believed that firms from developed countries have an inherent advantage over firms from emerging countries, which is the effect of the country of origin stereotype over its international branding. Thanasuta *et al* (2009) argue that products from highly industrialized economies usually are seen as superior in terms of quality and technology, making the country of origin effect to have a great influence over the consumers' willingness to pay.

Although there are different standards between MNCs, studies have shown that both emerging MNCs and MNCs from advanced countries seek to develop complementary strategies to expand their ownership advantages (Hayashi and Serapio, 2006). They used to follow an incremental strategy of internationalization, based on the psychic distance as determinant factor for market selection in the early stages, in particular, which means, that the process of gradually increasing commitment would still be expected to be the norm (Dunning and Lundan, 2008). There are also evidences about the role of social networks as a key factor of learning, developing new markets, and managing disadvantages related to the LOF.

Results from different empirical studies suggest that an incremental behavior is also a feature from the internationalization of EMNCs (Pillania, 2008), and the psychic distance also affects the market selection process, even though it does not determine alone, for example, the foreign direct investment destination (Li, 2003). Regarding the extent to which a firm will depend mostly on ownership, internalization and locational advantages to internationalize its activities, Li (2003) and Lee and Slater (2007) suggest an adaptation for the specific case of EMNCs; this is because these firms often end up developing ownership advantages on foreign markets, mostly in developed countries, due to better access of technology and knowledge.

5. Determinants of OFDI from emerging economies: Proposition of a framework

An analysis of the International Business literature shows that due to the complexity of the phenomena of Multinational Companies from developing economies, scholars have been using more eclectic approaches to investigate the process of internationalization of firms from countries of different levels of development. However, although some authors have suggested new theories of EMNCs, it seems that the eclectic paradigm (Dunning, 1988) is still a powerful framework for a multi-perspective approach, that take under account factors related to country and firm advantages. Thus, the OLI paradigm provides a general

theoretical framework for the understanding of the FDI determinants from emerging economies. The main advantages of the framework lie in the fact that it allows to integrate two main analytical dimensions; the dimension that focuses on the country specific advantages (CSA), and the dimension that considers the firm-specific advantages (FSA). Rugman (2005) has emphasized the importance of the two dimensions and their interaction for the analysis of MNCs strategies. CSA can be listed under the Dunning's sub-paradigm of localization advantages, while FSA can be listed under the Ownership Advantage's sub-paradigm.

Therefore, in the case of emerging economies, there are different and specific reasons for the successful internationalization of their firms. Different authors have investigated the differences in the path and pattern between EMNCs and MNCs from developed countries (Cuervo-Cazura, 2007, 2008), suggesting a higher level of complexity, and a need for a more multi-approach to analyze their strategies and determinants. We propose here a framework that, in the tradition of the International Business literature, combines factors related to CSA and FSA.

The CSA are related to the location advantages and how they contribute to international competitiveness of firms. Although the CSA can be related to the L-advantages, the concept is however different. While the L-Advantage in the Dunning's framework is related to the extent to which the global interests of the enterprises are served by creating, accessing or utilising, its "O" advantages in a foreign location, the CSA concept will consider a double perspective of advantages or disadvantages, mainly the home market and the host market perspectives. The Home Location advantages are home-market specific assets that turn such location positive for the firm to create, or to enlarge its ownership advantages, especially, regarding factor endowments, economic performance and institutional quality.

The host-location advantages are host-market specific aspects that turn such location positive for the firm to settle a production plant in it, especially regarding transportation, access to labor force, cultural barriers and market potential, but also technology access and network's relationships.

Thus, the country specific advantages (CSA) are related to home and host country factors. It means that to understand the patterns and determinants of OFDI it is recommended to take under account, in large scale, the economic and institutional changes in the home country, that shape the strategy of growth and competitiveness of the firm on global level.

On the other hand, to address FDI determinants, o host county perspective is also relevant, in that sense that the changes and the configuration of market and competition affect the strategy of the firm in the host country. The host country perspective provides relevant insights for the understanding of how the MNC adapt, adjust and manage the cultural, economic and institutional differences between home and host country.

The Firm Specific Advantages (FSA) describe in which extent the firm posses unique and sustainable ownership-specific (O) advantages vis-à-vis firms of other nationalities, in the servicing of particular markets or groups of markets. Thus, FSA are inherent to the company and crucial to the internationalization, because they are a matter of differentiation among firms, they are related to the intangible assets and the position conquered by the firm, such as innovation capacity, qualified labor and financial status that allows it to compete in foreign markets.

In the attempt to understand the pattern and path of the international expansion of MNCs from emerging economies, we present and discuss some few propositions.

Proposition 1: A MNC from a emerging country, with a short period of experience of internationalization and limited ownership advantages will be influenced more likely by psychic distance factors when internationalizing into new markets.

MNCs from developed countries, with specific ownership advantages, legitimacy that is related to the advantages of the home market, high accumulated knowledge about processes of entering into foreign markets, and inserted in networks relationships worldwide will reduce the costs and disadvantages related to the liability of foreignness. Therefore, firms with large ownership advantages and high ability to develop systematic learning's processes will be more likely to manage their internationalization on a global level, adapting their strategies to the host market structures, and to the opportunities of strategic alliances with local and/or global partners.

On the other hand, EMNC, with a short period of experience of internationalization and limited ownership advantages will be influenced more likely by psychic distance factors when internationalizing into new markets. In this case, due to their limited technological and managerial capabilities, EMNCs are more likely to face higher costs to manage the LOF in culturally distant market, or in not stable institutional environments, which may concentrate their investment projects in regionally or culturally closed host countries

Proposition 2: MNCs from advanced economies, due to their international experiences, accumulated knowledge about foreign markets, and learning abilities, are better than EMNCs at coping with weak institutional environments.

The internationalization of the firm will depend, not only on the interaction between ownership, location and internalization advantages, as discussed in the eclectic paradigm, but also including variables from the institutional approach. It means that introducing factors related to the institutional environment, in which firms operate and develop their resources and capabilities, may contribute to explain how location and ownership advantages interact; creating the conditions to overcome the disadvantages to be acting in a foreign market.

In this context, gainfully exploiting their firm-specific assets through the process of internalization, taking advantage of the location, and governments' role in influencing international business patterns as well as access to some relevant institutional infrastructures will combine to produce different behaviors and internationalization´s patterns. We, therefore, suggest that, the way how the variables interact and how they affect the internationalization´s patterns of firms are different in the case of MNCs from emerging economies.

Company from a emerging country, by learning to operate in an unstable institutional environment may acquire a competitive advantage that makes the firm to have a sort of ability in working in such environments, when firms from developed countries, have more difficulties to operate in them. However, due to accumulated knowledge in foreign markets, and business experiences in different cultural environments may provide the MNC from advanced economies a better advantage to manage their value-added activities in countries presenting weak institutional arrangements; this is a way to overcome the liability of foreignness

A company from an emerging country, however, with reduced ownership advantages, and limited experiences and knowledge in international management presents a reduced capability to cope with low institutional environment, particularly in culturally distant countries. Emerging countries are not homogeneous, not culturally, and less then in terms of their institutional makeup.

Proposition 3: While MNCs from developed economies follow Multiple FDI strategies, on global level, EMNCs are more likely to invest abroad following a market-seeking and resource seeking strategies.

Firms with large ownership advantages and high ability to develop knowledge will be more likely to manage their internationalization on a global level, adapting their strategies to the host market structures, and to the opportunities of strategic alliances with local and/or global partners.

A MNC may enter other foreign markets (developed or developing) for different reasons: exploring host market opportunities for growth (market-seeking), seeking for strategic assets such as taking advantage of R&D centers or acquiring or merging with resourceful business companies (strategic-asset seeking), and to exploit its ownership advantages (e.g. intangible assets such as brand names and proprietary technology). The latter strategy, for example, will mean that a MNC will be looking for complementary assets abroad to enlarge its ownership advantages (Hayashi and Serapio, 2006; Serapio and Dalton, 1999).

MNCs from developed economies are more prompt to develop different strategies in the same host market, which mean that they will be implementing different investment programs, according to the changes of the economic and institutional environments, and to the relationships to their network and market partners. The differences in the strategy development abilities are, therefore, related to their abilities to manage their exposure to the liability of foreignness.

Thus, MNCs from developed economies, due to their ownership and home market specific advantages (legitimacy) will be more prompt to develop different strategies in the same host market to overcome the LOF. This process of diversified strategic engagement allows firms to have a better access to knowledge and strategic partnership, which may contribute to their abilities to cope better with economies presenting weak institutional performances.

However, EMNCs entering foreign markets are found to be, for the most part, market-seekers, entering, in large, close foreign markets (UNCTAD, 2006). Entering other developing markets to acquire raw materials or developed markets to seek strategic assets (acquiring established brands or entering into merger agreements) can be important internationalization strategies to be adopted (Cuervo-Cazurra, 2007; Luo and Tung, 2007). Although EMNCs' strategic asset-seeking strategies in foreign markets, especially in developed ones, are relatively found to be modest (Gugler and Fetscherin, 2010, Bongalia, et al., 2007), they need strategic assets (e.g. mergers, acquisitions, and foreign brands) to boost the development of their competitive advantages in foreign markets. As established elsewhere, there is the belief that firms from developed countries are perceived to be superior in terms of quality and technology, which makes the country of origin exert much influence on consumers' preference to buy products from firms from developed countries (Thannasuta et al. 2009). Hence, a EMNC' internationalization into developed or foreign markets will be characterized by much effort to take advantage of strategic assets available in any market; this is where the firm's networks of exchange relationship may be useful to facilitate access to strategic assets, which the firm lacks.

However, MNCs from an emerging economy have less technological and managerial capabilities to cope with significant differences inside and among locations, which may reduce their ability to strategy development, limiting their main foreign market approaches to market seeking or to resource seeking strategies.

6. Conclusion

The aim of this chapter was to address the determinants of OFDI from developing economies and to show how the institutional perspective contribute to the understanding of the dynamic and strategies of EMNCs.

A integrated model, which draws on insights from the economic perspective (Eclectic Paradigm), Institutional, and the managerial perspective (Uppsala model), has proved useful by helping to shed some light on the literature about MNCs' internationalization process.

To sum up, the international expansion of MNCs is mostly bases on their ownership advantages. On the other hand, the international expansion of firms, in recent times, depends also on the abilities of developing different alliances with other MNCs, and using their networks in order to overcome their lack of knowledge about new and emerging foreign markets. Thus, the potential of growth on global level will be highly related to the ability of firms to, using their specific advantages, adjust their strategies to different institutional environments.

The case of EMNCs is relevant in many aspects. Firstly, because it shows how the limited ownership advantages reduced the ability and intensity of the firm to enlarge their economic value-added activities across-borders. Secondly, the changes in the internationalization's path by EMNCs during the end of the 1990s reflected also the changes that happened in their home markets, which means that the home market factors have contributed significantly on the creation and enlargement of the new assets by the firm to enable it them to go abroad. It is not only firm specific advantages (ownership) that explain the differences between the internationalization of the firms, but also the home market specific advantages (legitimacy) and their interactions with the former that explain patterns and performances.

The international expansion of EMNCs pointed out to a gradual process of international expansion, beginning at the regional level, where the market configurations are relatively similar, and therefore the psychic distance is lower, which means that also factors of the host country explain the pattern and intensity of the expansion of EMNCS.

Furthermore, MNCs from an emerging economy have less technological and managerial capabilities to cope with significant differences inside and among locations, which may reduce their ability to overcome the liability of foreignness and to strategy development, limiting their main foreign market approaches to market seeking or to resource seeking strategies.

Finally, it is important to notice that emerging countries are not homogeneous, not culturally, and less then in terms of their institutional makeup. The implication of the market diversity of developing markets suggest that, EMNCs will not hold a competitive advantages against MNCs from developed countries, when entering into those markets. EMNCs have better knowledge to cope with unstable institutional environments specifically in culturally closed countries. This means, that their ability to cope with different institutional environments is limited to their regional expansion.

By MNCs from developed economies, a multiple strategy development contributes to improve their learning process and to the accumulation of technological and managerial knowledge, which may enhance their abilities to manage transactions in different markets. Furthermore, it may mean better organizational and managerial capabilities to cope with different institutional environments.

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5

Policy Induced Regional Interactions in Enhancing Global Industrial Competitiveness

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1. Introduction

This chapter discusses the role of policy induced regional interactions in promoting regional competitiveness in globalized industrial role. The chapter is based on two Swedish regional policy initiatives that are strongly influenced by a regional innovation systems approach and a Triple Helix framework. The highly interrelated concepts of Regional Innovation Systems (RIS) and Triple Helix (TH) have not only contributed with the theoretical foundation for policy to offset global pressure; they also contribute to the theoretical framework for the policy analysis in this chapter.

The concept of interaction, as introduced here, may be looked upon as a general term that encompasses all those non-market relations, abstracted from orthodox economic theory but which are necessary for the understanding of the function of the economic system. It may be argued that Coase (1937) with his transaction costs identified the border between interactions in the form of a hierarchy inside the firm and the market outside it. With the exception of Marshall (1890), to which we will return to below, non-market interactions outside the firm, and/or crossing firm borders, were for a long time neglected however in economic and industrial analyses.

Today, when the network economy is a widely used concept in characterizing the globalization processes of our time (cf. Castells, 1996, 2000), it should be noted that interactions in the form of industrial networks were in focus among industrial researchers in Uppsala university in Sweden already in the 1980:s. The "Uppsala School", with its focus on actors, activities and resources, is one important pillar in the development of the family of network approaches (cf. eg. Håkansson, 1982 & 1989; Håkansson & Snehota, 1995 & Axelsson & Easton, 1992). Although with some exceptions, the Uppsala School focused on industrial networks proper; institutions were not part of the system. With the point of departure in an industrial marketing perspective the Uppsala network approach was rather broad; innovations were part of it but, with some exceptions, not in focus. The Uppsala school was far from alone in developing academic theory beyond market relations proper during the 80s and 90s, however. The variety of network approaches is great, including sociological approaches as well as geographical and economic; explicit and intentional approaches as well as externalities and cultural (for an overview cf. Coombs et al, 1996). The approaches used in this chapter are discussed in detail in section two below.

Methodologically, the chapter is based on 30 semi-structured interviews conducted between 2004 and 2006 with industry, government and academia involved in two initiatives aimed at promoting and fostering regional interactions. The two initiatives are part of a policy programme called Vinnväxt, which has the aim of creating and promoting regional innovation systems. This programme is launched by the Swedish Governmental Agency for Innovation Systems (VINNOVA). The first initiative, Robot Valley, aims at making the region of Mälardalen in Central Sweden an internationally competitive and "world leading" region within the field of robotics. The second initiative, Triple Steelix, is an initiative with the purpose of creating a distinct regional innovation system based on steel making – a backbone of the Swedish economy. In addition to the qualitative semi-structured interviews with industrial, academic and policy actors, the chapter is also based on secondary data in the form of official records including the applications, plans of action and other documents submitted by the two initiatives to VINNOVA. The data was collected at an initial stage of the initiative and thus not aimed at providing a comprehensive evaluation of the initiatives *per se*, but rather selectively focus on the initial prerequisites for the creation of regional interactions. In other words, it was not our ambition to evaluate the actors themselves but rather to analyse the conditions created for them to act – it is more of 'policy analysis' than 'project evaluation'.

Apart from the short introduction, the rest of this chapter is organised as follows: in section two, we put the initiatives in the theoretical context underpinning them. In section three, we present the two initiatives in regards to the established interactions and identify some of the collaborative projects that the initiatives have generated. In section four – based on the two initiatives – we analyse the implications – and possible limitations – of this policy measure to, on its own, achieve the ambitious goals of creating world leading regional innovation systems.

2. The raison d'être for regional innovation systems

Both the initiatives discussed in this chapter - Robot Valley and Triple Steelix – are launched at a time when the importance of innovations as enablers and drivers of global competition is widely recognised as well as the recognition that innovations do not take place in solitude but are often the result of interaction between different actors. Introduced by Freeman (1987), in his studies of the Japanese model, and Lundvall (1990; 1992), the innovation systems (IS) approach has received a dominant position among policy makers as a tool for understanding economic development. Although originally national in its scope – National Innovation System (NIS) – the concept has in the last two decades developed into a conceptual family that includes regional innovation systems (RIS) (cf. e.g. Asheim & Gertler, 2005), continental and sub-continental innovation systems (Freeman, 2002), sectoral innovation systems (SIS) (cf. Malerba 2005; Edquist, 1997) and related concepts such as technological systems (TS) (Carlsson, 1995).

From an industrial development perspective, the innovation systems' (IS) approach may be argued to be part of neo-Schumpeterian economics, which was given potency by Nelson & Winter's seminal contribution "An Evolutionary Theory of Economic Change" published in 1982 in which they revealed the mechanisms that lead to industrial change and growth. IS may be looked upon as one of the paths followed by evolutionary economics and innovation theory (cf. e.g. Nelson 1995, Fagerberg et al., 2005) although this is not always explicitly the case among those that analyse it (cf. Nelson, 1993). The IS approach recognises economic, industrial and technological development as long-term processes in which the creation and

diffusion of capabilities involve interactions and relations that are institutional, i.e. related to the development and functioning of cultural, social and political stabilities/rigidities which are more or less enabling for industrial development and in addition more or less formalised (see, e.g. Nuur et al, 2009; Gustavsson, 2009).

2.1 Regional innovation systems

In recent years, a vast literature on the spatial dimension of the innovation systems approach has also emerged (cf. Asheim & Gertler, 2005). Particularly influential has been the RIS approach which somewhat simplified can be described to focus on the dynamics that arise from regional interactions and other relations between firms, their supporting industries, and the institutional infrastructure, such as research institutes and higher education providers, financial institutions etc. (cf. Asheim and Isaksen, 2002).

The RIS approach views development and diffusion of technologies as long term processes involving formal and informal webs with a strong spatial dimension (Edquist, 1997) since innovations often are cumulative processes more or less favoured/disfavoured by the incumbent regional institutional infrastructure. Moreover, another point of departure is that regions that have a similar history are likely to experience similar patterns of economic development in the future (regional path dependency) strongly based on the cumulative previous decisions made by economic actors (cf. Storper, 1995; Malmberg 1998).

Apart from the conceptual dimension developed among academics, the RIS approach has also become highly topical as an instrument of regional development strategies and has gained strong acceptance in Sweden as a mechanism of regional development. At least two reasons for this can be indentified: first, the process of globalization and the emergence of hotspots (e.g. the successes of Silicon Valley (cf. Saxenian, 1994) and Italy's Emilia Romagna (cf. Putnam, 1996)) in meeting global challenges in terms of industrial development and competitiveness indicates that the earth is yet not entirely flat (cf. Friedman, 2005). Knowledge formation (and communication) processes that permeate innovation are far from perfectly mobile and, as discussed by Markusen (1996) a decade ago already, take place in "sticky places in a slippery world". Second, from a policy perspective, breaking down the units of analysis from the national level to the regional level is assumed to help to identify the vital attributes of the system. It allows authorities to identify and analyse regional variations within a larger system supposed to be reasonably coherent and provide differentiated inputs to augment regional competitiveness. This is all the more important since the development of technologies is more or less connected. Depending on how we define the region, it may be argued that the regional system reveals the importance (or non importance) of networks and direct interpersonal relations, the local culture and the entrepreneurial spirit.

From a policy perspective thus, adopting a regional innovation systems approach has the point of departure of stimulating locally gained dynamics through interacting regional actors so that industrial knowledge creation and dissemination is fostered (cf. Florida, 1995; Cooke, 2001; Asheim & Isaksen, 2002). Geographical proximity is considered to spur the creation of a nurturing milieu in which innovations are induced and capabilities created because the totality of the web involving proximate actors may result in cumulative learning processes of a path dependent character. Geographical proximity is also assumed to facilitate the evolution and sustention of internal institutional factors such as unique sets of norms, values and conventions that are important for external competitiveness. Thus, underlying the regional innovation systems approach is the notion that knowledge creation,

diffusion and transfer can be facilitated by local dynamics that is created as a result of the interactions between geographically proximate actors in systems that are institutionally linked (cf. Amin & Thrift, 1995; Asheim 2000; Ernst et al 2002; Maskell & Malmberg, 1999).
Conceptually, however, the economies of proximity in contributing to specialisation and knowledge spillovers is nothing new in the literature: the interactions were discussed at the end of the 19th century already when Marshall (1890) described the territorial dynamics as a locus of learning and competition as were they "in the air". The idea among RIS researchers of "learning regions" may in fact be looked upon as a more advanced formulation of the complex localized learning processes once identified by Marshall (cf. Asheim 2005).

2.2 Triple Helix

The Swedish innovation systems policy as implemented by VINNOVA is, in addition to the "conventional" innovation theory, also strongly influenced by a second theoretical platform: the *Triple Helix* framework, which states that the positive interactions between academia, industry and government is a crucial factor for economic growth. This has its origins in the "New Production of Knowledge" discourse (cf. Gibbons et al, 1994) but has been developed primarily in many texts by Etzkowitz and Leydesdorff (cf. e.g. 1998; 2000). The Triple Helix framework provides a simple but nonetheless politically powerful metaphor for a dynamic innovation system since it is based on a spiralling dynamic model. Somewhat simplified it may be argued that it is more appealing than the more vague notion of innovation systems as it focuses on three players, or rather actor families, whose interaction is said to determine the overall systems' dynamics and as such it provides a strong policy case. Issues such as learning, industrial traditions, entrepreneurial climate, culture, etc. are found at an implicit or secondary level (cf. Laestadius et al, 2007).
The Triple Helix framework assigns universities a primary role in the evolution of innovation systems since they are not only viewed as knowledge centres mainly for basic research and education but are in addition assumed to play an active and direct role in the industrial innovation processes alongside, and in interaction with, government and industry[1]. Core to this is the idea that the old discipline-based scientific knowledge ("mode 1") is redundant as far as the knowledge creation function is concerned. In contrast, a new paradigm – originally referred to by Gibbons et al (1994) as "mode 2" - with the following characteristics has emerged: first and foremost: knowledge formation is a social process that is created through interactions and produced in close cooperation between actors in industry, university and government. Secondly, the creation and diffusion of knowledge is a multi-disciplinary phenomenon that results from interactions between several scientific disciplines. Furthermore, the mode 2 approach recognises knowledge as been characterised by heterogeneity and organizational diversity.
The Triple Helix framework may be looked upon not only as a synthesis but also as a formalized interpretation of mode 2 because it considers, and is focused on, the interactions between the system's main players. Given that the dynamics can be found in the interaction between the three main actors (or families of key players – "government" may e.g. include municipalities and county authorities) the Triple Helix visions that the interactivity of the

[1] In a Swedish context, the Triple Helix concept reinforces the so called third task of universities introduced through a bill in the late nineties; apart from education and research, Swedish universities are mandated to participate in developmental issues.

three players make up the core of the innovation system. Accordingly, universities should be entrepreneurial enough to promote entrepreneurial spirit and may establish technology parks and incubators in their activities. Although the Triple Helix framework has become very common in policy circles and in parts of academia it may be critically looked upon as still assuming that the processes leading to innovations are linear i.e. innovations begin with "basic research" followed by more applied research, product development and then more near-market activities. This is somewhat contradictory to the view that innovation processes often take place at different layers – different systems levels that interplay – and thus that the bulk of scientific research does not automatically (even if government intervenes in the process) lead to new products, the later of which are often based on market demand i.e. far beyond the research laboratories (cf., Kline & Rosenberg, 1986).

2.3 The challenge of capturing the web of relations

Although the regional innovation systems approach and the Triple Helix framework are often used together, the two concepts are not synonymous. One major difference between them relates to the role of geographical proximity. The Triple Helix framework does not, in its original formulation, take an explicit territorial approach: its focus is on the interactions and collaborations between universities, industry and government at a period in which the process of globalisation is blurring the boundaries between these institutions (Etzkowitz and Leydesdorff, 1998; Etzkowitz, 2005). On the other hand, a basic assumption in the RIS approach is that geographical proximity permeates social interaction, trust and local institutions necessary for the realisation of an innovation system.

At the regional level the RIS approach and Triple Helix frameworks are interwoven structures characterised by interdependencies on a variety of levels. In this context, the regional innovation system may be viewed as more or less open towards the rest of the world but with a touch of spatial concentration. This view has been discussed more than half a century ago by Perroux (1950) when he introduced the concept of *economic spaces* which in contrast to geographic spaces is not necessarily only territorial. In addition, many technological and scientific fields also appear to have scientific cultures (communities) that irrespective of physical proximity maintain close collegial relations although geographically dispersed (c.f. Amin & Cohendet, 2004)

Whatever differences between the Triple Helix framework and regional innovation systems, and challenges relating to where the border between systems goes, the establishment of VINNOVA and its Vinnväxt programme is a clear example of the influential role of these approaches in innovation policy. The popularity can partially be explained by the fact that they are intuitively easy to embrace and to communicate and by the attractiveness of creating a platform for actors engaged in industrial policy issues to get closer to each other. However, neither the innovation systems approach nor the Triple Helix model is conceptually uncomplicated. Although these approaches may be applied on different levels – national, regional and even on sectorial level – one major difficulty with both these concepts is how to specify the boundaries of the system (cf. Edquist, 2000, Miettinen, 2002; Gustavsson & Laestadius, 2005, 2007; Oughton et al 2002, Nuur et al, 2009). Already in the early anthologies on national innovation systems it was observed that the innovation process had become multinational and transnational (cf. Lundvall, 1992). The system's border challenge is not related to geographical aspects only but also to what may be labelled the *systems domain*. It may for instance be argued that adopting a traditional linear model of

innovation focusing on knowledge formation processes in universities and R&D units in big corporations, we may come very close to the Triple Helix approach – but that would probably exclude most of the kind of entrepreneurial mechanisms found to be important e.g. in the innovative regional systems of northern Italy or in the likewise innovative Gnosjö region in southern Sweden. Also global industrial success stories like Ikea and H&M – based on logistics and design but with low scientific and academic content (basically no research!) and strongly independent from government support – fall outside the Triple Helix inspired IS approach (see e.g. Nuur and Laestadius, 2009).
The identification of a useful systems concept within a global context is, to say the least, a challenge: nor are the RIS and Triple Helix interactions necessarily confined to the regional level (for a critical review see Shinn, 2002). In conclusion, as has been suggested by Edquist (2000), the systems approach should be seen as a "targeting tool" in order to identify those factors that affect and condition innovation activities.

3. Two illustrative cases on how the concepts are put to practice

As mentioned in the introduction, the aim of the Vinnväxt programme is to create regionally based, world-leading, innovation systems (for a more thorough presentation of the programme and its aims and scope, see Laestadius, Nuur & Ylinenpää, 2007). In this section we present the two case studies concerning two of the selected eight initiatives (the initiatives are discussed in more detail in Gustavsson & Laestadius, 2006, 2007 and Laestadius & Nuur, 2006, 2007).

3.1 The two policy initiatives

Robot Valley, located in the region of Mälardalen with a population of 790,000 (Statistics Sweden, 2008), has the vision of creating and sustaining a regional innovation system that is world-leading in the manufacturing, research and development of robot-based automation. Triple Steelix has the goal of enhancing the global competitiveness of the steel industry in the region of Bergslagen with a total population of 800, 000 (Statistics Sweden, 2008). Both these regions are important nodes in the Swedish industrial tradition. In the Bergslagen region, Swedish natural resource based industries in iron, steel and forestry have coevolved in what may be labelled a development bloc (cf. Dahmén, 1950). The Mälardalen region has a strong industrial base and a long tradition of robot-related activities. Thus, both regions display forward and backward linkages in the form of direct vertical supplier and development relationships as well as horizontal relations to other sectors (cf. Hirschman, 1958/1971).
The primary beneficiaries of both the initiatives are small and medium sized enterprises (SMEs). In the case of Robot Valley the expectation is that the interactions between the Triple Helix actors will help develop new automation solutions. The reason for this is twofold – on the one hand it is assumed to help expand the marketplace for robots – from the automotive industry dominance when it comes to robot users to a wider set of industries and activities. On the other hand it may also be looked upon as a means to help the SMEs in the region to combat the increasing competition from so called low-cost countries, by helping firms to automate and thus increase their productivity. Also the Triple Steelix initiative centres on helping SMEs in developing technological capabilities. In addition, both the initiatives incorporate more holistic approaches that would help the robotics and steel

industries respectively. One of these is to devise strategies that promote the number of women working in the traditionally male dominated industries. There are also measures to put in place mechanisms that encourage young women to study natural sciences and technology at secondary schools which in the long run will increase the number of women working in the industry.

The Triple Helix actors whose interactions will pave the way for regional innovation systems are regional university colleges, regional development bodies and regional firms. Thus, the Triple Helix framework is well incorporated into the organisation, as the initiatives spans across industries, universities and regional policy units. In the case of Robot Valley, it is the three counties of Västmanland, Örebro and Södermanland, the three global industrial companies, ABB, Atlas Copco and Volvo Construction Equipment, and three regional campuses (Mälardalen University in Västerås and Eskilstuna, and Örebro University). The Triple Steelix initiative also encompasses three regional governments (Länsstyrelser) of Dalarna, Gävleborg and Västermanland while the academic arm of the TS initiative involves the two regional university colleges of Dalarna and Gävle.

The activities of Robot Valley centre on *industrial robotics*, *field robotics* and *healthcare robotics*. The industrial robotics field is the most mature one with a long tradition in the region, with ABB as the largest industrial actor. Within this field the initiative focuses on regional SMEs demand for increased automation. Field robotics is a relatively new industrial area which is also seen to have growth potential including the development of for instance autonomous loading and mining equipment. Within this segment, Robot Valley has two global companies, Atlas Copco and Volvo Construction Equipment, which are located in the region. Healthcare robotics is a more recent area for robot applications and is expected to be an area with a great potential, especially considering that industrialised nations are facing a future with an increasing number of elderly people who will need care. Within the coming two decades, it is estimated that the industrialised world will witness a dramatic increase of people over 65 years of age and a 'greying' Europe increases the need for technological support both at home and for professional medical care (Europ, 2004). However, it is far from evident how those artefacts should be constructed in order to work well – and with dignity – within the healthcare sector. In this segment, there remains a huge amount of development and innovative work – plausibly in cooperation with users, producers and researchers.

Likewise, the Triple Steelix initiative draws on the capabilities of the larger steel manufacturers in the region. Three of these are Outokumpu (stainless steel), SSAB Tunnplåt (thin plate sheet) and Sandvik (cutting). The *stainless steel* capability activities concerns providing resources to the 35 SMEs in the stainless industry which are located in the south and south east of Dalarna – with the majority located in the municipality of Avesta where Outokumpu has a stainless steel processing plant and a research and development unit, Avesta Research Centre. The *tooling and tools (cutting)* capability area is built around the operations of 35 SMEs which are all involved in subcontracting agreements with Sandvik. Because of historical reasons there are a number of SMEs that are involved in operations such as cutting, welding, tooling, heat treating and hardening of steel products and this capability node intends to ensure their efficiency by helping them with lean production techniques. The third capability area, *thin plate sheet,* also borrows its name from a decade long existing business network "nätverk tunnplåt" which brought together SMEs that manufacture, process or market thin sheet plate steel products in the region. Although

involved in the same kind of business activities, i.e. thin plate sheet, there are no necessary business ties between the lead firm (SSAB Tunnplåt) and the SMEs.

3.2 Policy induced regional interactions in the two initiatives

Both the initiatives have induced the onset of several projects that centre on creating interactions among the Triple Helix actors in the regions. Further, a number of projects, which can be grouped into R&D interactions and projects aimed at facilitating SMEs to access and apply new technology, have been initiated. For example, the creation of an information platform on the internet, production/distribution of information leaflets, workshops and seminars aimed at discussing strategies and marketing campaigns with the purpose of informing the public, industry and academia about the initiatives have been initiated. Measures to improve SMEs manufacturing methods have been put in place including the introduction of business development schemes by arranging seminars, offering the SMEs support to participating and visiting in trade fairs as well as offering partnership platforms to promote relationship building. There are also other strategies which support the SMEs with competence generation by putting in place mechanisms that allow them to attend courses (many of them offered by the global players) so that their product base and markets could be developed. In addition, activities also involve promoting the development of incumbent products and new products by conducting seminars, marketing research, feasibility studies and financial support to product development.

In both Robot Valley and Triple Steelix, access to a qualified workforce is prioritised. In order to build a regional critical mass of educated personell, work is also taking place to secure a regional knowledge base within the respective technology areas. A major ambition with the initiatives is to turn around the negative trend of a weakening interest among young people and children, and particularly among young girls, for technology and for higher technical education. An example of measures to improve is the Robot Valley after-school centre called RobTek where girls and boys are given the opportunity to develop their technology interest.

R&D interactions

A number of projects that are aimed at R&D interaction have been initiated. For instance, in Robot Valley, a number of potential innovative projects were identified within the three technology areas at an early stage. The more short-term projects, the so called 'low-hanging fruits' (LHFs) are projects with more clearly defined customers, suppliers and markets already from the beginning. These projects are considered to be an important part of jump-starting the Robot Valley initiative. The more long-term projects are focused on new project ideas and products, as well as needs driven R&D schemes. The initiated LHFs are primarily within industrial robotics, whereas within field robotics some somewhat more mid-term projects have been initiated and health care robotics is much more long-term.

One LHF-project initiated within Robot Valley is 'Friction Stir Welding' (FSW) which is a technology that was developed in Great Britain, and based on the principle of solid state joining method – welds are created by the combined action of frictional heating and mechanical deformation due to a rotating tool, meaning that metal is not melted in the process, to join two aluminium components. The project is run in cooperation between the three companies Esab AB, ABB and Specma Automation AB in collaboration with Örebro University. ABB provides the robots, Esab holds the welding competence and Specma

delivers the software for the welding applications. The welding robot will be marketed and sold by Esab. The technology per se is not new but for the actual welding application (FSW) the application with an industrial robot for welding irregular light metal joints is completely new. The automotive industry is seen as the major customer, but the need for flexible welding of light metals exists also within for instance the space-, aeronautical- and shipyard industry.

Within field robotics, two medium to long-term, and to some extent connected, projects have been initiated. One project, Navigation Systems for Automated Loaders (NSAL), focuses on developing autonomous trucks to navigate in e.g. difficult terrain and mine shafts. This project is run in collaboration with Örebro University, Mälardalen University College, Atlas Copco and Volvo CE. In the second project, Optical radar for mobile robots, the focus is on developing the sensor system for navigation of the autonomous vehicles. This project is run by Örebro University, Atlas Copco and Optab optronikinnovation AB, a company that develops optical and electronic equipment. Both projects involve applying existing technology in new applications. The projects were initiated as a result of the new contacts created by Robot Valley. Both to academia and to the companies involved, these collaborations are new.

Also in Triple Steelix, a number of R&D projects were identified. One R&D project involves material technology and aims at devising methods to improve high resistance shaping of steel, tooling methods to produce ultra-resistant steel products, research into pre-treatment of steel with laser in order to steer material properties when shaping and finding new applications for duplex stainless steel products and nanotechnology and modelling and simulation of new product domains.

Two other parallel research projects that specifically target product development were initiated in 2005. Here, the Swedish Steel Producers' Association (Jernkontoret) has together with other organisations financed ten PhD students focussing on the material aspects of steel in research projects are “High velocity compaction of high-speed steel powder”, and “Surface characterisation of hydro formed stainless steel tubes”. These two R&D schemes are expected to be integrated into another subproject that has the goal of developing high resistant shaping, coiling and sheet steel bending. These R&D development schemes are expected to result in prototype constructions that could be used by the small and medium sized companies. Thus far subprojects have been launched focussing on R&D on enhancing high resistance shaping of steel, R&D on tooling methods to produce ultra resistant steel products, R&D on investigating pre-treatment of steel with laser in order to steer material properties when shaping, R&D new applications for duplex stainless steel products, R&D on modelling and simulation of new product domains, and finally R&D on devising shaping techniques using nanotechnology on steel and steel products

Interactions aimed at regional SME:s

The regional SMEs are a major target group for both initiatives in terms of new technology and application developments. In Robot Valley, there is a flagship project within the industrial robotics domain called Robotics for SMEs. This project aims at introducing the benefits of automation and robots to industry and in that way increase the level of robotisation among the SMEs in the region. Robotics for SMEs consists of two different kinds of projects – on the one hand the short term *industry projects* aiming at improving the applicability of existing robotics for SMEs, and on the other hand the long-term *conceptual technology projects*. The latter focuses on developing new robotics technology and increasing

the user-friendliness of industrial robotics. With these two projects, Robot Valley wishes to, in the short run, help SMEs to increase their level of robotisation, and in the longer run find entirely new solutions for robotisation of industrial activities.

According to the stakeholders, Robotics for SMEs has been successful, and the project has been prolonged and expanded. More than 100 companies have been analysed within the project and about half of them have introduced robots or other automation solutions as a result. The project has also resulted in job opportunities for students who carried out the studies at the firms. Robotics for SMEs contributes both through spreading knowledge about robots and robotics to new customers, as well as increasing the knowledge within Robot Valley about which technologies and technological solutions that companies are in need of. The project successfully integrates the efforts of the Triple Helix actos i.e. industry, society and academia.

Robot Valley has also been a catalyst in the establishment of a new company, FlexPack Robotics. This company develops robot systems for customised final packaging of medicine, a system that has to meet high demands on production safety and traceability. This is a new application for the pharmaceutical industry, and which hopefully also in the future can be introduced in e.g. the food industry. The company is a strategic partnership between ABB as a robot supplier and FlexPack as systems integrator. Another owner is Prevas AB, a consulting company in electronics and software development. FlexPack was established by former ABB employees, with financing from ABB, Prevas and Robot Valley.

Also Triple Steelix acts as an intermediary and facilitates the interaction process between the large firms, public bodies, the two university colleges and the SMEs. The interaction of the Triple Steelix (TS) innovation system hitherto lies in between SME needs in terms of resources and the R&D units of the three global companies. In this way, the three relatively large firms are expected to act as catalysts for the development process by contributing through their global capabilities and opening their research and development units to SMEs. The public bodies at the municipal level are co-financiers and the two university colleges of Gävle and Dalarna are according to the TS design expected to contribute with research and development that relate to products, methods and production needs of the SMEs. In this way, TS shoulders the task of an inventory organisation with a knowledge bank that contains specific information that relates to product and production methods of the three large companies, the kind of R&D carried out at the two university colleges and the magnitude of SMEs needs. Through contacts with the capability nodes, public policy bodies and the two university colleges TS then provides the resources to develop to the SMEs.

In Triple Steelix, a number of subprojects have been initiated to start R&D activities, which were intended to be of assistance to SMEs to acquire technological and organisational competences that would in the long term improve their competitiveness. These range from a project that created a platform to allow SMEs to improve manufacturing techniques e.g. in the areas of welding, shaping, joining, cutting and the surface treatment of metal alloys to improve its sustainability to specific R&D initiatives such as the creation of a machining centre in Borlänge. This machining centre will apart from catering to the needs of the SMEs also can be used as a testing laboratory for the global players in the steel industry. Another R&D project aims at helping SMEs in efficient engineering methods that would introduce them to lean production methods, atomisation and logistics. One of the university colleges –

Gävle – has started an R&D project on improving the efficiency of the subcontracting SMEs to Sandvik.
Thus, in summary, both Triple Steelix and Robot Valley have contributed to create an infrastructure for interaction within the regions.

4. Discussion and conclusions

The aim of this chapter was to analyse the role of policy induced regional *interactions* which intend to promote regional competitiveness in globalized industrial structures. Theoretically, the chapter has been based on innovation theory and on the Triple Helix framework – as is the policy evaluated. We have also discussed the policy rationale behind the inception of the regional innovation systems approach.
The initiatives discussed in this paper have strong historical roots in regards to Swedish industrial and technological capabilities. Also, both the selected industrial and technical domains display a future growth potential – robotics with new and expanding areas of application of automated solutions, and steel where the increasing sophistication in materials development allows for new and advanced product application areas. It is not surprising, therefore, that policy authorities have identified the strength of promoting robotics and steel.
The two case studies we present in this study illustrate how a policy induced regional innovation programme has resulted in successful engagement of Triple Helix actors in the two studied regions. Industry, regional government bodies and academia in the region have become involved in a number of joint projects. As we have shown, several new collaborative projects that involve actors who previously have had little or no interaction have commenced. They have also resulted in a number of new products, new start-up firms and new job opportunities. Hence, as the empirical cases illustrate, the two initiatives have been successful in creating new regional platforms and arenas for co-operation, and which evidently have resulted in innovative knowledge formation.
However, if we look at the policy rationales behind the initiatives and the expected outcomes of them – i.e. *world leading* regions within their respective industries – some caution should be exercised. Bearing the big words and fancy rhetoric of these policy initiatives in mind, when the results are boiled down to actual projects – which *an sich* may be very good – the question would remain: will this increased regional and local interaction result in world excellence and improved competitiveness in core areas of robotics and steel technology? There is reason to be cautious since both the innovation system's approach and the Triple Helix approach – have been formulated and interpreted to be highly regional.
The main industry players that are to play a crucial role in research and development of relevance for the initiatives are very global; SSAB, Volvo, Atlas Copco, ABB and Sandvik are all firms that conduct their R&D activities globally; in fact most of their R&D is performed outside the regions of the initiatives. Also many of the most important knowledge providers as well as the sophisticated markets/purchasers for the robotics and steel products are global. Although regional milieus are important for these actors in enhancing innovation processes, it is not so that the regional connections are always the most obvious or necessary. Neither the large steel companies in Bergslagen, nor the three large companies in the Robot Valley, display any particular predilection for regional actors when it comes to innovative collaboration – not historically nor in current collaborations. Focal relationships

regarding R&D are often outside the immediate region and geographic proximity – although fulfilling vital institutional functions - often plays a secondary role in terms of relationships between buyers and sellers (Audretsch & Stephan, 1996; Markgren, 2000). For instance, it has been argued by regional economists that the *number* of actors in a region is subordinate to the *sophistication* of suppliers and customers in the region. In other words, the quality of actors rather than quantity is decisive to the development of the system (cf. Malmberg, 2002; Porter 1990).

Although not denying the importance of local dynamics in industrial competitiveness, as has been revealed by students of social sciences, it is our contention that when it comes to regional innovation systems, the current Swedish regions in many cases are too narrow to deal with the issues at hand considering that Sweden, as regards population, is a small country of nine million people, which in a global comparison corresponds for instance to the magnitude of several cities in China or the state of Michigan in the US. In addition this population is dispersed on a large area; among the largest in Europe. Hence, on a global scale, a small regional part of the Swedish economy such as Mälardalen with a little less than 800, 000 inhabitants is small as well as thin as regards network density. Issues related to developing interactivity among industrial and technological actors are thus in many cases better dealt with on a larger scale than Swedish regions proper. For instance, health robotics is a new and largely unexplored technology area within robotics. This could mean great potential for new markets and product niches for robots, but it also implies a high degree of uncertainty and need for vast research and development efforts. Due to its great social and economic prospects, it is an important technology area to stimulate through policy measures. Yet, such a project would probably yield more if operated on a national – or even larger - level. Another area that seems more suited for a national approach rather than regionally operated initiatives is that of increasing awareness on the part of young people – particularly girls – for technology and higher technical education and consequently increasing the number of women working in traditionally male dominated industries. We see e.g. no reason to stimulate only girls in Västerås to learn robotics or only girls in Borlänge to learn about steel. This is – indeed - a national issue for a small economy!

In summary, it may be argued that the present Triple Helix inspired regional innovation systems policy needs to be freed from the administrative regional constraints as well as the cognitive blinders which restrict the visions of interactions to the immediate territorial proximity. The strength of such a reformulated policy approach is the potential to focus on the core actors and their interaction in innovation processes. This focus is, in the (original) Triple Helix discourse, not necessarily fettered in a regional strait jacket. Instead of – which seems to have been the case in the present Vinnväxt programme – getting stuck in the dilemma of knitting political/administrative regions (municipalities and counties) with functional ones (based on natural labour markets) within a Triple Helix dress we argue for a policy that explicitly leaves the regional dimension open. An open and more relative regional policy approach we argue, is much better to capture the multidimensional character of industrial and innovative activities.

This multidimensional character may be explained as a traditional multilayer picture based on transparencies all of which focus on different aspects or layers of the same phenomenon. The geographical picture of the R&D network of the core industrial actors may differ from the picture on main component suppliers and from the geographical recruitment of engineers as well as from the location of raw materials providers. It is not necessarily so that

it is possible to locate a core and coherent functional region in which labour market mobility is central. In fact this approach has similarities with the economic space discussed already by Pérroux (1950**)**. In policy terms, any geographically dispersed constellation of actors focusing on any innovation problem of relevance to an industrial policy call could be important for policy makers to consider. In this model the region is the ex post outcome of the policy rather than the ex ante and de facto condition for the agenda. And this regional outcome may well consist of a set of actors located in a set of hubs which do not necessarily have any close geographical connection to each other. Policy makers may well influence this process through giving incentives for network activities based on actors that are not located close to each other.

Using our cases from above to illustrate our proposition it can be argued that an initiative focusing on global excellence in service robotics could include actors from all over Sweden in a hub based programme. Similarly instead of a thematically dispersed Triple Steelix located to Bergslagen we can imagine a set of thematically coherent Steel programmes located to different hubs dispersed all over Sweden. The regional outcome of such a set of programmes is not that regions become neglected. In fact this approach will economize better on the knowledge hubs that exist all over Sweden and many regions may be represented by a set of actors in different programmes.

In short – such an approach has the advantage of improved interactions since

- it opens for the inclusion of all relevant actors irrespective of their location
- it opens for a realistic formulation of the goals of the initiatives as their regional strait jackets are loosened
- it explicitly admits that important connections may be hub based and geographically dispersed rather than strictly regional/local
- it makes it natural to include also foreign based actors in win-win relationships

Theoretically this may be interpreted as giving the Triple Helix approach a higher priority, i.e. focusing on the dynamic interaction of actors irrespective of their location. The mirror image of this is also that the "policy abuse" of the regional innovation systems' concept is reduced. It has obviously – and this is an area for further research – been attractive for policy makers to adopt the RIS concept. We argue, however, that the RIS concept should be handled with care in policy formulation in one of the most globalized small economies in the world. Finally our approach also has implications on the understanding of the regional innovation systems concept. Whether over sold by academics, profiting from perceived policy relevance, or misinterpreted by policy makers, in need for tools to handle industrial restructuring, it may have narrowed the scope of understanding the significance of globalized learning and knowledge formation.

Our conclusion, thus, is that there is a need in policy to focus more on the content and cognitive aspects of the networks rather than on geographical and institutional proximity. In a world where technologies are created more or less all over the world the "technological system" concept, as originally introduced by Carlsson & Stankiewicz (1995), becomes more relevant than ever (for an overview cf. eg Laestadius, 1998). Technological systems are cultural and social constructs among actors engaged in the same technology, sharing the same technological paradigm and parts of the same technological regime; something which may be more relevant than their regional or national connection. Departing from that provides challenges to industrial policy in a globalized world – and opportunities as well. The details of that is a topic for further research, however.

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6

Knowledge, Learning and Development: the Challenge of Small and Medium Enterprises to Global Competition

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1. Introduction

Small and Medium Enterprises (SMEs) have to compete in a globalized world where their skills and knowledge are the weapons of differentiation that can support their decisions, the successful implementation of best practices and the development of better future positions. They are in a highly competitive world, where there are concurrent forces in the sector (Porter, 2002), in which, every day they should review the market and strategies.
Most SMEs disappear in their early years, because they do not have the ability to understand and respond to the challenges of global competitiveness, but as soon as they disappear, other enterprises are also created and that gives a compensation effect, where the learning curve is cyclic.
Small and medium enterprises support their work in the knowledge and capability of their processes, which are evaluated to determine the strategy and the use of methodologies, models and practices to achieve a better position or have a transition to stay in the market.
Nowadays, markets are conquered by companies with tools that provide relevant information of the environment in which they interact; this information allows them to intervene, have more efficient controls and make decisions according to their competitive position.

2. SMEs and the environment

Globally, SMEs are an important part of the productive sector. However, the circumstances in each country are different, for example, the definition of small and medium enterprises tends to be different and it depends on the point of view of the organization in question.
The Organisation for Economic Co-operation and Development (OECD, 2004) indicates that the definition of SMEs reflects economic, cultural and social issues, so each country has its own consideration of what is a small or medium sized company. The point at which it converges is that, in most cases, the characterization of firms may depend on their incomes, the number of employees, profit margins or a combination of them.
The World Bank (2006) points out that in the European Union micro, small and medium companies represent 99% of the production units, while for Latin America only micro signify between 80 to 90%, in OECD countries SMEs are over 95% of all enterprises.
Even in the database developed by Kozac (2007) published by the World Bank it is mentioned that the discrepancy between the different definitions of SMEs adopted by the

countries does not allow an adequate management of information and benchmarking, so the information provided should be considered with the necessary caution, in such a way to prevent mistakes when using it.
United Nations Industrial Development Organization (UNIDO, 2002) reports that over 90% of companies worldwide are SMEs and have between 50 and 60% of the workforce, so for developing countries are a strategic element in growth and a key tool for fighting against poverty and inequality.
The European Comission published "The new SME definition user guide and model declaration" in which it emphasizes the importance of managing a common definition of SMEs within the European Union, especially for the implementation of measures and support for enterprise development. This business classification is:

Enterprise category	Headcount: Annual Work Unit (AWU)	Annual turnover	Annual balance sheet total
Medium-sized	< 250	≤ € 50 million	≤ € 43 million
Small	< 50	≤ € 10 million	≤ € 10 million
Micro	< 10	≤ € 2 million	≤ € 2 million

Table 1. Classification of companies acording the European Comission
Source: European Comission

Despite the effort to develop this proposal (Table 1), not all European Union nations adopted it or have taken it into consideration. Moreover, current trends in global economic policy encourage SMEs to develop productive sectors. However, in the long term, the participation of emerging economies with developed countries in research, global development and innovation networks, could redraw the map for science, technology and innovation, thus given the situation for the development of SMEs (OECD, 2010).
Meanwhile globalization has impacted with increased competition and economic turbulence of the environment in which SMEs are located; they have access to new markets, knowledge transfer, new technologies, partners and strategic alliances (Popescu, 2010).
Regarding the participation of SMEs, these contribute significantly to competitiveness, innovation, research, and problem solving (Holben, 2009). However the environment significantly affects their development.
Knowledge of the company is one of the factors for the development, so they must know their capabilities for consolidation; it is possible to do in SMEs, since they have a structure which allows their study. In the case of micro enterprises, it is difficult because they have no clearly defined a structure that allows intervention for improvement or development (Montaño, 2010).
The ability of learning and sharing knowledge of SMEs depends on their levels of innovation and competitiveness, enabling them to respond to external pressures. Also they are creating new forms of organizational development that emerge as consequences of changes in the global economy, but given from a local perspective (Longhi, 2005).
A variety of partnerships have come out as a result of socio-economic challenges. Creativity and continuous innovation are seen as a collective learning process where different actors interact to transfer knowledge and imitation of successful management practices. Regarding the case of the innovation process, different disciplines have tried to analyze the collaborative processes and networks, resulting in the appearance of different models that focus on diverse goals (Flores, 2006).

Companies implement innovation systems to become competitive, enabling them to improve their products, processes or services. Their daily effort contributes to face the problems (Longhi, 2005).
A vast number of companies worldwide are family business, their internationalization is based, first, in consolidating within the local market, and then, they enter strengthened to the international market (Segar, 2010).
SMEs financing is a constraint to their development. In recent years the efforts of national policies and legal frameworks study the promotion of SMEs growing and consolidation, but financing remains as one of the greatest obstacles for entrepreneurs (Zhao, 2009).
There are cases where one source of financing for SMEs growth is to patent their products, to subsidize part of the costs of research and development, especially the challenges associated with access to external capital funds (Rassenfosse, 2011).
From here, the most important characteristics of the SMEs we find are (Erixon, 2009):

- Greater flexibility and responsiveness to lower demand.
- More entrepreneurial than large firms.
- Greater flexibility in payment structures.
- More focus on domestic demand.

In some countries, particularly, developed countries, the situation of SMEs under the onslaught of globalization and inefficient management of government support, does not allow technological progress to grow and improve their situation (Fariselli, 1999).
In addition, there are cultural issues to establish a relationship or link between Research Centers and enterprises, where Research Centers ignore the reality and therefore the needs of companies, and enterprises are distrustful of research centers. Added to this, companies do not have internal schemes that allow the existence of systems research and technological development, including consulting or advisory level, where, in the presence of a complex problem can request and receive support from the research centers. Then it becomes necessary to push through a series of tools and methodologies that can be applied to SMEs to promote economic, technological, research and innovation, from a systemic, holistic view because complexity occurs among various factors, elements and actors involved directly or indirectly (Corona, 2010).

2.1 Globalization and competitiveness

2.1.1 Globalization

The phenomenon of globalization is characterized by the intensification of international competition resulting from the vision of a large global market, which entails profound socio-economic changes in production and is a process that takes place simultaneously at different levels: international, regional and national, which imposes the need for new methodological approaches to understand and promote competitiveness (Solly and Castillo, 2004).
Then, the challenge of globalization is to acquire a new business dimension, with the market growing, individually or together with partners and allies, where they are specialized enough to be able to attend an international market.

2.1.2 Competitiveness

Competitiveness is the key to success for SMEs, the World Bank conceptualized it as “a set of factors, policies and institutions that determine the level of productivity of a country and therefore determine the level of prosperity that an economy can achieve" (World Economic Forum, 2005). In this way, competition may arise and develop any business initiative,

causing an evolution in the business model and entrepreneurship. Competitiveness does not arise spontaneously, it is not pure coincidence; it exists, it is created and achieved through collective efforts of learning and negotiation with all the actors of the organization (stockholders, directors, employees, etc.) and also by external actors (competition, market preferences, government, institutions and society in general).

SMEs are recognized worldwide as vital and significant contributors to economic development, job creation, health and general welfare of domestic and international economies (Morris and Brennan, 2000). SMEs require the incorporation of models that provide information about their capabilities to adapt to changing times, this allows the efficient, rapid response time to customers and suppliers, helps them become more productive organizations. Not to mention that for them "technology plays a determinate role in all factors of competitiveness: the products and production techniques but also methods of management, business organization and training of their most important resource: people" (Brennan, 2004, p. 5).

"SMEs have been recognized because they increase their technological and innovative efforts to reverse the effects of liberalization and globalization, also because they expand competitiveness in order to create better paying jobs and create spin-offs" (Pecyt, 2001;22). A country with uncompetitive companies Tends to trade deficit, to have external dependence and to face an ongoing industrial restructuring, which has a negative impact on growth and employment. States have an important role, although they must avoid falling into protectionist counterproductive, unjustifiable leadership or actions specific to the ineffective bureaucracy, influence, and wasteful of resources.

The process of globalization and openness of the economy are unavoidable, it has set own domestic markets to international competition scenarios. Today we can see that markets are won by companies that obtain relevant information, enabling them to be more efficient with their controls and make better decisions.

SMEs are in a highly competitive world that is based in the knowledge of the environment and its capacity to intervene, resulting that most companies disappear in early years, so every day the market and strategies have to be reviewed (Montaño, 2010). Meanwhile some enterprises are gone others are created. This gives a compensation effect, where the learning curve is cyclical. Therefore, there is a clear need for development of SMEs through:

- **Accumulation of internal and external knowledge.**
- **Use of knowledge in its integral development.**
- **Understanding of processes.**
- **Control through measurement.**
- **Capacity building of staff.**

But there is also the lack of definition of basic features, which is another of the weaknesses that has been detected, with three requirements:

- **Strategy.**
- **Maturity.**
- **Implementation.**

Defining the strategy can be complicated, but if the organization does not have the capabilities that will lead it to a mature state, is at the stage of implementation of the strategy where it will find the greatest difficulty to reach its goals.

The major shortcomings in SMEs are the following:

- Personal unskilled or unprofessional, in the case of family businesses, it is common that many jobs are filled by family members who have little or no training related to their positions.

- Lack of strategic vision and ability to plan long term, overwhelmed by the day to day, employers cannot find the time and how to discuss their goals in the medium and long term.
- Lack of information about the environment and the market. It is very expensive for SMEs or they simply do not have the structure to generate knowledge within the company.
- Lack of technological innovation: may be due to lack of resources, or for not having the spirit of innovation needed.
- Lack of training policies: it is considered an expense, not an investment, failing to spot the long-term benefits it can generate.
- Work organization outdated: having wrong management approaches and not even identify them, remains as a problem to focus on healthy management practices.

These intrinsic characteristics themselves limit the development and sustainability of SMEs moreover, external constraints such as high tax burdens and inaccessible funding sources can be added to understand the reason why these businesses tend to be short-lived.
Therefore, it is important to consider actions like those taken by the UK government, which has adopted the philosophy of organizational learning to persuade SMEs that should increase their commitment to employees and organizational development (Chaston, Badger and Sadler-Smith, 2001). The apparent justification for this policy is that organizational learning is more effective and practical increasing the survival rate of SMEs in the early years of the new millennium.

2.1.3 Impacts and implications of globalization on SMEs

The impacts of globalization have resulted in various sectors of impact which can be seen in the following table.

Impacts in the sector	Internal impacts	Market
• Customers better informed. • Increased competition, especially international (global brand presence and consolidation). • International indicators. • Greater variety of products and services. • More access means to buy (on line). • More and better technology becoming more accessible. • Fashion and international figures. • Polarization of wealth and knowledge. • Larger companies that make better use of resources and market.	• Shrinking of profit margins. • New products and new presentations, new packaging and proposals. • Some market segments, not inclined to price and quality. • More specialized companies. • Increased protectionist barriers imposed by major competitors. • Businesses increasingly changing.	• Different types and degrees of focus. • Strong strategies. • Highly competed market. • Strong and well entrenched leaders. • Resources and capabilities that can attack the leader. • All companies, even the leader ones have weaknesses. • More competitors, with different offerings and more aggressive, many of them with better prices

Table 2. SMEs impacts on the domestic market impacts
Source: Authors

The scenario facing by the SMEs is uncertain, caused by the high competitiveness in markets And globalization, which is magnified because response capabilities of the companies in this sector are ambiguous, originated by a real lack of processes and teamwork, getting that planning does not meet expectations.
It is also noted that many of the organizations that have survived became subcontractors of large transnational companies or remained isolated in small niche markets. Only a few have succeeded, thanks to that, they opted to apply the knowledge to invest significantly to improve their plants and technological skills, retrain and train their staff, transform their management principles and promote the exchange of business management.
SMEs have to compete in a globalized world where the skills and knowledge are the weapons of differentiation that can support their decisions, the successful implementation of best practices and the development of better future positions. SMEs must survive and prosper in an era of competition in information and creativity, which must use metrics derived from knowledge, strategies and capabilities.

2.2 Knowledge as a resource

2.2.1 Knowledge

The theme of knowledge has in itself been the subject of historical debates from the perspective of philosophy, psychology, epistemology, education, anthropology and many other disciplines. While such discussions delve into the subjective and objective processes of the origins, transmission, application and development of knowledge, for purposes of this section, we only consider the theoretical concepts that represent a utility value for small and medium enterprises in the world.
Several authors point out different classifications of knowledge. However, one of the most important is the classification proposed by Nonaka (2003) who divides knowledge in tacit and explicit. Tacit knowledge is learned trough experience and by empirical practice. On the other hand, explicit knowledge is that which is presented in an organized form and is articulated in a language, transmitted mainly through the processes of formal education. It is in the last category, where the types of knowledge used by SMEs for their daily operations emerge as a tool to remain in the sector and to reach global projection.

2.2.2 Knowledge in SMEs

Mintzberg (2009) reports that in the practice of some professions it is difficult to trust in the effectiveness of intuitive professionals such as doctors or engineers with no college education. However, day by day, managers can be seen without the slightest official instruction and leading businesses and companies based solely on common sense. This situation is a common trait in a large number of SMEs that have had their birth in the entrepreneurial spirit of their founders, but have lacked the formalization process that requires a global company. In this context, it is vital to establish the knowledge management processes to improve company operations and ensure their permanence in the market by creating the same value by linking strategy and operations of the organism with the practice of creation, dissemination and appropriation of knowledge (Estrada and Dutrénit, 2007).
Moreover, because of the globalization of knowledge-intensive work, advances in information technology and the globalization of information systems themselves (Gregory, Prifling and Beck, 2009), the process of knowledge becomes an issue that demands attention and importance. Thus, for purposes of capitalization of knowledge needed in SMEs, we find

three categories: cognitive, advanced practical knowledge and knowledge of systems (Quinn, Anderson and Finkelstein, 2003). Cognitive knowledge refers to the basic domain of a discipline achieved through training programs and certifications it is a "what". Advanced practical knowledge is the ability to transform theoretical knowledge into practical knowledge, it is to "know how". Knowledge of systems regards the accumulation of actions and interactions behind a task; it is to "know why".
Thus, the owner, director or manager of a SME must have the minimum theoretical and practical elements to exploit the information, resources and capabilities of the organization and its environment, based on background knowledge that will enable operations and projects in a global environment.

2.2.3 Particular circumstances and resources of SMEs

The different orders, products, processes, services and technologies in SMEs represent an ocean as vast as rich for research and knowledge development concerning SMEs. The details regarding the location of the company, its regional vocation and local advantage, economic performance and potential for innovation, are themselves, opportunities of projection when facing the challenge of global interaction. The knowledge and strategic use of such factors must be for employers of such entities to ensure a strong positioning and raise their level of competitiveness. As noted by Härtel (2010), "We live in times where complex problems dominate the headlines. From climate change to the global financial crisis, those currently in and entering management roles are not only faced with addressing such "wicked" problems, they are expected to overcome them". This fact has not escaped the area of SMEs, since given their impact on most economies; entrepreneurs in this sector should ensure their survival facing such circumstances.

2.2.4 Knowledge creation in SMEs

Therefore, SMEs require mechanisms for creating sustainable value in their own business, it is, knowledge of the industry. Under a systemic approach they also need knowledge of trends and environmental variables shifting its scope and impact on their processes, technology, structure and human capital. Particularly on the latter, outstanding cross-cultural focus of the training process (Yee, Van Dyne and Ang, 2010) even for SMEs; business practices, skills, talents, languages and different perspectives of leadership cultures, hold as an important input in the process of internationalization of a firm.
In addition to this, the potential of network management in globalization is an opportunity for marketing which should be used as a global resource where all stakeholders, including SMEs, work together to strengthen their own market positions (Weis, 2010).
Similarly, SMEs still need to ensure an environmental perspective geared to sustainability in its processes of globalization. Benn (2010), points out that "sustainability represents subpolitics- the holistic knowledge based, distributed and participatory issues that technological societies have to deal with".

2.2.5 Transformation of self-knowledge of SMEs to the overall picture

Based on the above, a model that proposes the transformation of self-knowledge of SMEs on benefits and opportunities of the global era is presented.
The set of resources, capabilities and regional and local vocations surrounding SMEs becomes the input required to potentiate their action.

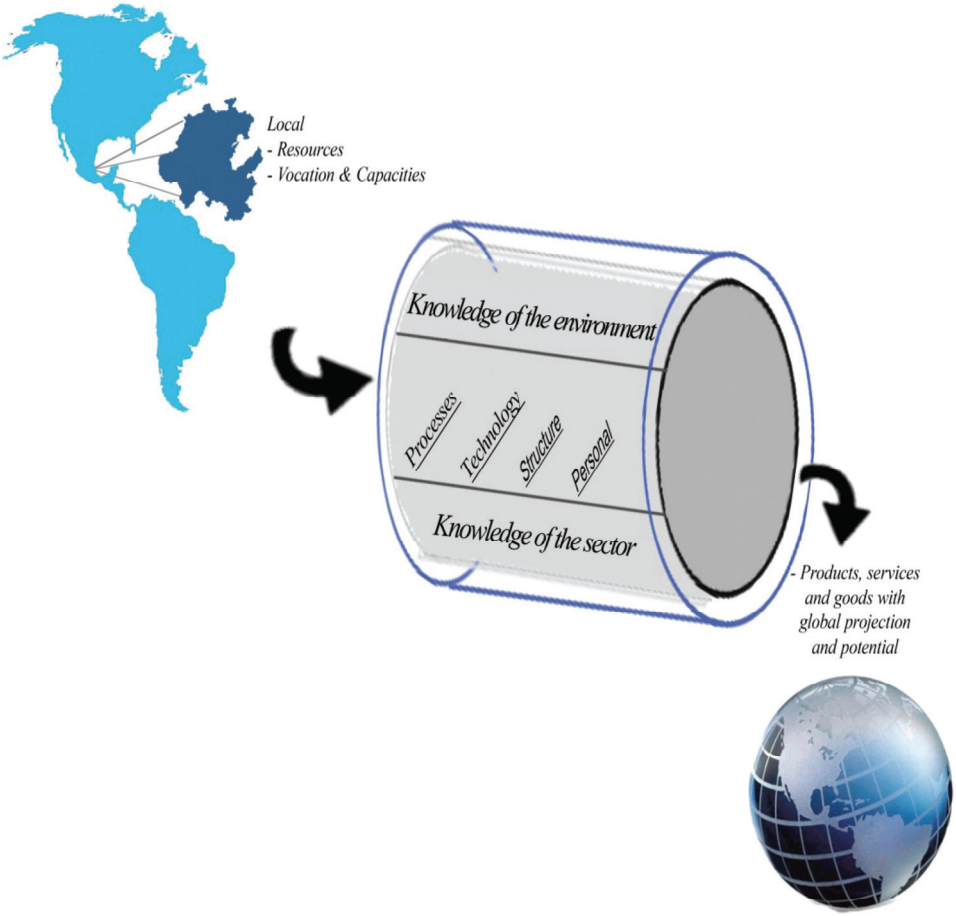

Fig. 1. Transformation of knowledge of SMEs in the globalization era within organizations

In the first phase human capital, material and financial resources, combined with structural, economic, political, cultural and educational issues of the environment penetrate organizations, including SMEs, as the basis for their operation and development.

In a second step, the aspects of internal and external knowledge are combined to exploit external environmental factors and understanding the market and sector, relating knowledge of the entity's internal environment such as production, processes and management, its technology, structure and organizational design and the potential of its human capital.

Thus, the result is a range of goods, products and services of local manufacturing, strategically planned with the use of resources and opportunities that the environment reports, to create the occasion to acquire global projection and potential.

2.3 Future of SMEs

After an analysis of the factors that enhance the business environment, we can say that the future for SMEs is encouraging. SMEs, which have generated a rigorous self-knowledge of its customers and know the market, show that can compete with quality and intelligence. The careful selection of a suitable name, investment in designing an excellent package, taking advantage of alternative advertising media, coupled with the agility that can characterize these firms in their management, gives them the possibility to react quickly to the subtle changes from day to day and face the future.

SMEs have to compete daily with large national and transnational enterprises, their ability to survive depends on their attitude and their strategic planning (Navarrete and Sansores, 2011). This planning must understand the negative and positive areas of opportunity. One advantage is the flexibility provided by the smaller size of SMEs to adapt quickly to changing environments and markets, applying information technology and communications.

To understand where SMEs will be in the future, it is necessary to know their current position. Llopis (2008), notes that small businesses have been growing increasingly reaching a more stable position within the corporate landscape. What is a fact, are the positive qualities that have brought about small and medium-sized businesses: they generate new jobs, create opportunities for social mobility, help and encourage economic efficiency (Brudërl et. al, 1992). It should be emphasized that these benefits are only possible if companies are able to survive.

Loveman and Segenberger (1992), note that the actual position occupied by SMEs in the current economic conception disagrees with the conception of years ago. Small businesses are being the key to regenerating the economy. That is why large and small businesses should be complementary, with the little ones to boost the economy and the large ones will consolidate it.

The adaptive capacity of organizations to environmental conditions is the main variable that is related to the survival and growth of SMEs (López and Contreras, 2009). However, this is not the only variable; others are:

- Manage the business too closely linked to specialized sectors where there is a great experience, but with great difficulty to access other areas that may contain new opportunities for success.
- Tireless search of results in the short term, without regard to strategic plans and long-term future.
- Very limited resources, both human and technical or economic. Little support from financial institutions in the innovation processes.
- Low qualifications of managers who escape towards larger companies for safety and higher payrolls, affecting human capital for SMEs.
- Decision making is often the result of experience and intuition. There is a lack of reflection, team work, analysis of the sector and market studies.
- Poor knowledge management. Very many small businesses still unknown that they have a very valuable asset: the business knowledge, and therefore cannot take advantage of it.
- Exacerbated individualism which leads them to act alone without sharing resources and avoiding inter-relationship.
- Imitation versus innovation, so SMEs are not suited to needs but to fashion trends, especially in the field of new technologies.

However, not all is negative. These variables play a role in the survival of SMEs, but it is not impossible to overcome them to achieve a prosperous future. Today, even a SME can play with an advantage in many issues, contrary to a large company. Dynamism and flexibility of SMEs are in themselves a competitive advantage over big corporations.

Technology today plays an enormously important role as far as opportunities are concerned. Technological advances have always set production improvements and advances in the processes. Currently, this has been increased by the addition of applications derived from the information technology and communications. Companies have immeasurable technological tools to intervene most effectively in their operations and manage each and every one of the departments, areas, activities or processes in the industry. Even if one of these applications does not exist, it is possible to make it tailored to its needs. Neither the software nor the hardware of today is a problem for a SME budget. Such is the case of Cloud Computing which allows companies to quickly grow, depending on its needs, without having to add equipment, software or personnel. Through the cloud, customers can access on demand to a large number of dynamically allocated computing resources, allocating them in enormous processing and storage machines without installing locally, which translates into considerable savings of all kinds, including energy consumption. This new paradigm is changing the business model of companies based in the supply of services through information technologies. Due to low investment and maintenance costs and the opportunities available to take the business to a wider market, cloud computing becomes the ideal tool for small and medium-sized businesses without large IT environments of information.

In general we can indicate a number of features that predominate in the successful companies of the coming years, which are a consequence of technological incorporation processes.

First, it highlights the need for qualified personnel, accustomed to the use of applications of information technology and with proactive mindset to adapt to the changing environment. All within flexible organizational structures will be adapted to the new market behavior. All administrative jobs will be equipped with a personal computer connected to a local area network and Internet access, for example, for electronic fund transfers from financial institutions or to obtain information and solve business with government through electronic apps.

Purchasing centers will be developed and the use of electronic data interchange will be extended (EDI) for the procurement, seeking to optimize inventory and reduce administrative costs (time of data entry errors, saving paper, messaging, etc.).

Industrial companies will be provided with flexible manufacturing systems that will allow them a rapid adaptation to changing demands (CAD / CAM) getting close whenever possible to manufacturing by order.

Participation in networks of SMEs to expand the field of action, sharing resources and experiences and use results of joint research work will encourage the integration in the technology and use of policies to support business innovation.

Information systems will be designed to provide processed data of the behaviour of markets (product, pricing, and customers) and to aid decision making by a management team involved in the results and business goals. Along with information, the concept of connectivity will remain promoting real-time communications within and outside the company.

Finally, we must highlight the fact that competitive companies of the future will have business strategies client-oriented, through the use of mass media (Internet, interactive television) and attention to customer service.
Companies specialized in the utilization of new commercial channels will appear as responsible for making marketing work by using such networks and to distribute products or services developed by other companies, acting as the sole contact between manufacturer and consumer (Llopis, 2008).
In the new scenario it will be no possible of finding lasting solutions to business problems. The speed of change that is needed for permanent adaptations, the connection at all levels (everyone connected at any time regardless of where they are in) and the increased importance of intangibles (information, services, software) are the three pillars around which economic systems of the future will be developed.
Small businesses that compete with other much larger, must know how to move quickly to search for new products or new pricing systems, must have flexibility to avoid direct confrontations with much more powerful competitors and have creativity and imagination to be able to transform the force and size advantages of their rivals (Llopis, 2008).
The SMEs of the future should be light, agile and effective, able to change objectives, plans or technologies to dynamically and accurately, and act on strategic planning.
Only SMEs engaged in strategic planning, will achieve flexibility and will make links with other companies to survive, and moreover, be properly positioned in this competitive environment.

3. Conclusion

SMEs are an important part of the productive sector in all countries of the world. However circumstances for them in each country are different. The problems begin since the definition of SME, because for each country depends of different topics to considerate: organizational culture, planning, leadership, organizational structure, staff, annual turnover, annual balance sheet, and others.
Globalization obliges SMEs to acquire a new corporate vision. For this, SMEs of the global market should have a new methodological approach to understand competitiveness, and through the best practices, take competitive advantage.
Markets are won by companies that have obtained relevant information tools, because they can have better control and make better decisions. SMEs managers and founders should bear that in mind.
There are different factors that help SMEs to develop. They are:

- Knowledge.
- Market.
- Competitiveness.
- Innovation.
- Internet.
- Technology.
- Quality.
- Service.

SMEs development and strengthening become day by day key priorities for economic and social development of nations. Nowadays SMEs have to worry about strengthening business as a whole, rather than their size.

Must SMEs should assume a position of critical self-assessment to identify their strengths and weaknesses and implement improvement programs and thereby penetrate successfully in international markets.
The use of internal and external knowledge of the business environment becomes the tool that will enable them to successfully face the future.
Knowledge, through research development and innovation, promotes the competitiveness of SMEs to maintain market position and confront globalization.
One of the biggest challenges that SMEs face today is to professionalize their founders and managers not only to remain on the market, but to establish the basis for a successful business succession that goes beyond family issues and assure their existence through generations.
The SMEs of the future should be agile and effective, able to change their objectives, plans or technologies dynamically and accurately, and act on strategic planning. Only SMEs engaged in strategic planning, will achieve flexibility, and will make strategic alliances with other companies to survive and be properly positioned in this global competitive environment.

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7

Intelectual Capital in Context of Knowledge Management

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1. Introduction

Success of every organization depends today more and more from human capital as well as from physical capital. When we consider human capital as a combination of qualification, skills, abilities and intelligence of people, that means as a factor, that gives special, original and extraordinary character to every business or not business organization, then we know that namely employees are source that is able to learn, able to make changes, innovation and possibility to have creative effort, that means source, that is properly motivated, and by this way they will secure long – term prosperity of its organization.

When organizations and firms want to be successful in present world, they must be willing to learn. That demands to consider that they are not perfect and they must improve themselves by this way that they will enable their employees to develop. Therefore modern firm must know needs of permanent improving and to find possibilities how to receive recognizing. Some of the managers have found out that they need qualitative strategy that can help to achieve success at heavy competition markets in present dynamic time and strong globalized tendencies. Inseparable part of such strategy must be also securing of qualitative human sources, therefore it is necessary to invest to this area. From the same reasons firms should find proper Access to the effective development of its own employee's development and to be interesting about proper process and methods for evaluation of such processes.

In present globalized world with dominant market economy, one of its characteristics is also fact, that there is deepening difference between accounting and market value of the organizations. More and more knowledge of its employees decide about competition advantage and success on the market. It is indisputable that every firm disposes except tangible assets also with hidden assets that cannot be reported in financial reports but they are very important and decisive for its wealth in modern world. There is knowledge, abilities and skills of the employees – that means assets, for which it is necessary to create qualitative and effective process and methodology how to identify, obtain, measure, report and evaluate them. Development is showing the importance of such hidden, not visible wealth, that is still growing and we can assume its further growth.

In last years we meet many times idea that key to the success in competition environment of global economy is effective using of knowledge, ability and creativity. Rising of new discipline – knowledge management is response to this demand, since it concentrates every trends of development in last time and moreover it is trying to develop systematic way how

to identify, obtain, maintain and use intellectual capital. Mainly mutual exchange of knowledge support significantly acting of the subject in knowledge society that means transition to the knowledge firm. But there is necessary to create such firm's atmosphere, where value of intellectual capital and managing of knowledge is the highest priority.
Goal of this chapter is to specify place and importance of intellectual capital in process of firm's value creation, to emphasize necessity of investment to the human capital (as a part of intellectual capital), to analyze accesses to further profession education of employees in organizations and mostly to present possibilities and ways of measurement and evaluation of human capital investment profitability in context of knowledge management in present globalized world.

2. Intellectual capital and its management

Present time put still higher demands for qualification preparation of people in labor relation, but also of such people, that does not have employment in present time but they are searching to apply at labor market. Today man preparing for future profession has extended possibilities to choice study program at secondary and high schools. But today employers cannot rely only to the school system about sufficient preparation of absolvent for practice according their needs and concepts. Such reason is only one of the whole lists of others that result from sophisticated business environment, change of human needs and their demands for goods and service quality, intensive technical development, changes in organization and work characteristic, development of information Technologies, globalization and internationalization of economic activities, etc. This is demanding that every employee in productive age have been prepared no matter of their work position to react to the new tasks and to accept challenges of the environment for further education and development of their own personality.
And here employer (business or not business subject) plays significant and important task, as well as supported and organized education and development activities of the subject. Such activities must have permanent place in the firm's strategy, where personal strategy is included. Education and development of employees must be orientated to the decisive factors of organization success that contribute to the achieving of competition convenience and profitability of investment to the human sources.
Question that is not answered is still measuring of human capital investment profitability. When manager of human sources does not know proper methods for evaluation of human capital investment profitability and when he does not have enough experiences with its evaluation, he is hardly able to present convincing arguments before firm's management for supporting of their further development.

2.1 Intellectual capital as a part of market value of organization

Present market economy is orientated mainly to the expressing of direct financial revenues, but there is growing more and more force to the expressing of not tangible capital, since it is also part of the market value of the subject. In present time expressing of organization's value must be more orientated to the maintenance of key employees and to use their knowledge and innovation abilities as for emphasizing of image, brand as well as for basic equity growing. Very soon such organizations that are using ability to find and develop human capital necessary for obtaining of competition advantage, will have better position.

Manager's demand in present times more and more information about investment profitability not only to the material provision and Technologies, but also to the human capital. Investment in technology is very easy to report and evaluate then investment to the human source. Such problems exist and they cannot be without recognizing. But in present time employers are not identifying enough with philosophy of human capital investment, many times investment to the employees are expressed by the cost that are comparable (sometimes higher) with cost to the physical capital.
Improving of market position of organization presents very sophisticated process from the view of time and intellect. Picture 1 shows connection between market value creation and individual capital in organization.

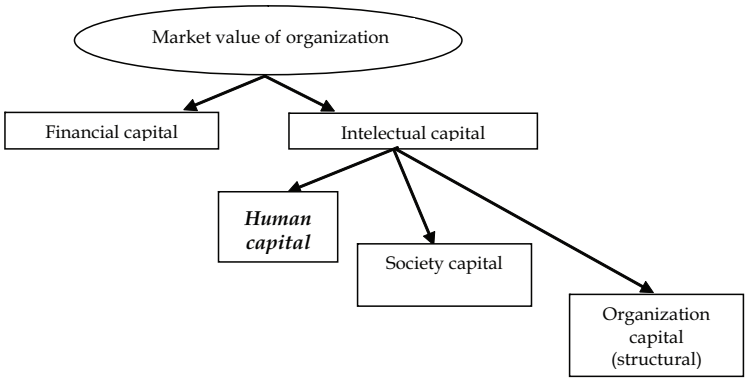

Fig. 1. Process of organization value creating

Market value of organization creates financial and intellectual capital:
- *Financial capital* presents monetary assets by the way of cash and securities,
- *Intellectual capital* is presented by organization knowledge using for creation of organization wealth. According Armstrong (2002) it can be stocks and flow of knowledge disposal in organization. Such knowledge can be considered as not tangible sources that contribute to the quality of internal processes and create value added. Moreover such sources content value of relationships in the frame of organization and external relationships. Intellectual capital is then combination of human, society and organization capital.

- *Human capital* is created by employees, by their inherent and obtained knowledge, skills, abilities, talents and competences. Human capital can be considered as dynamic index and very important factor for organization prosperity relating to the present time. From the view of future success, perspective and development of organization, quality and development of such aspects of human capital is very important, and they must be used effectively, and they must help to go ahead. In this case it means *human potential*, as file of dispositions and assumptions of people, orientated to the performance of such activities that enable organization to go ahead and increase its competitiveness. That means ability of man to produce products and services and to transform himself. Also human capital contents elements of dynamics and it is related more and more to the future time. (Differences between human capital and human potential is not so significant, in practice these concepts are replacing and differed not so consistently.)

- *Society capital* presents stocks and flow of knowledge, resulting from the relationships in the frame of organization and outside it. They are such characteristics of society life (relationships, norms, expectations, liabilities) that enable participants to work common effectively on goals achieving. It is relating to the institutions, relationships and norms that create quality and quantity of social interactions in the society. Not only stock, but also flow of knowledge is decisive for intellectual capital, therefore in organization such processes, during which people work and act mutually are important.
- *Organization capital* presents institution knowledge created and owned by organization that is stored in databases, manuals, etc. Here are also working processes, organization norms, technological processes, know-how, brand, etc. It is marked many times also as structural capital.

Human capital can be considered as an important part of market value of organization from the view of employee's ability to make such things that will secure success. Theory of human capital put accent to the value added by which people contribute to the organization development. In present time there is more and more accent to the idea that considers people as a wealth, assets, not as a cost. Human capital is defining in expert literature from various points of view, we can mention following definitions:

- Davenport (1999) – it is summary of inherent and obtained abilities, skills, knowledge, habits, motivation and energy, which people dispose and which can be used for production during certain period. Ownership of human capital is related to the person that disposes mentioned characteristics.
- Bontis (1996, 1998) – it is production factor in organization, that means combination of intelligence, knowledge and skills, that gives every organization its special character. People are such elements in organization that are able to learn, innovate, think creatively, initiates and realize changes. At the same time this is necessary assumption for long term successful acting on the market. Bontis defines not tangible sources as factors that are different from financial and material property and contribute to the firm's processes that create value and that are under firm's control.
- G. S. Becker (1993) divided human capital as follows:
  - *general,* that can be used in various types of employment and
  - *special,* used only in given organization or firm.

  Such division of human capital is basis for debate about motivation and need of firm´ investment to the education for mentioned human capital types.

Managing of human capital means obtaining, analyzing and reporting of information about strategic investment and decision in area of human sources management, how it is giving value in organization. Characteristics of the definition of human sources capital is according Armstrong (2007) using of tools for measurement of certain leads for people managing that is considered as a wealth, as organization assets, and it underlines that competition convenience can be obtained by strategic investment to such wealth by the way of employees obtaining and stabilization, by managing of talents and programs for their education, development and career.

2.2 Investment to the human capital and access to further professional education of employees

Basis of the creation, or increasing of human capital value means investing of monetary as well as not monetary tools in present time with goal to achieve monetary or not monetary revenues in the future, that means not only satisfying of present needs. Theory of human

capital management supports idea of tools investing to its creation as an investment, not as consumption. Every cost connected with spreading of the content and increasing of effectiveness is considered as investment to the human capital. Thy can be unrepeated, or they can be realized as long term activities, but their result are always expressing in long time period. Human capital is source of revenue and it presents by this way stock of the economy wealth.

Investment to the human capital is divided according Vodák – Kucharčíková (2007) to three basic aspects:

1. Forms, that means for example school (formal) education, further Professional education, training at working place, education outside the working place, etc.,
2. Effects to the volume of income and consumption,
3. Level of investment part, measure of revenue, as well as intensity of connection between investment and revenue.

According Becker (1993) individual's fortune plays during process of human capital creation also very important task that is connected with environment where individual had been born and where he lives. During investment to the human capital abilities of individuals have also their importance. More able people obtain commonly more education and training then less able people.

According Kameničká (2003) by investment to the human potential individuals are improving their knowledge and abilities, they increase quality of their human sources and consequently their personal and monetary incomes. State and creation of human capital is significantly influenced also by inherited disposition, as well as family environment, social background and environment in which individual is living and developing.

Investment to the human capital – as a production input – can be realized in organization by various ways. They can be orientated to the following:

1. *increasing of quality and improving of working abilities, skills and increasing of knowledge of employees* through firm's education,
2. *improving of working conditions*, when firms secure for their employees still modern equipments and still more effective protection working tolls by which they can prevent health damaging of their employees or rising of work injury,
3. *improving of health state of employees*, that means regular preventive health care, recondition bath residence, offer for fitness centre, swimming pools or other sport's activities, with regard to the social program of employer.

With regard to the analysis of human capital investment they are in economic theory mostly evaluated investment to the education. Qualification investment profitability can be compared with investment to the tangible (material, physical) capital.

Investment to the education leads to the investing of financial tools, and at the same time they bring various effects. Representative of new theory of economical growth – Lucas says that investment to the human capital bring so-called internal and external effects:

- *internal effects* are rising when mentioned investment contribute to the increasing of expert and Professional abilities of people and secure by this way growth of employees productivity,
- *external effects* that are rising in case when by the increasing of abilities, knowledge, skills and knowledge of people there is increasing also productivity of other employees and firm's profitability as well as total effectiveness of the whole economy.

Such external effects are considered as a positive externality and they are becoming very important factor of long – term growth of every economy.

Human capital topic has very big importance in economical theory, as well as theory of human sources management that means during searching and analyzing of job market, during statement of wages level, during analysis of factors that influence economic growth speed and economic abundance of the country, etc. In present time that is characterized by speed and extend installing of technical and technological innovation, most important factor of technical development and production factors productivity growth is increasing of human capital value as well as total economic growth that is important for further education that brings knowledge growing. New obtained knowledge is necessary to adapt innovatively and creatively to the present needs and possibilities of concrete organizations and whole economy.

Therefore support of profession education organized by employer's subjects is basic assumption for further development of organizations. It is necessary to involve to further education in organization every profession categories of employees that means laborer career, technical and economical profession as well as managers. Participant of firm's education need to see purpose of his task, therefore he must be ahead informed about conveniences resulting and by this way he is motivated to the education. Firm's education can be distinguished as three basic accesses:

- *learning running in the firm by education activities* – that react to the moment needs of the individuals or firm and they lead to the removing of differences between real and demanded qualification and that cannot have education or developing effect because of their casualty,
- *systematical access to the education* – it connects firm's strategy and personal strategy with system of firm's education as one of the personal processes. Firm's education is from the view of such Access considered as systematic process in which there is change in working behavior by the way of structure change of knowledge and skills of employees
- *conception of learning organization* - it is complex model of people development in the frame of various type organizations (it is also as following process: learning firm → learning organization → learning society). In such organization employees are learning continually at every opportunity from everyday experiences. That is target managed process that enables learning to be done rapidly then changes forced by environment. Through learning of its employees firm is becoming able to create, collect, transfer, improve and apply knowledge in broad internal and external environment and according a need to modify its behavior. By this way we can consider also in this area with rising conception „*knowledge management*", that means Access to the obtaining, change and application of knowledge in the firm, improving of human capital as one of the intellectual capital element.

Practice of successful firms proved theoretical idea that most effective education is good organized *systematic education* that is orientated to the forming of working abilities in larger sense, including forming of individuals characteristics and values necessary for creating of healthy interpersonal relationships at working place, etc. among people that are working in the firm and it is running as a cycle. Profession education is becoming part of human sources management, through organizing and supporting of firm's employees education firm proves their value and importance. By this way firm gives employees perspective and enables them at its own cost to increase their competitiveness at job market. By support of employee's development it contributes also to the increasing of quality and effectiveness of internal processes, as well as to the development of the whole firm.

With regard to the effective education that will provide organization with invested Money profitability, it must be systematic and it must result from total firm's strategy, which demands support of this idea by every managers. According Koubek (2001) it is still repeated cycle, resulting from principles of firm's education policy, following goals of the education strategy and based on the carefully created organization assumptions. Assumption is existence of experts group with initiative leading to the securing of expert and organization side of profession education. Existence of education program properly equipped training place or properly created conditions for education and development at working place is also very important.
Own cycle of education has four basic steps, illustrated at Picture 2, and each of the steps has its own importance and process of realization which is still improving by the practice. Most sensible and complex step in this cycle is evaluation of education results and answers to the question „To which measure had firm's education achieved its goals? "

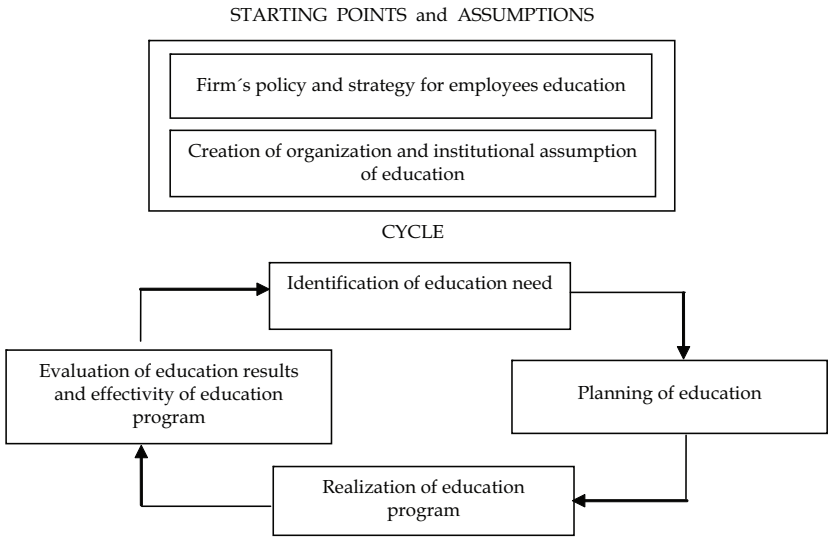

Fig. 2. Process of systematic firm's education and its cycle

Theory of intellectual capital (that is unthinkable part of human capital) directs its attention to the practical activities connected with obtaining, choice and stabilization of employees, their remuneration and social development, measuring of people values, learning in organization and knowledge management. In spite of the fact, that such theory can be viewed as philosophy of human sources management, considering employees as a wealth (assets), it underlines that this wealth is not ownership of the employer. People – employees themselves decide about investment to their future and they can choose how and where to invest.
We can see knowledge value at least from three points of view:

- *individual point of view* – man can have benefit from acknowledgement that by his knowledge he contributed to the firm's success, and he can obtain Access to the knowledge that will help him in further work, and enable him to learn new things and to participate at the team activity, etc.

- *from the view of whole firm* – at the level of the firm contributions of knowledge management are documented by the way of numerical data as well as by collection of cases in which contributions of knowledge management are clearly expressed. One of the demonstrations is for example also changing system of human sources management (for example firm is more interesting about forming of own employees, their stabilization, decreasing of fluctuation, etc.).
- *from the view of clients* – business subject that is orientated to the client should deal with client's opinion; it should take time to deal with problem solving in relation to the clients, satisfaction of the clients, etc.

When we consider human capital as one of the basic production inputs and at the same time as a key part of market value of organization, then it is necessary to put emphasis to the *measuring of human capital value*. Measurement can provide basis for strategy creation of management and human sources development and consequent monitoring and evaluation of personal work effectiveness. Moreover firm's practice shows several other reasons why it is necessary to measure and evaluate intellectual capital.

2.3 Measurement and evaluation of profitability from human capital investment

Contribution of human capital to the economic growth and prosperity of the society is recognized long time by theory and practice. With afford to define optimal process form the view of its forming big attention is given to the quantification of human capital rate on economical growth. Mainly contribution of human capital to the economic growth of some economy is considered as most important social contribution brought by human capital for society as a whole. But from the view of theory measurement of effects and quantification of human capital rate of economic growth is still not solved item.

Knowledge, skills and abilities of a man are considered as special form of capital also due to the fact, that their development is in time very sophisticated and it demands rather notable material sources. At the same time similarly as physical capital they secure for the owner and user certain value (revenue). Human capital is specific by the fact, that whole time it is connected with its bearer and consequently it is not possible to sale or stole it. And since there is not existing special market with human capital, his bearer (individual) can rent his own capital on job market. In market economy every man can decide himself where, when and for whom he will work, that means how he will use his own human capital.

Complexity of this problem can be explained according following four reasons (Starovic a Marr, 2001):

1. *historical reason* – accounting rules have been created for tangible assets that have been main source in industrial area. Accounting reporting cannot react to the changed claims of the new economy flexibly. Some experts have the same opinion that implementation of intellectual capital to the accounting system is not possible due to the not tangible character and relative value of its individual elements.
2. *without possibility to measure not tangible assets* – it is not possible to measure them and to evaluate their influence. Many processes are not predictable and they have not expected consequences.
3. *relatively important character* – what is valuable for one organization (firm, society, company), it is not important for other one, that means changing importance.
4. *reason due to the existence of both intellectual capital dimensions* – static dimension means that individual parts of intellectual capital can be measured and evaluated, dynamic

dimension lies in the fact that such components are acting in mutual interaction as a system and by this way their importance for the society is duplicated.

Measurement of human capital has been defined by British Incomes Data Services (IDS, 2004) as something „that is connecting with relation, correlation searching and in ideal case casual connections between various data files about human sources during using of statistics methods. " Chartered Institute of Personnel and Development CIPD, 2004) underlines that measurement of human capital „is dealing more with analysis of present skills of employer rather then declared programs and policy of human sources. "

Measurement and evaluation of human capital is very important part of its management, it is becoming also assumption for effective management of whole organization. Management of human capital is becoming according Kearns (2005) expression of organization value through people, according „development philosophy, when development of people means everything that change value for organization. "

Managers should be interested about methods for human capital evaluation, since they means help for decision due to the following reasons:

- human capital is key part of market value of organization (research of CFO Research Studies in 2003 found out the value of human capital presents more than 35%of total sales of organization),
- people in organization are source of value added (it is reason for estimation of such value as basis for following of personal policy effectiveness),
- process of identification for measurement ways and process of finding and analyzing of information is orientated to the organization attention to the changes during obtaining, stabilization, development and optimal using of human sources, etc.

It means also to know decisive driving power of people management and to model effect of their possible change. One of the views is also afford to increase job performance, in case when managers and personalists can see area of human sources as a part of the system for realization of the firm's strategy.

2.4 What are possibilities of measurement and pricing of human capital?

Evaluation of intellectual capital can be realized by measuring and pricing of its individual elements through following:

- *measurements methods* – that means finding of quantitative or qualitative marks. Result is evaluation by number, that means index of intellectual capital elements that can be expressed also as complex index of intellectual capital,
- *pricing methods* – that means expression of monetary value estimation that is linked to the utility of evaluated object.

There are several accesses to the human capital value measurements, but till this time there has not been accepted unified methodology (neither in academic area, neither in practice). Basis for installment of system for human capital measurement is to know that people and their development do not present cost for organization, but investment to the future. Without measuring of human capital employer does not need to realize neither its human potential nor the fact if he invested effectively to his own employees. Without measurement effective management is not possible.

For example Anderson created tool for evaluation of human capital based on the three key factors, namely harmony, cost and value:

- *harmony* – it will show, if management of human sources is in connection with organization goals,

- *cost* – they measure real expenses invested to the human sources and personal work,
- *value* – it estimates results from human sources.

When we admit importance of achieving of human capital conveniences, it will lead to the fact that in expert groups there is great interest about methods for evaluation of its value, rising approximately in 60-ties in 20.century, but these ones had not been then accepted by organization. For example Bontis (1998) suggested for the need to measure human capital three models resulting from accounting of human sources, namely: *Cost model of measurement, Models of human sources value and monetary models*.

Further we will mention three methods from the list of known and published accesses to the human capital measurement:

- *Models of organization performance* (Nalbantian, 2004) created by Mercer Hunan Resources Consulting, based on the following elements: people, working processes, structure, and profile of management, information, knowledge, decision and remuneration. Every one of these elements is acting in organization by various ways, and they create commonly so – called unique DNA of organization. When individual elements are created gradually, or they are not properly linked, there is not harmony and it is probable that human capital will not be optimalized and there will not be created possibilities for permanent improving of organization revenues. Identifying of such possibilities demands careful measurement of human capital value in organization and process in management that influence organization performance. As a statistical tool „analysis of internal job market"is used, that demands permanent reporting of data about employees and job market with aim to analyze real skills of employees. By this way we can make differences between the fact what is in area of human sources demanded with interest of personal policy and support of firm's goals and by the fact what is already acting in the organization.
- *Model Sears Roebuck* (Rucci, 1998) defines chain: „laborer – client - profit"(it uses also name „model of liability and commitment). Basis of the model is to maintain in organization high level of employees satisfaction with regard to their attitude to the organization and job. That means that employer creates „attractive environment"in the organization that will influence positively stabilization of employees, and lead to the providing of useful services and enforcing of demanded values with consequent satisfaction of clients, as well as extension of organization image in public. By this way there will be created „attractive purchase place", that will create conditions for „attractive investment place", since all this will influence asset growth, service profitability and income increasing. Model recommends making research of attitudes for measurement of employee's satisfaction with work and sense of commitment.
- *Methodology Balanced Scorecard* (Kaplan – Norton, 1992, 1996) called also „Card for balanced score" has been formerly created as strategic managerial system for management, stated for management of long term strategy, but also as a system for measurement used for improving of critical processes. Goal of the authors was to oppose tendencies of managers in organization to concentrate only to the short term financial profit. They came to the conclusion that none of the economic indexes can orientate attention individually to the critical areas of business. Managers' demands balanced offer of financial and service indexes. Their card of score demands from managers' answer to four following questions, or to view organization from four different points of view:

1. *Internal point of view* (Where organization can excel?)
2. *Financial point of view* (How stakeholders view the organization?)
3. *From the view of client* (How client see organization?)
4. *Innovation and learning point of view* (Can organization continue to create value added and make it perfect?)

By this way organization is orientated to the several critical key elements in the important target areas. In other words organization must manage and monitor everyday operations influencing its future development. Conception is based on three time dimension: yesterday (how it was yesterday), today (what we will do today) and tomorrow (what will be impact tomorrow – in the future).

Individual measurement of human capital still does not mean securing of effective management. Measurement is tool for goal achieving, not single goal. Gaining of data serves for managers to decision and business of further steps that can effectively manage intellectual capital of organization.

Measurement of human capital is therefore basis for its evaluation. In present time methods of intellectual capital evaluation can be divided to three categories:

- *Direct Intellectual Capital Methods* (DICM) – they identify structure of intellectual capital and they are pricing capital according its value by the help of some simple or single composed index in monetary expression.
- *Market Capitalization Methods* (MCM) – they express intellectual capital as difference between market and accounting value of the firm, for example VAIC.
- *Return on Assets Methods* (ROAM) – during measurement of intellectual capital they results from assets profitability, that is compared with average assets profitability in given branch. Average incomes of the organization that are not under taxation are divided through average value of tangible assets; result is compared with average in given branch. Obtained result is duplicated by average value of tangible assets, expressing annual average incomes of not tangible assets. Division of such incomes through average cost of capital is expressing value of intellectual capital, for example ROI method (Return on Investment).

Conveniences and disadvantages of mentioned methods using:

- ROAM and MCM method results from accounting data and rules, they are easily comprehensible mainly for financial managers, but they do not provide detail information about intellectual capital elements and therefore they do not have direct influence to its measurement and consequent management. But results of this method provide managers possibility to compare obtained data with other firms in the branch.
- DICM method provides more detail evaluation of intellectual capital, therefore it is more exact then ROAM and MCM. But they have also disadvantage that measured elements of intellectual capital have different importance for various firms and also definition of individual elements can be different in every firm. This causes that comparison of such indexes in the branch is complex and not accurate. Disadvantage is also low interconnection with financial reports of the firm.

In following text we will mention process of human capital evaluation according three chosen methods, mainly ROI, VAIC and Scandia Navigator:

2.5 Method of profitability (ROI – return on investment)

Other method used for calculation of investment profitability from tangible assets is for example (Return on Investment). Basically there is relation:

$$\mathbf{ROI} = \frac{\mathbf{Revenue - Investment}}{\mathbf{Investment}}$$

For evaluation of investment profitability from education this relation can improve and compare financial contribution of concrete education activity with its cost. ROI of education activity is expressed in % or as a rate of cost on the education activity contributions. Evaluation on such level is realized at high cost education activities. Investment profitability from education activity is calculated according following relation:

ROI (%) = Net contributions of education activity / Cost of education activity

Net contribution of education activity = Contribution of education activity – Cost for education activity

Many firms apply this method ROI in practice, mainly at high cost education activities. Reasons for using of ROI method are today in practice obvious. Managers are interested mostly about investment profitability from every program and projects, including management and development of human sources.

2.6 Method VAIC

One of the possibilities for evaluation of investment from intellectual potential using is VAIC method that means calculation of value added intellectual coefficient with regard to the difference between market and accounting value of the firm. Such process can be used also in the subjects that are on the filed on the bourse. Idea of such method is to not include personal or other expenses on employees to the cost due to the active task of intellectual potential.

Calculation of VAIC index consists from four steps:

1. *Stating of ability to create value,* that means value added as difference between total incomes and total cost of the firm, except cost for employees.
2. *Calculation of effectiveness of value added creation by physical capital*:

$$\mathbf{VACA = VA / CA}$$

Where: VACA - coefficient of value added of physical capital
VA - value added
CA - stock of physical capital in the firm

3. *Calculation of effectiveness of value added creation by intellectual capital*:

$$\mathbf{VAIP = VA / IP}$$

Where: VAIP - coefficient of value added from intellectual potential
VA - value added
IP - intellectual potential

4. *Coefficient of intellectual value added* is sum of both higher mentioned coefficients:

$$\mathbf{VAIC = VACA + VAIP}$$

Calculated coefficient shows effectiveness of intellectual and financial potential using in the firm. It is very simple tool for calculation and it is easy for using during management of physical capital as well as intellectual capital. VAIC method enables broad using either on

the level of one subject or at broader extend, during analysis of various economical units in the frame of individual branches of economy. At the level of the firm it is possible to use index for operative management, it is necessary only properly performed system of accounting that will secure Access to final data in short time interval.
From the results of foreign research made by this method we can see significant differences in effectiveness of intellectual potential using in various branches of economy. There are branches that do not create big value during using of enormous physical capital, but also such branches that achieve extraordinary results with low volume of stocks. For example low VAIC coefficient is usually in civil engineering and traditional industry, but also in medial branches and generally in area of services this index is higher.
Using of VAIC method brings positive results, but it has also negative:

- *Convenience* is its simplicity, as well as cost for using. When evaluation of effectiveness of intellectual potential using will cost more then results of this potential, it is not necessary to install it. Using of universal index without its adaptation to the conditions, in which concrete given firm make its activity (as in case of other method), secure possibility to compare results.
- *Disadvantage is* the fact that simple analysis of indexes does not regard many important facts influencing activity of spotted organizations and limits its usefulness. For example generally weak ones during comparison are subjects that invest big tools for investment to the physical capital – in this case there is significant variation of index value in consequent periods. Except mentioned this method does not deal at all with problem how to manage intellectual potential, it evaluates only effectiveness of yet existed practice.

2.7 Scandia navigator method

This method has been suggested by Swedish financial company Scandia that began to introduce in its annual report also report about intellectual capital (from 1994). It is using methodology Balance Scorecard and extends it with fifth area, human area and illustrates them as a house, as illustrated at Picture No 3. This method has been used at first only for internal needs, lately it was adapted to the universal conditions and from 1997 it is used by various firms. Authors of mentioned method (Edvinsson – Malone, 2002) orientated to five area of organization (that means financial, client, process, human area and area of renovation and development) that are illustrated by the „house". Basis of the house present renovation and development, walls of the house represent present time that means client and process area, roof means financial area of organization. In the middle of the house there is human area that means its inhabitants. Authors had stated 112 indexes for mentioned areas that are presented in % or financial value. After obtaining of every value intellectual capital of organization can be calculated according following relation:

$$\mathbf{IC = i.\ C}$$

Where: IC – intellectual capital
i – coefficient of effectiveness stated by percentage, expressing position or direction of organization
C – intellectual capital in financial expression

Due to the possibility to measure and evaluate human capital as a part of intellectual capital it can be achieved what is considerable in knowledge economy that means stating of

effectiveness for value added creation. Mentioned methods are chosen from till now suggested and published processes for intellectual capital or its elements. Also here we see visible development of the access to this problem. Firstly first methods have been orientated only to several parts of intellectual capital and not tangible assets, but experts are gradually trying to express real picture about state and movement of elements of such more and more pricing capital. Still not solved task is to suggest method that would provide complex view to the intellectual capital. Development in this area is continuing and its final goal is to give managers most precious source for every firm or organization. But it is not enough to secure organization with qualitative material means and Technologies. Value added is created by people that are bearer of human capital, without them technical conveniences and solutions would be not used, or they would terminate.

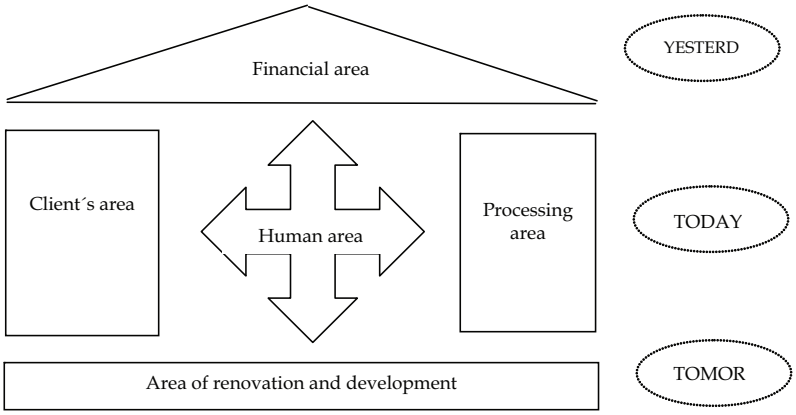

Fig. 3. Scandia Navigator Method

3. Knowledge management as challenge in 3rd century

In last time we meet more and more idea that key to the success in competition environment of global economy becomes effective using of knowledge, abilities and creativity. We are in society of permanent and rapid changes and in economy based on the knowledge that must be captured and managed. Response to such claim is rising of new discipline – knowledge management that includes every development trends of last time and moreover it is trying to develop systematic way how to identify, obtain, maintain, develop, measure and evaluate intellectual capital, or manage it in a word. Mainly mutual Exchange of knowledge support significantly active running of the subject in knowledge society that means transition to the knowledge firm. But in the firm must be such atmosphere, in which knowledge management would be highest priority.

Today conception of knowledge management is considered as most modern trend of organization development. But interest about knowledge is not new, new is only frequency of this terminology using regarding data, information, knowledge, methods for its obtaining, elaboration, managing, transmission, etc. Mainly knowledge management is important step during creation of future as a key factor of organizations success in 21st Century. New system of wealth creation appears in the world and it is still more and more influencing development of the society as well as business environment. Such development

can be characterized as advancement from industrial society to knowledge society. Therefore it is necessary that organization will be changed during change of firm's culture to knowledge organization.

3.1 How and when knowledge management originated?

With afford to penetrate to the basis of knowledge management it is useful to know roots, history, basis and collisions of knowledge management origin. Knowledge and work with knowledge is from old inherent for people. Roots can be found from Platon, approximately 400 years before our era, lately in Antique or in old Greece when medicine, logics, mathematics and philosophy started to develop. Further dramatic development of work with knowledge had been in 16th Century when attention had been given to the practical importance of knowledge. This is proved by experiments of representantives of so-called scientific society, for example René Descartes, Galileo Galilei, Isaac Newton and others. They started to collect, sort and systemize information, first encyclopedias originated that can be considered as first basis of knowledge. Lately in 18th and 19 Century there was classification of every available knowledge, academics and scientists stated what is scientific, new branches originated and former knowledge data changed its character.

Work with knowledge at the organization level can be seen still from 20th Century. When P.F.Drucker in 1993 predicted necessity to manage knowledge, he was not first one. Kenichi Ohmae stated before him that new originated economy will be based on knowledge. Till the end of 20th Century brings first clear limitation on which experts create practical conditions for it applying in the practice. Also here we can follow up three basic directions:

- *American conception* orientated to the artificial intelligence and technology, based on the knowledge knowing from the environment and also their providing to the environment;
- *European conception* orientated to the strategy with goal to obtain, maintain and using of knowledge in society and creation of knowledge culture;
- *Japan conception* orientated to the creativity and innovation.

  We are living yet several years in third Millennium, it is time of society based on knowledge, and knowledge had become most important way of capital in every organization. That does not means that during product production there will not be necessary capital, work or technical development, but priorities had changed: first role today has knowledge.

3.2 Levels of work with knowledge

In present time organization know that traditional sources connected with industrial era are not just ones where is necessary to give attention at mutual present transition to knowledge society and knowledge economy. Strategic source for 21st Century is knowledge, they can secure stable tempo of performance growth and competition convenience. Therefore knowledge are more and more in attention, knowledge management had become more and more spoke about in theory and practice of organization management, without regard to their task or activity. Basic principles of knowledge management can be applied in production firm, business organization, education institution, health organization, and also in offices of state administration. Such new access means confusion of concepts borrowed from various area of human activities, where belongs for example artistic intelligence,

creation of knowledge system, reengineering of firm's processes, management of human sources or organization behavior.
Knowledge can have attention at some levels, their explanation is subject of expert discussions among theoreticians and practicians, but still in present time it is not clear. For example Bureš (2007) illustrated knowledge management at figure No 4 as a basis for further levels of knowledge management. Basis is therefore knowledge management where products and outputs have application at organization level. Organization level creates basis for knowledge economy at national level and also for knowledge society at over national level.

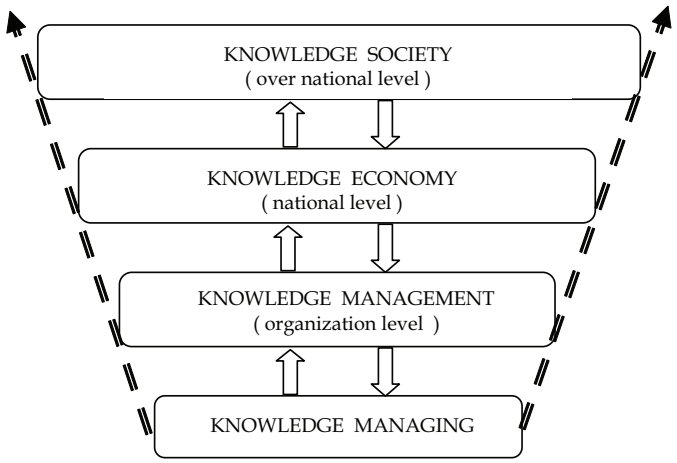

Fig. 4. Levels of attention given to the knowledge

In expert literature we can find expressions as for example *„knowledge managing"*, *„management of knowledge"or „knowledge management"*. Also here such expressions are very similar, but in reality they are very different from the view of the content. We can see attention given to the knowledge at several levels:

- over national level (knowledge society),
- national level (knowledge economy),
- organization level (knowledge management),
- level of knowledge managing.

3.2.1 Knowledge society

This over national level of work with knowledge is most extended, general and it create basis frame for lower levels. In knowledge of certain problem there are obvious significant mutual differences between people, resp. between their more or less organized groups, firms, institutions, etc. Chaos of information society has begun to transform to the other, more organized way of so-called *knowledge society*. Seams to be that it will be characterized by mass access of knowledge and using of knowledge and skills deposited and elaborated by information techniques according users demands.
In practice we meet in present time also with doubting about why it is necessary to underline importance of knowledge as something that should give character of society that

is rising? Since knowledge played great task in human society always, yet craftsmen before centuries had them. That is true, but then there was period when through the influence of technical development convenience of craftsmen disappeared in the industrial mass production. Their knowledge had transformed to the activity of production lines, where new originate proletariat was enough to operate, and knowledge of craftsmen was not needed. Through influence of further development of techniques also work of proletariat became replaced by technical systems, robotized production links had been installed where techniques overtook next tasks.

Knowledge in the way owned and used by craftsmen belonged irreclaimably to the past. Society changed to the way where knowledge stopped to be ownership of the individuals and became ownership of bigger organizations. But together with mentioned raised the question about storing, obtaining, protection, using and spreading of such knowledge. These are tasks that give specific character to the coming knowledge society.

What are the expectations? What will be knowledge society? Seams to be that knowledge society will be in its final way presented as society in which individuality of individuals and his position in the society will not be so notably determined by the knowing of this man. Social demand will be approximately similar to the demand defined by information society due to the existence of computer remembrance, elaboration and technical tools of mass access of information – that means elimination of differences between members of society that result from their individual ownership of information or possibility to have access to information.

Knowledge management is reality that is connecting in present time with every inhabitant, firm and organization of European Union. Organs of EU create at over national level assumptions and conditions for realization of concrete steps at national level of individual member state. Argument for such contention is also resolution of hanging of European Counsel Chair in 2000 in Lisbon with goal to approve new strategic goals of EU. European representantives accepted for stimulation of economic growth and employment so-called *Lisboan strategy*. Concept of knowledge economy is here mentioned in several connections, mainly as a part of strategic goal for the next century. Literally it says: *European Union has state strategic goal for following decade – to become most competitive, dynamic economy in the world, based on the knowledge that will be able to maintain economic growth with bigger volume and quality of job and bigger social coherence.*

Lisboan strategy is EU program for unifying of economical growth, competitiveness and employment on one side and social and environmental tenability at the other side. It stands on three pillars that are as follows:

- Competitiveness (economical pillar),
- Social coherence (social pillar),
- Tenable development (environmental pillar).

Goal of Lisboan strategy is to persevere in European model of society for present and future generations in conditions of growing global competition and ageing population.

Over national level is except EU represented also by other institutions where belong for example: Organization for economical cooperation and development (OECD), Organization of unified nations for education, science and culture (UNESCO), etc. Individual scientific and research projects can be considered as a part of over national level that are realized with EU support, finance for example from 5th frame program EU. Research results connect also with over national level and knowledge economy which had been published by World Bank in 2004 about preparation of the countries.

3.2.2 Knowledge economy

Knowledge has become old – new source for economical growth not only for individual and organizations, but also for individual national economies. In expert literature there are used in present time except concept *Knowledge Economy* also other expressions that are viewed by authors as certain phenomena. Such expressions are for example: knowledge-based economy, digital economy, new economy, etc.

Opinions of present experts are different, but they are equal as for the fact that till now soil was in economy of agriculture key source, in economy of industry key was natural sources, knowledge economy is based on knowledge using. Economists, politicians, and economical publicists are more and more speaking about new economy as a new forcing system of organization of financial, industrial and business activities, based on the intensive work with knowledge. The idea knowledge has important task in economy is not new. Every economy, however simple is based on knowledge, for example about protection of raw material, or in case of building construction, etc. Such knowledge obtains still bigger importance from the time of industrial revolution. But level of incorporation of information and knowledge to the economic activities is in present time so high that it instructed totally penetrating structural and qualitative changes in economical operations and it changes basic assumptions for obtaining of competition convenience (Houghton, 2000). Market environment that is created by using of revolutionary technological development and mainly by the power of personal computers, high speed communication and internet, represents economy where there is more rapid growth and lower inflation.

Opinions of individual authors in literature are different as for definition and explanation of concept Knowledge economy. For orientation we can mention several definitions of knowledge economy according Brinkley (2006):

- *Knowledge economy* means creation of value added according paying interest on knowledge, that means not only due to the manual production, where there is growing importance of education and using of scientific knowledge from the view of total competitiveness of the country,
- *Knowledge economy* is economy in which creation and using of knowledge have dominant rate on the creation of wealth. But it does not mean only spreading of existed knowledge, but mainly effective using of any knowledge in every economical activity.
- *Idea of knowledge economy* is based on the description of new sources of competition advantage that can be applied in every sectors, societies and regions, from agriculture and small trade till creation of software, etc. Economical success is still more based on effective using of not tangible assets (knowledge, skills and innovation potential) as a key source of competition advantage. Concept of *knowledge economy* is then used for description of such developing economical structure.

Knowledge society is therefore more then common liability to increase research and development, it covers every aspect of economy where knowledge is basis of value added – from production of sophisticated Technologies, information and communication Technologies, through knowledge intensive services, to creative branches as for example media or architecture.

In expert literature we can find also description of various characteristic, main features, aspects and dimensions of knowledge economy. Knowledge economy according Keleman (2007) is distinguished from classical economy mainly due to the following:

- In knowledge economy core of people or organization interest is learning, still more subjects are becoming learning organization,

- Knowledge economy consists from innovative organization that uses new Technologies for presenting of process and organization innovation. But by this way there is rising increased connection between creation, spreading and using of knowledge. Success of organization and by this way also success of national economy is based on the effectiveness of such activities,
- In knowledge economy there is existing influencing technological power that causes high and still growing intensity of information and communication Technologies using by educated knowledge workers. In present time societies producing ICT are the biggest ones and their economy reports more rapid growth,
- In knowledge economy there is growing rate of gross domestic product, orientated to the knowledge assets towards physical capital, by this way dependence of organization from the need physical sources concentration is decreasing,
- Knowledge economy is known due to the fact that it does not have fixed defined limits, knowledge are overcoming firm's, branch as well as state's boundaries, it need not to be concentrated on one place. Since work in organization can be made at various places, it decreases their dependence from the time and place. By this way phenomena of global competition and good and services production is rising. Many firms with dominant position on the market belongs to the national or over national ones,
- New Technologies enable to transform physically existed organizations to virtual ones. Their working teams can be composed from the people all over the world, and at the same time such people are able to cooperate without necessity to be at one place at certain time,
- Telecommunication and computer net penetrated to every area of human activity where they enable to work absolutely by new ways and to create new values. Computer and internet brought for individual organizations and institutions many possibilities of mutual acting, cooperation and partnership creation,
- Knowledge economy is part of every sector of national economy, not only on knowledge intensive branches. It brings also cooperation, merging and integration of formerly separated economical sectors. New industrial branches are rising that are orientated to the creation of new products,
- In knowledge economy there is existing more dynamic price creation, product prices can be similarly as individual products dynamically adapted to the needs, possibilities and claims of the clients,
- In knowledge economy business is many times realized in real time, in comparison with past time life time of the product is shorter. That force claims for speed of reaction in individual firms.

From mentioned characteristics it is obvious that knowledge economy put new demands on managerial competencies at every level of organization management that want to act successfully in new conditions. It is obvious that knowledge economy (Nonaka, 1995) and knowledge based competition (Drucker, 1993) are not inventions of present authors of publications and contributions in expert magazines, but they are reality that is influencing every one of us. Centre of the attention is still more and more such area of human activity as for example education, innovation or research and development.

During description of knowledge economy characteristics it is necessary to mention also fact that OECD created combined indicator of investment to knowledge. This is consisting from investment to research and development, higher education and information Technologies. During following the index OECD identified in 2006 three groups of economies:

1. *economy with high investment to the knowledge* (that means states of North America or Japan that invest approximately 6% of GDP),
2. *economy with medium investment to the knowledge* (that means states of North Europe or Australia that invest 3-4% of GDP),
3. *economy with low investment to the knowledge* (that means states of South Europe that invest 2–3 % of GDP).

According mentioned facts OECD concluded following conclusions about knowledge economy:

a. Good economical basis is very important for stimulation of knowledge economy. For example it can be effective education policy of the state, securing equipment of less educated part of population by proper abilities with aim to avoid splitting of knowledge.
b. Development of knowledge depends from four main pillars: innovation, new Technologies, human capital and firm's dynamics.
c. Globalization is the fact that influences every four pillars of knowledge economy. It is not news, but in present time it is very strengthened by international mobility of experts, information and communication Technologies, quicker and cheaper transport, liberalization of business, global capital markets, etc.
d. It is necessary to develop social capital of organization, new practices of knowledge management and organization innovations with regard to deepening of knowledge economy contributions,

3.2.3 Knowledge management and managing of knowledge

Ability of the man to transform data to information and lately to useful knowledge can change significantly character of the work, education and everyday life. Human ability to create, obtain, model, represent and actualize complex and interdisciplinary data, resp. information about new and many times very varied sources, is still growing. But these possibilities that are hidden in information transformation can be fully used only by the help of research, tools and methods for knowledge obtaining, their classification, and organization, using and further spreading. Theory and practice of knowledge management is in present time dependent from the mentioned and it is still developing.

Basic principles of knowledge management can be applied in production firm, business organization, education institution, health organization as well as offices of state administration, etc. At this level there is given increasing attention to the knowledge, system and systematic work with knowledge. Such new access presents merging of concepts from various area of human activity, where belong artistic intelligence, creation of knowledge systems, reengineering of firm's processes, and management of human sources or organization behavior.

Knowledge management can make at basic level in every organization more effective work with documents, mainly as for their content, but also work with people. And it is possible to contribute to natural connection of both parts. Basis of this is published limitation of the concept:

- *Knowledge management* can be characterized as systematic process of finding, choosing, organization, concentration and presentation of knowledge by such way that will help in organization to increase level of employees understanding to concrete areas. Management of knowledge helps organization to achieve deeper view and understanding of problems mainly according using of own experiences and own

intellectual ownership. Concrete activities of knowledge management help organization to orientate to the obtaining, storing, sharing and using of knowledge in such areas where there exist solution of problems, dynamic learning, strategic planning, decision and others. It protects also intellectual equity of organization before destruction; it contributes to the firm's intelligence and provides bigger flexibility for organization. (Davenport a Prusak, 2000)

- *Knowledge management* itself is not technology, neither file of best processes that organization can have and implement them in practice easily. Knowledge management is also status of the mind that means Access that must extend in the frame of whole organization, when it wants to be successful. Such access must include also culture of learning and cooperation between individuals, working groups or organization units of the firm. It means that knowledge management is connecting people and processes, where information are sharing, building knowledge accordingly and contribute to development of common, sharing firm's knowledge. (Bureš, 2007)

At such mentioned hierarchy of knowledge during every higher level measure of generality is also higher. When at the knowledge management level there are working with concrete knowledge and creating processes how to obtain, elaborate, and use such knowledge at organization level, proper environment for their obtaining, sharing, development and using is basis. Basic task of the national and over national level is creation of economical and political frame, in which lower levels will be moving. Connecting element is such individual organization or firm that is active in national as well as over national level. This can use in its activity principles of knowledge management at organization level and to use results of knowledge management for its work in the sense of proper created and maintained firm's culture.

4. The context of intellectual capital and knowledge management in knowledge culture

The first condition of building global knowledge society is building knowledge organizations and within them, building such culture which will support these intentions, hence changing it into knowledge culture. In particular it means creating such environment and conditions that will enable people doing a job they are skilled for, they enjoy and at the same time the job that satisfies them, so they can achieve results above standard. When an organization has qualified people at all working positions, the individuals, improving themselves and their working capacity, are able to enhance the efficiency of all the organization which itself, can make a profit thereout. This implies employees' motivation, their participation in strategic plans, ability and willingness to embark upon the organization, which gives them a job.

Corporate culture nowadays has to follow the rule, that it is inevitable to guide education and gaining knowledge according to the requirements of the organization with the tendency to synchronize them with the employees' personal goals. One of the ways how to improve corporate management nowadays is a project of "learning organization" - expressed in increased capacity to learn, adapt and change through people who are learning. However, individual education does not guarantee a learning organization. It depends on radical change on people's thinking and the philosophy of the management associated with the change of culture, which is defined as a set of concepts, attitudes and values in a company, broadly shared and relatively maintained in the long term. In the organization, where

knowledge gradually has to become a crucial factor, the change in people's thinking and at the same time the change of culture is inevitable. Knowledge management implementaion is not possible in every environment, i.e. not only gaining and formation, but also mutual exchange, using and handling the knowledge. Not all the subjects are willing to change steady corporate culture.

Shared corporate culture is the key to the usage and development of the employees' potential in knowledge culture. It represents sharing the philosophy, concepts and values into organization's developing orientation and its employees. It is the set of relatively constant and developing concepts, attitudes and values shared in an organization, which is meant for external adaptation and internal integration of employees, expressed in the unity of common value orientations, norms, behaviour and negotiation patterns. It is mostly expressed in:

- accepting the philosopy, strategy, plan and goal of the company
- well – informed employees about the situation happening in a company
- willingness to look for new attitudes towards increasing the management efficiency
- attitudes and approaches oriented towards mutual problem sloving
- employees' motivation and initiative
- participation in directing and managing the employees
- informal application of a constant improvement principal
- the support of implementing innovations in an organization
- constant individual and company' s improvement in order to get the maximum
- increasing efficiency and profitability
- increasing added value
- overall flexibility and openess towards changes etc. (Barták, 2006)

Knowledge management can be effective only on condition that it does not become only a declared conception, but people – their work, habits and culture – will become its active part. Knowledge management should lead to employees' mutual exchange of gained information and knowledge. However, this is not that easy. People possess knowledge in their heads, it is the result of their education, experience and opportunities and it is their possession. A knowledge capital proprietor can be an active qualified worker as well as a creative professional or manager. It is not a thin layer of university graduates or post-graduates, but it includes people who use their knowledge in creating new products, at their production, sale, finance, company development etc. They do not leave the things around them steady, they change them, take active part in them. These are the people who ensure the competitive advantage for their company. The knowledge can not be privatized, bought or taken by any company. However, a company can enable its employees to develop and manage them in their environment. A change in people's thinking and also the change of corporate culture is inevitable at the place where knowledge becomes the crucial factor.

Tangible condition of knowledge management existence is so called knowledge-sharing culture, i.e. willingness to share own knowledge, know-how and experience and this way let the other employees make a profit in favour of the whole company. Senge´s theory of learning organization (1995) appears from similar assumptions. According to him, the success of corporate culture does not depend only on employees sharing their knowledge, but also on the fact if the knowledge is contribution for other colleagues and if they are willing to admit and use the knowledge. This theory has become practical assumption of correct aplication of knowledge management.

Changes are a part of transition into a society based on knowledge, where a production and an exchange of nonmaterial goods and services is the economic basis. In such social environment, up-to-date information, knowledge and skills are highly appreciated. People, able to create and use new knowledge effectively, considerably and constantly, become the main agents of knowledge society.
The change of corporate culture into a knowledge culture has a strategic meaning for an organization. Its positive effect can not be quantified in a short term perspective, expected expose has a long term and strategic nature. The basic expose of the change is accepting plans, strategies, commission and goals of an organization by its employees, nevertheless the increase of resistance against negative influence and employees' orientation of the changes and new attitudes with the aim of building competitive advantages for an organization.
The real changes leading towards building knowledge culture in a knowledge organization, however, depend on managers who are initiators, proprietors and coordinators of the changes. Managers are those who are able to motivate and affect pragmatic and emotional personal side of individual employees so that they release their potential leading towrds systematic learning and improving, cooperation and initiative.

5. Intelectual Capital Management as an attitude towards strategic management in a company

Intellectual capital looks through the main dynamics which affect economic competition in knowledge economics from different perspectives. It must be a main moving power in a company heading towards success, while the pattern of success is a development of intellectual capital, including administrative management skills. Not to seem as general declaration, the formula must, besides administrative skills, also include knowledge, innovations and management of intellectual possession, creating correct culture for intellectual capital and synchronization of different programmes into a complex management of intellectual capital as a system.
Spreading information in knowledge economics focuses its attention on knowledge management in every organization, corporation or company. So called learning organization admits the value of knowledge, it can grow further and flourish through knowledge management. Talking about knowledge management, or learning companies, similarly about intellectual possession as a potential for ensuring competitive advantages is nowadays inevitable in intensive academic and professional discussions and that is in an academic organization and also in practice, in all levels of organizations.

5.1 Is ICM – Intelectual Capital Management – a new notion ?

Approximately since 1950 managers of different majors have developped a whole row of management models and attitudes towards strategic management, e.g. in looking for a competitive advantage. Research and development of management, human resources management, (HRM), quality management, (TQM), just-in-time (JIT) a other discussions try to bring individual attitudes in this or that form of intellectual capital. In nowadays expressions ICM, human capital and process takes control of research and development, HRM regulates human capital and TQM a JIT manage process and structural capital. So what other things does ICM offer?

Nowadays ICM is viewed as a discipline divided among lawyers, business managers, consultants and auditors. Intellectual possession called IAM or IPM (often replaced) restricts the attention of specialists to knowledge assets which they can codify and legally protect. Lawyers and business managers focus mostly on business strategies and techniques which increase the doubts of commercial use of IP. Other experts focused on human resources with information technologies in the background, which they marked as knowledge management (KM), with the emphasis on collecting, sharing and transmitting the knowledge which an organization has in its people, generated in the procedures and saved in the databases. The research and development experts of new products focus mainly on innovation management, the research of a process in a production bringing the most effective results, whereas an accountant mainly experiments with a metrics design for measuring IC by which he allows better investment decision- making.

In present globalized business world, intellectual capital can be a base of doing business, which underlines the importance of intellectual equity or intellectual possession management (IAM/IPM). To this day, little is said or written about correlation between knowledge management (KM) and IAM/IPM and about the way an organization can use both attitudes to implement an integrated system for overall management of its intellectual capital and resources. Knowledge management and IAM/IPM aren´t one and the same although they are very similar in basic theorem. The difference is mostly in the fact that knowledge management relates to gaining knowledge, collection of ideas, creating values and knowledge transformation into explicit knowledge so that an organization could codify and transmit them, whereas IAM/IPM relates to value maximization, patent licensing, know – how and trademarks, as well as using intellectual possession for gaining competitive advantage, enter new markets, to arrange strategic alliances and create incomes.

Supporters of individual approaches in management hardly admit the advantages of the other approaches and they often do not see the connection between them as well as the fact they could work together. It is true that for some industries, one of the apporaches can be more important than the others, however, for every organization, if it wants to succeed in knowledge economics, it is inevitable to admit both approaches of management in certain constant, because each of them fills up strategic needs. The point some of the organizations can not see is the fact that knowledge management and IAM/IPM are the cardinal components of overall intellectual capital management in an organization.

The focus of an organization on only one approach and excluding the others would lead towards resource wasting by a management. Desynchronization between individual organs, as well as a conflict between supporters of different approaches can appear as an effect of it. Combining both approaches is not a solution either. At most, such an artificial connection might disorientate processes and malfunction the system. The reason is, that each of the management approaches has a different function and that is a production versus value revenue, when at their combination, an organization should impose a different approach negotiator towards management,e.g. innovation management.

The way how to work with intellectual capital in management (ICM) is to understand the ralationship among these three management approaches (KM, IM, IAM/IPM) and distinguish how each of them affects and facilitates the management of the whole organization. It represents the approach developped for overall strategic organization management and its intellectual capital in every phase of its development. The complex approach of ICM should be suggested in a way to overcome restrictions of one discipline

and at the same time exploit what every discipline has to offer in creating and maintaining competitive advantage of an organization.
It is necessary to start understanding ICM as a universal approach towards strategic management, not only using previous approaches. The aim is to manage administrative wealth of the whole company, 75% of which is intangible. The fact that intangible capital represents such a high percentage of companies' wealth e.g. in America and other developed economies, makes ICM a unique method, thus a complex approach towards a company's management.
Understanding ICM as a coherent discipline with all its heterogeneousness can seem impossible. It requires professional knowledge of participating disciplines: Economics, Marketing, Technology, Accounting, Psychology etc. Joining all these disciplines into one model is not the main challenge ICM faces. The task is to understand the interplay among them and thus to connect them into an effective way which will enable a company to implement, manage and use its intellectual capital effectively.
Successful managers and their companies have come accross intellectual capital management, either purposely or intuitively. It doesn't mean that they have ICM programe or its strategy. Intellectual capital management as a mater of common business is not enough for the ICM development. It will only happen when rational way of dealing will be used before intuitive one, when it will be a systematic process, further developed. Then it can be fundamentally changed from existing reality and become a science. As soon as it goes over into a science, it will be able to better anticipate, repeat and later measure. Organizations and managers hesitate in advance to apply ICM in practice, so this way, experts will have to take a long way of experiments, applied research and further ICM development for ICM to become a science.
Some organizations have changed a style of management, e.g. into a business model focusing on intellectual capital management and by this reaction they enabled economics dynamics based on knowledge. Many of these organizations are run without realising the fact they have admitted and applied the approach of intellectual capital management.
A complex ICM integrates three management approaches KM, IM, IAM / IPM when it acknowledges that each of them needs its own goals, procedures, strategy and tools. Higher attention has to be given to their theoretical definition as well as practical implementation. In near future, ICM is expected to represent evolutionary phase of a company strategic management in the conditions of knowledge management and knowledge society.

6. Conclusion

Intellectual capital looks through the main dynamics which affect economic competition in knowledge economics from different perspectives. It must be a main moving power in a company heading towards success, while the pattern of success is a development of intellectual capital, including administrative management skills. Not to seem as general declaration, the formula must, besides administrative skills, also include knowledge, innovations and management of intellectual possession, creating correct culture for intellectual capital and synchronization of different programmes into a complex management of intellectual capital as a system.
Nowadays the transition from negativistic behaviour in human resources management towards the employer's positive attitudes is inevitable, being expressed in creating favourable conditions supporting knowledge acqusition, skills improvement and universal

development of working power. Investments into human capital are long-term investments, but they must not be missed by managers just because they focus on short-term goals. It is important to create such environment in economical and political system that will favour organizations taking part in creating human capital as a basic part of intellectual capital and thus enhance the motovation to invest in it.

The development of business in competitive environment depends, to a great extent, on the ability to identify with the knowledge of people and use their skills, experience and knowledge faster and in a better way than competition. I tis a strategy of gaining competitive advantage as a bacis condition of success just by managing the knowledge. Effective knowledge management requires the knowledge, contributing for the key processes development and organization´s activities, to be available for the right people at immediate practical use in time.

Knowledge management thus represents a systematic approach towards searching and using the knowledge on behalf of creating values. It includes the origin, choice, processing, formalization, transformation but also saving the knowledge, however, its sharing, dissemination, further development and effective use with the purpose to gain the highest efficiency of a company is the centre of it. Knowledge management expects and at the same time use the ability of people to gain, share and develop the knowledge, this way creating added value reflecting in performance and qualitative characteristics, increasing the value of a final product for a customer. It is knowledge economics management and knowledge society, i.e. the society based primarily on intellectual capital production, the characteristics of which are:

- producing crucial amount of goods (i.e. knowledge services served to satisfiy the needs)
- it influences needs satisfaction and creating their structure the most (i.e. the needs satisfied by knowledge and skills development and realisation are the most significant human needs)
- it supports intensive innovative processes
- it is the centre of economic storage (i.e. fixed capital, human abilities and relationships are gathered here)
- clear surplus, which becomes the source of intelelctual capital storage, originates here

Market economy focuses on expressing immediate finance revenue, but increasingly the pressure on expressing nonmaterial forms of capital, which are a part of market value in every organization, grows. Nowadays it is important that expressing the value is focused more on forming and maintaining the key employees, using their knowledge, creativity support and innovative skills, as well as on underlining the image, trademark, and company´s fixed assets growth. The companies, which will use the ability of searching and developping human capital, necessary for gaining competitive advantage in maximum possible extent, will get into spotlight in near future. Such a positive routing supports the process of transformation into a knowledge company in which knowledge and intellectual capital will not only be a competitive advantage, but also its successful behaviour in a knowledge society.

If a process of building a society based on knowledge economics advances, immediate commercial effects from knowledge production, its dissemination through educational processes and results application in a whole complex of economic processes will originate. It will be possible to appreciate, promptly and universally, what science, knowledge and education bring. Centralizing the academic and professional capacities will allow achieving,

based on customer approach and corporate order, real economic effects, which are also acknowledged by market economy influence. By implementation and exercitation of knowledge management practically, in strategic meaning, we can expect from organizations :

- return on investment into human capital (qualification, capability, ...),
- assessing human capital (sharing the vision, philosophy, the goals of an organization ...),
- management of self-development by an individual / team,
- higher working onset,
- better productivity, efficiency ,
- the growth of added value orientation,
- higher quality products which will satisfy constantly more demanding customers,
- gaining a competitive advantage, increasing a company´s competitiveness
- improving the image and occupational reputation of a company,
- long-term perspective of employing individuals as well as an organization

The changes that happen in economics in a globalized environment nowadays require a new approach towards the assessment of an enterpise organizations activity. Knowledge becomes the most important factor and effectiveness in the area of added value production is the most appropriate benchmark of assessing the activity in economics based on knowledge. The value is formed by knowledge, skills and abilities of people, individuals. This is the reason why it is important to focus on the tools of luring, stabilizing, development and care of human capital, which is represented by these individuals, but the effeciency of an organization depends mainly on the correct use of knowledge, which is inevitable to underpin, develop and mutually exchange, in order to create organizational capital.

The beginning of 3rd millenium means an era in which the character of business enterpise changes. Management has to cope with new methods using present possibilities. A new time period brings new hopes as well as hidden threats. One of them is a careless attitude towards the recognition of an unusually fast-progressing development. Markets, customers, technology and competition constantly change. If a company wants to be successful, it has to change itself, otherwise the key competence can easily become the key inconvenience, which might lead into a setback.

Globalization has brought a new view of the world, which is markedly transformed by information and communication technologies. Nowadays, there are organizations and companies in all parts of the planet, as they dinamically use cheaper raw material sources, lower production costs, the most flexible markets and thus increase the extent of their prosperity. However, globalization brings more complex and more difficult competitive environment. If organizations want to compete successfully in such an environment and join the European economic field in full-value, it is inevitable for them to capture incoming trends of transition into knowledge economy.

Present period of new millenium is famous for constantly accelerating changes and the economics based on knowledge, which is important to underpin and efficiently manage. Knowledge is the priority. It is considered on a global, national and corporate level. Knowledge management is a challenge of a present period. Looking for possibilities and ways of quantitative measurements of the return on investment into human resources development as well as an effort in strategic management in the way of ICM (Intelectual Capital Management) should be a part of it.

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Part 2

Globalization and Sectoral Process

8

The Impact of Globalization of the Automotive Industry on the Quality of Life of the US Southeast

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1. Introduction

Over the past twenty-plus years, the changing global motor vehicle industry enabled the development of a vibrant automotive industry in the U.S. Southeast (Lambert & Miller, 2011). Detroit remains the hub of the U.S. automotive industry. However, instead of an east-west geographical orientation of the industry emanating from Michigan, the geographic distribution of auto assembly and supplier plants now displays a north-south orientation, with a concentration of plants along a corridor running from Detroit southward, principally through Ohio, Kentucky, Tennessee, and into Alabama. Today, there are 11 vehicle assembly plants located in the US Southeast and three more facilities have been announced.
The Southern Auto Corridor—including the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia—has an embedded role within the global automotive industry. It is dominated by foreign owned firms and primarily serves as a production center within the North American Free Trade Agreement (NAFTA) automotive region. Because the newly developed regional industry is so embedded in a global context it makes a fruitful case for studying the impact of globalization.
The global automotive industry is characterized by production being conducted primarily in multi-country regions. The majority of parts production, assembly, and vehicles sales occur in integrated regions. These car production regions include NAFTA, the European Union (EU), MERCOSUR in Latin America, CIS for the former Soviet Block countries, and ASEAN in Asia. There are some countries (i.e., China, Korea, Japan, and India) that have a "go-it-alone" approach and are mostly integrated along national boundaries. Within the regions and countries, the automotive industry clusters in growth poles. In the last ten years, the Brazil, Russia, India, and China (BRIC) regions have significantly increased their share of world vehicle production while the developing country share has shrunk, but the basic geographic pattern of the industry appear to be holding. Sturgeon et al. (2009) have described the geographic and organizational pattern of the automotive industry as nested.
The conceptual model describing possible impacts of globalization on the quality of life (QOL) at the country level developed by Sirgy et al. (2004) is useful for understanding the implications of this globalization driven change in the geography of the U.S. automotive

industry. The conceptual model provides the necessary research questions that should be investigated empirically to assess the impact of the globalization of the automotive industry on the region's quality of life. The model defined globalization as *the diffusion of goods, services, capital, technology, and people (workers) across national borders*. The diffusion of goods, services, capital, technology, and workers across national borders take form in inflows and outflows. *Inflows* of goods, services, capital, technology, and workers in a country are those that enter the territory in question and are accounted for using government statistics. Conversely, *outflows* of goods, services, capital, technology and workers from a country are those that exit the target country and are accounted for using government statistics.

The "Southern Auto Corridor" arose mainly through the flows of capital, goods, and technology. The diffusion of services and people (workers) across national borders was less of a factor so these factors will not be a focus of this chapter. The diffusion of people (workers) that most significantly influenced the QOL of the region was migration of people from the northern parts of the U.S. to the southern states rather than across national boundaries. The foreign firms did send managers and experts, but their impact was more localized (e.g., the teaching of Japanese in some local schools). There was also a flow of services as service providers to the foreign automotive and parts manufacturers followed their customers (e.g., third party logistics providers). However, the story of globalization of the Southern Auto Corridor is mostly captured by understanding how the flow of capital, technology, and goods impact the region.

The diffusion of foreign capital to the region led to the flow of technology and goods. Foreign Direct Investment (FDI) from Japan, Germany, and recently from Korea, was a major force in shaping the Southern Auto Corridor. This capital came in the form of assembly plants and parts suppliers. Along with this capital investment came flows of technology. For example, Japanese manufacturing practices such as Just-in-Time (JIT) and kanban systems flowed into the region. The plants built with foreign capital needed imported parts for production so this lead to an inflow of goods into the region. The foreign Original Equipment Manufacturers (OEMs) use their American assembly plants to a limited extent as an export platform so more goods are flowing from the region. Albeit, because of the regional nested structure of the industry the amount of exports from the NAFTA production region are limited.

2. The Southern Auto Corridor in the changing global automotive industry

The Southern Auto Corridor, including the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia, has an embedded role within the global automotive industry. It primarily serves as a production center within the North American Free Trade Agreement (NAFTA) automotive region. Due to political and industry factors, production in the global automotive industry is dominated by multi-country regional production bases (e.g., NAFTA, MERCOSUR in South America, European Union), albeit some countries (e.g., China, India) constitute their own production region. This structure makes it unlikely that despite globalization and the "flattening" of the world that the Southern auto corridor will become a major global export base, but it is connected with the global automotive industry that is in a state of flux. Nevertheless, the regional nested structure of the global automotive industry, in addition to the characteristics of the foreign-domestic automotive industry in the south, makes the local industry rather globally secure albeit tied to U.S. automotive

sales. Thus the flows of capital, technology, and goods that created the Southern Auto Corridor in the last 30 years is only likely to experience minor ebbs and flows despite the turbulent times.

There are massive changes occurring in the global automotive industry. That is, the perceived demise of Detroit, financial crisis resulting in governmental bailouts, the emergence of huge new markets in Brazil, Russia, India, and China (BRIC), alliances, and consolidations, as well as new fuel efficient and alternate energy vehicles. Nevertheless, the basic structural framework of "nested" global, regional, national, local business operations with growth poles at the local level remain. The global changes are likely play out within this structure of nested growth poles. The financial troubles of the "The Big Three" (i.e., GM, Ford, and Chrysler) helped accelerate these trends that had been occurring in the global automotive industry since the 1990s (Hiroaka, 2001). These changes are likely to influence the auto industry in the U.S., and accordingly the QOL in the region, but only peripherally because the industry is dominated by regional production.

2.1 The rise of the BRIC auto markets

The first trend is the traditional global market dynamics are changing as market growth is occurring in emerging markets and the world's automobile manufacturers continue to invest into production facilities in emerging markets in order to tap into the new markets and reduce production costs. PricewaterhouseCoopers (2008) forecasts that, by 2015, 95%of light vehicle *growth* will originate from emerging markets. China became the largest auto market in 2009, surpassing sales in the United States. North America sales in 2010 were 13.9 million units, a modest 8.2% increase over 2009 that stands as one of the worst years in the industry's history. While auto sales in China were nearly 18 million units which is up about 30% over 2009. India has been the second-best performing major global auto market over the past decade, with car sales climbing to a record 1.82 million units in 2010. Brazil experienced sales of 3.4 million units, an increase of over 9% since 2009. In 2011, new car sales in China and the other BRIC nations are expected to surpass the combined volumes of Western Europe and Japan, and account for roughly 30% of global car sales (Scotia Economics, 2011).

The U.S. and foreign-domestic automotive companies with facilities in the U.S. Southeast are active in the BRIC markets, but ventures in these markets are mostly in the form of foreign investment rather than exports from U.S based facilities. Some U.S. suppliers found that while they are having difficulties at home, their foreign operations were profitable so more investment is expected in production facilities in the growing markets (Office of Transportation and Machinery, 2009). The export statistics also show that the growing developing markets will not be major export markets. Exports to Canada and Mexico accounted for 73 percent of the total U.S. automotive parts exports in 2008, while the BRIC countries account for a mere 4% of automotive parts during the same period. The U.S. Southeast should experience some increased exports of autos and parts, but the volume will not be dramatic.

The emerging BRIC automotive industries also could be a source of increased imports of autos and parts, but Mexico and Canada should remain the main importers into the region because of the nested geographic structure of the industry. As the major automotive companies establish facilities in BRIC countries, especially China, this has resulted in the importation of more original equipment parts (Klier & Rubenstein, 2006). For example, GM imports V6 engines from China to install in North American built Equinox sports utility

vehicle. Currently, most of the imported Chinese auto parts are for the aftermarket, but imported parts could become more significant competition for the original equipment parts suppliers in the U.S. Southeast. Fully assembled vehicles from the BRIC could also impact the region. GM plans to double its imports of Chinese made vehicles into the American market to 736,547 units from 371,547 units over the next five years and make imports 7% of North American vehicle sales (Gao, 2009). Chinese automakers Chery and Geely, as well as, India-based Mahindra plan to import vehicles to the U.S. market. These BRIC imports are unlikely to capture a significant share of the U.S. market and the same political, transportation, and market factors that lead the Japanese and Europeans to set up U.S. production facilities will likely drive the BRIC automakers to do the same. For example, Nanjing Automobile Corp., China's oldest carmaker, announced plans in 2006 to locate a manufacturing facility and parts distribution center in Oklahoma.

2.2 Global alliances and consolidation of the industry

The second global industry trend is a consolidation of the industry. There has been the establishment of global alliances as U.S. automakers have merged with, and in some cases established commercial strategic partnerships with foreign automobile manufacturers (PricewaterhouseCoopers, 2008). Examples include GM and Fiat's strategic industrial alliance and Daimler forming a wide-ranging partnership with the Renault-Nissan alliance. Further, there has been industry consolidation.

OEMs are minimizing the number of suppliers that they use leading to fewer, but larger auto parts suppliers. Contracts are being offered to only a handful of suppliers causing consolidations (McCraken, 2005). These suppliers now interact with smaller supplier tier 2 firms instead of the automaker. Further, these consolidated parts makers supply multiple OEMs. For example, close to half of Toyota's U.S. parts supplies, in revenue terms, are produced by component manufacturers that also supply Detroit's automakers. Platform[1] strategies are now integral to OEMs product development, and as old models are replaced, the proportion of production that is based on key high volume platforms is increasing. According to the industry research organization Grant Thornton LLC (2009), the Detroit 3 will shrink their current 40 platforms (2009 number) to 29 by 2014, so this will mean fewer, but larger, suppliers. By 2014, ten global platforms will account for 46% of all production in North America and six of those platforms will belong to Ford or GM (Cannell, 2010).

The data on mergers and acquisitions supports the view that the industry is consolidating. According to data compiled by Bloomberg (2010), the number of auto parts deals peaked at 338 acquisitions completed in 2007 before falling to 294 in 2008 and 161 in 2009. However, recovery in U.S. automobile sales may spur a wave of auto-parts business acquisitions, drawing interest from hedge funds, private-equity investors, and rival manufacturers. MacDuffie (2010) claims the result will be the rise of "mega-suppliers," and he notes that already 180 first-tier suppliers control 80% of the global value of supplied parts. Nonetheless, the just-in-time nature of automotive production means that even the larger suppliers will need to keep a geographic presence near the final assembly.

[1] Originally, "platform" was a shared chassis or architecture of previously engineered vehicles. Typically, it consisted of the underbody and suspension. A platform is now defined as a collection of fixed hard points, so that different vehicles with the same points can be built on a single assembly line, with similar crash characteristics.

3. The diffusion of capital, technology, and goods that gave rise to the Southern Auto Corridor

Automotive production in the U.S. is concentrated in a north-south oriented region that runs between the Great Lakes and the Gulf of Mexico. Traditionally, the auto region had stretched east-west emanating from Detroit, but the growth area now stretches southward from Detroit following the I-65 and I-75 corridors. The southern end of this corridor is differentiated from the northern part of the corridor by the prominence of foreign plants that tend to focus on cars rather than light trucks. (Foreign domestics produce over 50% of the passenger cars for the NAFTA region, but less than 20% of the light trucks.) Beginning in the 1980s, auto plants and suppliers clustered in Michigan and the northern part of the corridor began migrating south seeking to lower their production costs and to move closer to the growing markets of the south. Meanwhile, foreign automakers and their related suppliers entered the US market, choosing to locate in the region. Realizing the economic development opportunity created by this trend, southern states launched aggressive programs and offered lucrative incentives to attract the industry. The combination of spatialization within the U.S., agglomeration economics, and globalization lead to development of the automotive industry in the U.S. Southeast.

In additions to demographics, developable tracts of land, economic development efforts, lower employee costs and right-to-work laws have been a major factor in attracting auto makers and suppliers to the region. Nationwide, the percentage of production workers belonging to a union in the industry has dropped in the past twenty years from 90% in the 1980s to only 33% of suppliers' plants and 75% of assembly plant production workers belonging to union. Foreign-owned companies have been leading the way in this non-unionized southward shift, particularly the parts suppliers. Contrary to popular opinion, the cost per hour for a fully trained employee in the automotive industry appears to be generally consistent throughout the US, but inflexible work rules that foster inefficiency, redundant operations, and legacy benefits skew the workforce advantage to the South (AccuVal Associates, 2009; McCallum, 2004). Whether the jobs are union or not, they provide high pay for the region.

4. Globalization's Impact on the emergence of the Southern Auto Corridor

4.1 The diffusion of capital

Until the 1970s, sales of vehicles in the U.S. were dominated by the "Big Three" U.S. automakers (GM, Ford, and Chrysler) based in Detroit. However, globalization and the entry of foreign automakers into the U.S. market led to changes in the U.S. automotive industry. The Japanese car companies in particular began importing small, high-quality cars and introduced new approaches to manufacturing that revolutionized the industry. Coinciding with the 1970s oil embargo, the smaller, more fuel efficient cars quickly gained popularity. The Corporate Average Fuel Economy (CAFE) standard also aided the foreign competition (Kleit, 2004). Imported vehicles went from 6% of U.S. vehicle sales (400,000 units) in 1961 to 33% (3.4 million units) in 2008. The Big Three's comfortable oligopoly was threatened by the global competition.

It was in the 1980s that several foreign-owned automakers located outside of the traditional Midwest region. In the 1990s and early 2000s more foreign-owned assembly plants choose to locate in the south strengthening the shift from north to south (see Table 1).

Southern States Car and Light Truck Production by Assembly Plant							
OEM	**Plant**	**State**	**Date Production Started**	**2006**	**2007**	**2008**	**2009**
Ford	Norfolk[2]	Virginia	1925	133,437	49,564	0	0
GM	Doraville[3]	Georgia	1947	128,888	110,265	84,108	0
Ford	Louisville	Kentucky	1955	214,276	186,677	97,605	97,605
Ford Truck	Louisville	Kentucky	1969	306,347	307,324	194,477	221,956
GM	Bowling Green	Kentucky	1981	45,418	37,940	32,348	7,589
GM	Shreveport[4]	Louisiana	1981	189,767	161,879	94,237	38,506
Nissan	Smyrna	Tennessee	1983	465,045	410,991	310,669	192,556
Toyota	Georgetown	Kentucky	1988	503,885	514,590	456,297	348,237
GM (Saturn)	Spring Hill	Tennessee	1990	234,307	44,431	43,293	95,450
BMW	Greer	South Carolina	1994	104,632	154,999	170,739	121,666
Mercedes-Benz	Montgomery	Alabama	1997	173,600	174,356	152,500	90,616
Honda	Lincoln	Alabama	2001	287,713	314,144	282,735	181,640
Nissan	Canton	Mississippi	2003	278,464	292,671	232,879	181,437
Hyundai	Montgomery	Alabama	2005	236,773	250,519	237,042	195,561
Kia	West Point	Georgia	2009	0	0	0	15,005
Toyota	Blue Springs	Mississippi	Est. 2011	0	0	0	0
Volkswagen	Chattanooga	Tennessee	Est. 2011	0	0	0	0
V-Vehicle Co.	Monroe	Louisiana	TBA	0	0	0	0
Green Tech	Tunica	Mississippi	TBA	0	0	0	0
Southern Total				3,302,552	3,010,350	2,388,929	1,606,184
Share of US				**30%**	**28%**	**28%**	**29%**
Total US				10,915,248	10,584,943	8,520,913	5,611,800
Source: Automotive News Market Data (2010)							

Table 1. Global Automotive Assembly Plants in the U.S. Southeast

The end result of the movement away from Detroit is that the Southern States represent a larger part of the domestic auto industry. In 2009, the Southern states produced 1.6 million cars and light trucks, a decline from 3 million in 2006 according to Automotive News (2010). This production accounted for almost 30% of the cars and light-trucks produced in the U.S. Kentucky and Alabama are currently the top vehicle producing southern states. In 2005,

[2] Ford closed the Norfolk Virginia assembly plant in 2007.
[3] General Motors Corp closed the Doraville, Georgia plant in 2008.
[4] General Motors Corp. will close its assembly and stamping plants in Shreveport, La., no later than June 2012.

Tennessee was ranked in 5th place in vehicle and production and Georgia in 10th place, but Big 3 plant closings in those states led to significant declines in production. In 2009, Kentucky produced 649,422 cars and light trucks and accounted for 11.5% of U.S. production while Alabama produced 467,817 cars and light-trucks accounting for 8.3% of U.S. production. The U.S. Southeast is now a major region in the global automotive industry serving primarily the U.S. market, but connected to world markets.

Despite being globally competitive, the Southern states including Kentucky, Louisiana, and Tennessee have lost automotive assembly jobs recently due to Big 3 plant closings, but far fewer than in traditional auto assembly states because of foreign-domestic assembly plants. While the Big 3 were closing plants such as GM's 3,000 person Hummer and pick-up plant in Louisiana and a 1,200 employee minivan plant in Georgia, foreign-domestics such as Kia created 2,500 direct jobs with an assembly plants in Georgia producing SUV crossovers and Toyota plans to add over 2,000 assembly plant workers in Mississippi assembling Corollas. In the Southeast, auto assembly facilities directly employ more than 32,000 people and create numerous other jobs at parts suppliers located near auto plants. The overall impact of these countervailing employment trends can be seen in assembly employment in Alabama, which is all foreign-domestic auto assembly plants, and Kentucky, which has both the Big 3 and foreign-domestics. Since 2000, Alabama's motor vehicle manufacturing employment increased from 2,600 to 10,800 in 2009, while Kentucky's decreased from 20,400 to 12,600. The diffusion of foreign capital made the region more resilient, but hurt domestic competitors.

The end result of these trends is the automotive industry is a major employer for the region. Employment in the auto parts industry for the Southern Auto Corridor is estimated at about 150,809 and accounts for around 30 percent of total employment in the U.S. automotive parts industry. Employment in this industry for the region has decreased by about 15% since 2001 versus 30% nationally. (According to the Bureau of Labor Statistics, employment in NAICS 3363 dropped from 774,700 in 2001 to 543,700 in 2008.) In the South, bodies and body parts had the highest number employed and was the only category to show an overall increase since 2001; however, miscellaneous automotive parts were the only category to have an increase from 2007-2008. In addition to greater a significant amount of quality jobs, the industry represents a significant part of the region's overall economy.

Motor Vehicle, Body, Trailer, and Parts Manufacturing (NAICS 3361-3) is a major contributor to the state economies of the U.S. Southeast and represents 27% of the U.S. total according to the most recent U.S. Census Bureau data. The industry represented over $26 billion of the value added by industries within the region in 2007. This is a 16% increase from 1997. Kentucky ($5.9 billion) led the way with the highest gross domestic product (GDP) for the motor vehicle industry in the 12 study states, with Tennessee ($5.15 billion) coming in second and Alabama ($3.2 billion) is third. The diffusion of global capital in the automotive industry has had a significant impact on the U.S. Southeast.

4.2 The diffusion of technology

With the development of highways in the 20th century, the U.S. automotive industry grew into an "hour-glass pattern" centralized in Detroit (Hurley, 1959). Fordist mass production methods and oligopolistic features of the industry encouraged an agglomeration of component suppliers around Michigan. In order to reduce transportation costs, the Detroit automakers shipped "knocked-down" cars mostly by rail

to regional assembly plants. Some of these reassembly branch plants were in Southern states; however, the diffusion of advanced Japanese manufacturing technology made these branch plants obsolete.

Starting in the 1960s, the Japanese car companies in particular began importing small high quality cars and introduced new approaches to manufacturing (e.g., Just-in-Time, Kanban, Kaizen) that revolutionized the industry. Coinciding with the 1970s oil embargo, the smaller more fuel efficient cars quickly gained popularity. However as explained earlier, political forces, transportation costs, and the need to be near the final customer led the foreign automakers to bring their technology to U.S. assembly facilities. The Japanese transplants were soon able to achieve productivity and quality levels similar to plants in Japan by bringing their technology along with their FDI (Pil and MacDuffie, 1999). The diffusion of technology in the automotive industry helped the region to become globally competitive.

4.3 The diffusion of goods

The foreign-owned assembly locating in the Southern Auto Corridor led to a significant increase in imported auto parts. These foreign-owned plants have different characteristics than traditional plants. For one, these plants are more dependent on ports (and airports) to meet supply chain requirements. For example, the Port of Charleston experienced a significant increase in auto trade volume with the opening of the BMW plant in 1993. The plants also have different production processes. The Mercedes plant in Alabama is not completely the equivalent of one of Mercedes' production facilities in Europe. It does not produce engines, which come from Germany, and it relies heavily on modular production, like the Nissan plant in Canton, MS, taking out some of the complexity of building automobiles (Maynard, 2004). However, developments in technology, in particular modularity of production, maintained quality.

According to Klier and Rubenstein (2007) vehicles built by foreign-owned carmakers at assembly plants located in the U.S. and Canada for sale in the U.S. had 66.2% domestic content. This level is only slightly below the 79.4% recorded by the Detroit Three. BMW currently has about 60% local content, but plans to increase this amount to cut currency and logistics costs. The new version of Toyota's Tundra truck went from 60% locally sourced parts to 90% local parts, with the remaining 10% mostly from Japan (Hannon, 2008). On the other hand, according to the American Automotive Trade Policy Council (AAPC), which represents the domestic manufacturers in trade issues, the Big Three derived about 77% of their parts from U.S. and Canadian factories, whereas the Japanese companies sourced slightly less than half from domestic sources. Honda had the most domestic content at 59%. It should be noted that the domestic content figures can be misleading because they can include transportation, distribution costs, and even dealer profits--domestic costs that would be necessary even if the vehicle were wholly produced abroad (Parker, 1990). Today, the distinction between "American" and "foreign" vehicles is becoming less clear because of the global diffusion of goods.

Even though the South Auto Corridor is not a major export base for the foreign automotive companies, their presence did lead to an increase in exports from the region. After 15 years of building cars and SUVs in South Carolina, BMW has now shipped over one million cars to overseas markets. Nissan exports U.S.-built light trucks to the Middle East and has shipped Quest minivans to China. Providing production for the North American market is

the main business objective for the foreign plants in the Southern Auto Corridor, but they have resulted in greater vehicle exports from the region.

5. Applying the Globalization/Quality-of-Life (QOL) model

Sirgy et al. (2004) developed a conceptual model describing possible impacts of globalization on the QOL at the country level. The conceptual model provides the necessary research questions that should be investigated empirically to assess the impact of globalization on a country's quality of life. The model also provides fruitful conceptual resources to help formulate public policies guided by this quality-of-life assessment. Specifically, globalization was defined as *the diffusion of goods, services, capital, technology, and people (workers) across national borders*. The diffusion of goods, services, capital, technology, and workers across national borders take form in inflows and outflows.

In regards to *global diffusion of goods*, Example indicators include total volume and market value of the country's imports from foreign countries (see Table 2). Example indicators of outflow of goods include total volume and market value of the country's exports of goods to foreign countries (see Table 2).

Globalization dimensions	Globalization Measures
Global diffusion of goods	• Increased outflows of goods: • Total volume of the country's exports to foreign countries, • Total value of the country's exports to foreign countries, • Number of exporting firms in the country, and • Proportion of foreign sale to total sale among the country's exporting firms.
	• Increased inflows of goods: • Total volume of the country's imports from foreign countries, • Total value of the country's imports from foreign countries, • Number importing firms in the country, and • Proportion of foreign goods purchased to total good purchases among the country's importing firms.
Global diffusion of services	• Increased inflows of hospitality services • Number and dollar sales of foreign travel companies established in the country in question, • Number and dollar sales of foreign lodging facilities established in the country in question, and • Number and dollar sales of foreign restaurant established in the country in question.
	• Increased outflows of hospitality services • Number and dollar sales of state travel companies established in foreign countries, • Number and dollar sales of state lodging facilities established in foreign countries, and • Number and dollar sales of state restaurant established in foreign countries.

	• Increased inflows of entertainment services • Number of units of foreign theatre plays, musical concerts, and other entertainment shows and events consumed by the residents of the country in question, and • Dollar sales of foreign theatre plays, musical concerts, and other entertainment shows and events consumed by the residents of the country in question
	• Increased outflows of entertainment services • Number of theatre plays, musical concerts, and other entertainment shows and events provided by entertainment firms from the country in question in foreign countries, and • Dollar sales of theatre plays, musical concerts, and other entertainment shows and events provided by entertainment firms from the country in question in foreign countries.
	• Increased inflows of education service • Number of foreign primary and secondary schools established in the country in question, • Number of foreign institutions of higher learning established in the country in question, and • Number of foreign training facilities established in the country in question.
	• Increased outflows of education service • Number of state primary and secondary schools established in foreign countries, • Number of state institutions of higher learning established in foreign countries, and • Number of state training facilities established in foreign countries.
Global diffusion of capital	• Increased inflows of capital • Amount of foreign direct investment into the country by foreign firms and • Number of firms in the country that are subsidiaries to foreign firms.
	• Increased outflows of capital • Amount of foreign direct investment by the state-affiliated firms in foreign markets, • Number of firms in foreign countries that are subsidiaries to state-affiliated firms.
Global diffusion of technology	• Increased inflows of technology • Number and dollar value of international patents acquired by firms incorporated within the country, • Number and dollar value of technology license contracts granted to the country's firms by foreign firms, • Number and dollar value of franchise, management, and consulting contracts granted to the country's firms by foreign firms, and • Total value of importation of software.

	• Increased outflows of information • Number and dollar value of patents belonging to state-affiliated firms sold to foreign firms, • Number and dollar value of technology license contracts granted to foreign firms by state-affiliated firms, • Number and dollar of franchise, management, and consulting contracts sold to foreign firms by state-affiliated firms, and • Total value of exports of software.
Global diffusion of workers	• Increased inflows of workers • Number of immigrants admitted into the country • Number of foreign skilled workers working for firms in the US • Number of foreign unskilled workers working for firms in the US
	• Increased outflows of workers • Number of domestic citizens who immigrated to other countries • Number of domestic skilled workers working temporarily in foreign countries. • Number of domestic unskilled workers working temporarily in foreign countries

Table 2. Dimensions and Measures of Globalization
Source: Adapted from Sirgy et al. (2004)

With respect to the *global diffusion of services*, economists traditionally classify most services in three major categories: hospitality, entertainment, and education. There are inflows and outflow of these types of services. An example of inflows of hospitality services is number and dollar sales of foreign travel companies established in the country in question (see Table 2). An outflow indicator may be number and dollar sales of state travel companies established in foreign countries (see Table 2). Similar inflow and outflow indicators are used in the entertainment and education service sectors (see Table 2).

Turning to *global diffusion of capital*, inflow indicators may take form in the amount of foreign direct investment into the country by foreign firms; and conversely, outflows may be amount of foreign direct investment by the state-affiliated firms in foreign markets (see Table 2).

The third dimension of the model focuses on *global diffusion of technology*. In this context, inflow indicators are typically represented as number and dollar value of international patents acquired by firms incorporated within the country (see Table 2). In contrast, an example of outflow indicators is number and dollar value of patents belonging to state-affiliated firms sold to foreign firms (see Table 2).

The final globalization dimension is *global diffusion of workers*. Inflow indicators of this dimension may be represented in terms of number of immigrants admitted into the country (see Table 2). Outflow indicators may include number of domestic citizens who immigrated to other countries (see Table 2).

Sirgy et al. have made a case of how globalization impacts the quality of life of a country through economic, consumer, and social well-being of the country residents. Their theoretical argument is mostly captured through the theoretical propositions shown in Table 3.

Globalization Dimension		Impact of economic well being	Impact on consumer well being	Impact on social well being	Public policy implications
Global diffusion of goods and services	Export of goods and services	• Job creation in the export-related industry (+) • Increase in per-capita income (+) • Increase in efficiency (+) • Increase in trade retaliation from the importing countries (-) • Increase in low paying jobs (-).	• Increased accessibility to high quality products due to high spending power (+) • Availability of high quality goods resulting from the firm's exporting effort and R&D (+) • Availability of low priced products resulting from full utilization of production capacity (+) • Increased public sector spending for consumers such as enhanced consumer safety (+)	• Increase in public sector spending resulting from increased tax revenues (+) • Decreased environmental well being (pollution and deletion of natural resources) (-)	• Develop export promotion programs • Use increased tax revenues to provide higher quality public sector services for consumers (e.g., better consumer protection) • Develop export assistance programs that help reduce trade retaliations from importing countries
	Import of goods and services	• Job creation in the import-related industry (e.g, distribution) (+) • Increase in competitivene	• Availability of higher quality and low priced goods (+) • Low cost of living from low priced	• Increased public sector spending for the society (+) • Increase in leisure well being (+) • Increase in	• Encourage importation of lower priced and higher quality goods than domestic

		ss of domestic firms (+) • Loss of jobs in domestic competing firms (-)	importers (+) • Increase in consumer choices (+) • Increased public sector spending for consumers (+)	cultural well being resulting from the importation of cultural services (+) • Increase in cultural diversity (ethnic and religious diversity) (+) • Decrease in public spending resulting from the loss of tax revenue in the domestic competing firms (-)	products • Help domestic firms compete against imports • Provide financial assistance and placement services to the displaced workers • Provide training for displaced workers
Global diffusion of capital	Outflow of capital	• Increase in competitiveness of domestic firms (+) • Multinational domestic firms can provide technologically advance, high paying jobs at home (+) • Reduction of job opportunities for domestic workers (-) • Allow domestic firms to bypass trade barriers (+)	• Low priced products and services to domestic consumers resulting from low production costs abroad (+) • High quality products and services to domestic consumers (+) • High import price resulting from devaluation of local currencies (-)	• Enhanced public service quality resulting from increased tax revenue from more competitive domestic firms (+) • Long-term benefits to the society through increased public spending (+)	• Develop policies to help domestic firms' foreign investment • Develop policies to provide support and training for displaced workers •

	Inflow of capital	• Increased competitiveness of domestic firms (+) • Job creation from the operations of foreign firms (+) • Facilitate export into nearby countries (+) • Substitute imports (+) • Drive domestic firms out of competition (-)	• Increased product availability from local production (+). • Low production cost and price of domestically produced foreign products (+) • Increased public spending for consumers (+)	• Improved quality of public services resulting from increased public spending (+) • Environmental pollution and degradation (-) • Misuse of labor (e.g, child labor; labor abuse) (-)	• Develop open market policies to remove restrictions on foreign capital • Provide incentives for foreign investment • Develop policies to encourage social responsibility of foreign firms
Global diffusion of technology	Outflow of technology	• Increased income of domestic firms through licensing or technology transfer (+) • Job creation through exports related to the transferred technology (+)	• Availability of low priced high quality products through foreign manufacturing (+)	• Increased public spending through increased income (+)	• Develop policies to facilitate technological transfer
	Inflow of technology	• Enhanced organizational productivity (+) • Improve job opportunities through enhanced worker skills (+) • Enhance organizational performance	• Availability of better and cheaper products to domestic consumers (+) • Better service to consumers through new management technology	• Increased public spending resulting from local firm's high performance (+)	• Develop foreign investment policies to facilitate technology transfer • Develop policies to protect intellectual property

		through management technique (+)	(+)		
Global diffusion of workers	Outflow of workers	• Repatriation of foreign income into the country (+) • Reduction of unemployment rate at home (+)	• Enhanced customer service and product quality resulting from the demands of cosmopolitan customers (+) • Additional income (+)	• Increase in leisure well being (+) • Increase in cultural well being (+)	• Develop policies to reduce restrictions on employ-ment in foreign countries
	Inflow of workers	• Enhanced technological know-how (+) • Increase in productivity of domestic firms resulting from skillful workers (+) • Increase in production efficiency through the inexpensive labor (+) • Reduced job opportunities for domestic workers (-)	• Enhance product and service quality through the skilled foreign labor (+). • Availability of low price products and services through inexpensive labor (+)	• Increase in cultural well being (ethnic, racial, and religious diversity) (+) • Increase in social conflict (-)	• Develop policies for public sector services to accommodate foreign workers • Simplify restrictions on the use of foreign workers • Develop policies to help and train displaced domestic workers.

Table 3. Impact of Globalization on Quality of Life
Source: Adapted from Sirgy et al. (2004)

Table 3 shows the impact of each of the five globalization dimensions on the economic, consumer, and social well-being of the countries in questions. For example, the model asserts that the economic well-being of a country can be impacted both positively and negatively. Examples of positive impact associated with the export of goods and services may be job creation in the export-related countries, and increase in per capita income and efficiency. In contrast, increase in trade retaliation from the importing country and low

paying jobs may be examples of negative impact associated with the export of goods and services (see Table 3).

5.1 Global diffusion of capital

5.1.1 Inflow of capital

The global diffusion of capital allowed the Japanese, German, and Korean vehicle and parts manufacturers to establish assembly plants in U.S. Southeast. This had a major impact on the economic well-being of the region. Following the model, this forced the Big 3 automakers to become more competitive and produce better quality vehicles. The foreign-domestic plants created thousands of well paying jobs in the Southern states. To a limited extent these assembly plants led to exports of complete vehicles. Further, there was import substitution as the foreign OEMs produced vehicles locally rather than importing complete vehicles. However on the downside, due to the increased competition from foreign domestics, the Big 3 were forced to close down numerous assembly plants.

Consumer well-being was generally positive as U.S. consumers had more and higher quality choices in automobiles. The foreign-domestics were able to lower their transportation costs and take advantage of currency differentials to provide vehicles at lower costs to the consumer. The results were increased purchases of vehicles.

The impact on social well-being was more mixed. There is some debate whether the economic development incentives handed out to the automakers outweighed the public benefit, but generally the foreign companies and their employees pay more to the government in taxes than was extracted in the site location negotiations. Also, the increased vehicle sales provided taxes and the end result was that the public services could be increased. The Japanese, German, and Korean automotive companies place a heavy emphasis on being environmentally friendly and green, but they almost all selected greenfield sites. The United Automotive Workers claim these foreign-domestics are anti-union so this could have a negative impact on social well-being particular for union members.

5.2 Global diffusion of goods and services

5.2.1 Outflow of goods

Economic well-being was positively impacted by the increase in vehicle exports from the U.S. Southeast. As discussed earlier, the foreign-domestics mainly established plants in the Southern Auto Corridor to serve the NAFTA market, but there are examples of these plants being sources of vehicles to serve markets outside of NAFTA. These exports created more jobs at the assembly plants and the parts manufacturers who supply the assembly plants. These jobs lead to increases in per capita income. There is the potential for trade retaliation from importing countries, but this does not appear to be the case with the exports from companies such as Nissan and BMW.

Consumer and social well-being also received peripheral benefits. The export related jobs allowed southerners to have greater spending power, not just for exports, but for improved quality vehicles. Further, the foreign domestics established U.S.-based R&D centers that impact consumer well being. For example, Toyota, along with Ford and GM, established a national battery manufacturing center in Kentucky that has great potential to help develop better quality products. The exports allowed the plants to better utilize production lines to balance NAFTA sales. The taxes derived from these exports allowed greater public

spending. These benefits of exports are only marginal compared to the vehicles made for NAFTA consumption, but they were positive.

5.2.2 Inflow of goods

The globalization of the automotive industry lead to an increase of vehicle and parts imports into the U.S. Southeast that positively and negatively impacted economic well being. Logistics based companies grew and were attracted to the region to handle the increase in imports and this created distribution related jobs. For example, Wallenius Wilhelmsen Logistics of Sweden, which handles the vehicle processing and yard management business at Volkswagen's new plant in Chattanooga, created eighty new jobs. Imports of vehicles and parts forced the Big 3 to adopt more competitive practices; however the increased imports also forced significant lay-offs by American vehicle manufacturers.

Consumers generally benefited from the imports as they had the choice of higher quality vehicles at competitive prices. This resulted in increased consumer spending. Social well-being also generally increased, but the loss of tax revenue from the Big 3 dampened this impact.

5.3 Global diffusion of technology

5.3.1 Inflow of technology

The foreign automakers brought new technology, such as manufacturing techniques, that improved the economic, consumer, and social well being of the region. Practices such as JIT and lean manufacturing were not just adopted by the automotive industry, but across the spectrum of manufacturers and service providers. These techniques improved organizational productivity and for those workers willing and able to adopt the new approaches, increased job opportunities. Lean manufacturing allowed products to be made better and at lower costs by reducing waste in the system. These more profitable companies paid more taxes which allowed increased public spending. Although some might have been left behind by these new technologies, overall the diffusion of these new technologies improved the region's quality of life.

6. Summary and conclusion

The chapter uses the integrated model of globalization developed by Sirgy et al. (2004) to frame the complicated impact of the globalization of the automotive industry on the QOL of the residents of the U.S. Southeast. Over the past twenty plus years, the changing global motor vehicle industry enabled the development of a vibrant automotive industry in the U.S. Southeast dominated by foreign-owned firms at the expense of the Big 3 based in Detroit (Klier & Rubenstein, 2008). These foreign automakers initially started out as importers, but due to business and political factors began establishing production in the North American region (Sturgeon et al., 2009). As a result, the U.S. Southeast accounts for roughly 30% of the U.S. auto industry and is home to the most stable and competitive component of the market. Over 400,000 residents of the region are employed in living wage jobs with the transportation equipment manufacturing sector and the industry contributes over $26 billion to the regional economy. This economic boom was a recent phenomena caused by globalization.

The integrated model of globalization developed by Sirgy et al. (2004) helps show how the globalization of the automotive industry impacted the QOL of the U.S. Southeast. The

inflows of foreign capital, technology, and goods along with outflows of goods generally improved the economic, consumer, and social well-being of the region. There were some negative impacts particularly related to the increased global pressure faced by the Big 3 automakers and their suppliers. This led to some plant closing and jobs losses in the region, but overall the region is more globally competitive and well positioned to face global because of the infusion of foreign capital and technology.

The model includes public policy implications and the Southern states predominately did what the model recommends. Regarding the diffusion of global capital, the region opened their markets to foreign firms, launched aggressive economic development programs to provide incentives for foreign investment, and encouraged the auto assembly plants to be socially responsible. The states facilitated the technology transfer process through such programs as university research centers and technology transfer programs. The states established export promotion programs to increase the outflow of goods from the new automotive facilities. The inflows of goods were not impeded and the states established worker displacement programs including retraining and financial assistance. The public policies of the states facilitated the beneficial aspects of globalization.

This chapter only examined the impact of the globalization of the automotive industry. Overall, globalization had a much more mixed impact on the region. Traditional industries for the Southern U.S., such as textiles and furniture, have been decimated by the forces of globalization. While other industries, such as aerospace, have emerged (Gates 2009). A complete examination of the impact of globalization on the QOL on the U.S. Southeast is a complicated and ongoing process beyond the scope of this chapter. In order to get a more comprehensive understanding of the impact of globalization, each industry would need to be examined and their interrelationships uncovered.

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9

Evaluation Success Models of SMEs in the Internationalization Process

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1. Introduction

Recently we have experienced acceleration and deepening of the globalization process on a global scale, which largely affects the operation and development of businesses around the world. Its impact on the functioning of the economy is unquestionable. Globalization is closely linked to the companies' internationalization and to the multinational companies' development, since the removal of barriers and increasing competition in domestic markets is reflected in the companies' efforts to expand into foreign markets. With increasing globalization and the increasing competitive environment, enterprises must respond quickly to these changes, especially SMEs.

However, while globalization is essentially a spontaneous process, the process of integration is a process in a controlled and organized form by international or supranational institutions and bodies (without taking into account the existence of so-called informal integration). In the context of globalization a global economy is gradually and spontaneously created. Increasing role of foreign trade and foreign investment, a combination of financial markets and concentration of capital and multinational corporations are still significantly affecting economic affairs. Their political influence is also strongly promoted. And especially the internationalization becomes more and more important in an open Czech economy.

In an economic grouping of the EU, SMEs has important socio-economic and political role. This is because of multiplicity, role in providing the necessary employment, social stability and dynamics of innovation development. Therefore it is given constant attention to the SMEs development. Also economic legal and organizational support is constantly emphasized. Incorporation of SMEs in the Czech EU integration represents advantages because Czech SMEs are part of the advanced economic environment. This opens up new business opportunities. It provides an access to a large market without internal borders of the EU. It also increases the legal protection of enterprises and improves the investment in the EU. Other merits for SMEs arise out of Czech membership in the European Union.

It has been argued that the driving forces of globalization have influenced, at least partly, the internationalization of SMEs. It is true, that they have diminished the barriers (Fletcher, 2000; Knight, 2001). The increasing speed of business operations has also had an effect, as SMEs start operating internationally faster than previously. Finally, increasing competition has reduced the ability of SMEs to control their own developmental paths (Etemad, Wright, & Dana, 2001).

For small and medium-sized enterprises is very important to know, in any event, which factors are the key factors for their success in the internationalization process. There are

presented many theories in the current literature on which it is generally possible to determine, which factors are important to SMEs in the internationalization process. Not many simple models, which have to be for small and medium-sized businesses, helped to assess their particular situation. The authors of this paper therefore focused on creating a simple model to help SMEs assess their situation in the internationalization process. Proposed model can help small and medium-sized businesses in two ways. Not only to assess the companies' position in the internationalization process and show the ranking of their internationalization process key factors, but the model can also help companies to compare their situation with competitors. With the proposed model, SMEs can easily discover in what areas they have their strengths and in what areas they have their weaknesses. Knowing this fact it can help them to work on improving weaknesses.

However, SMEs often have difficulty to determine the areas, in which they have to improve the situation to be more successful in the internationalization process. Therefore authors decided to focus on creating of a simple evaluation model that will clearly demonstrate the areas in which SMEs do well and areas in which SMEs have reserves. The model should also expose, what specific particular quantitative and qualitative factors are affecting the success of each company. To sum it all up - the aim of this paper is to show a draft of a simple evaluation system, which can help SMEs evaluate their key factors of the success in the internationalization process.

Internationalization of the firms is generally defined as the involvement in the international environment. The concept of internationalization varies widely by various authors in the various literatures. Beamish understands internationalization as a process by which firms increase their company awareness usually it has direct or indirect effects of internationalization transactions on their future. They also create and manage transactions with other countries (1990, In: Pollard, Šimberová). Internationalization is one of the most persistent trends shaping the world economy. Its content is the establishment and deepening of economic relations between different countries, based on the gradual elimination of various barriers and converting some old national events on the international effects (Kunešová, Cihelková, 2006).

According to Majerová (Majerová, 2007) the internationalization process of continuous and progressive interconnection of economies in the world economy runs through an expanding network of international relations. The process of internationalization can be also defined as "the increasing process involved in international operations" (Welch, Luossstarinen; 1988). To perfectly fit the international environment, the process must contain the adaption of firm operations such as strategy, structure, resources etc... Furthermore, the degree of internationalization can be measured as foreign sales revenues relative to total sales revenues (Welch, Loustarinen; 1988). According to Pelmutter business decision of international activities depends mainly on the corporate culture, shared values and the corporate management style (Pelmutter 1969 in Machková 2009). The EPRG framework defines the main management styles - ethnocentric, polycentric, geocentric and regiocentric. The internationalization process can be described as a gradual development taking place in distinct stages (Melin, 1992).

The international process can be clearly identified under two major schools: the models initially developed by Johanson and Wiedersheim – Paul, 1975 and Johanson and Vahlne, 1977, referred-to as Uppsala models (U-models) and the Innovation-Related internationalization models (I-models) conceptualized by Cavusgil 1980. Both the I-models and the U- models emphasize on firm´s involvement in foreign market segments. Both of the models view internationalization as a gradual incremental process. U-model is more

often featured in the international business literature. The entering of new markets by the company is usually perceived as a psychically closer. Many companies do not follow incremental stage approach but it is often reported that they start their international activities immediately after their establishment (Anderson et al., 2004). Literature defines them as "born globals" (e.g. Oviatt, McDougall; 1997). However, the "born global" phenomenon is relatively new phenomenon in the International Business. This phenomenon is described in a lot of international literature, e.g. Knight and Cavugsil (1996) define "born globals" as "small technology oriented companies that operate in international markets from the earliest days of establishment".

It is possible to find out various classifications of internationalization models in the literature. For example Li, Li and Dalgic (2004) divide theoretical approaches to internationalization processes into 3 main groups: the first is called "Experiential Learning", where theories of Johanson and Vahlne, or Lam and White or Cavusgil can be involved. The second group can be called "Systematic planning" (Root, 1987; Miller, 1993; Yip, Biscarri, Monti; 2000) and the third group involves theories from e.g. Welch, Boter and Holmquist or Coviello and Munro. This group of theoretical perspectives can be called "Contingency perspective".

In last few years there are many other authors who criticize all of these theoretical models of international process and they try to put all known approaches together and develop some hybrid models of internationalization process. E.g. LI, Li and Dalgic 2004 compare different theoretical perspectives and bear normative implications for managers. In their opinion this hybrid models can help examine, especially to SMEs, the internationalization process. The process of internationalization of small and medium – sized enterprises is different to the international process of MNEs. SMEs have usually limited resources; they have less international experience than multinational MNEs and they often have to respond to international market opportunities in a very timely manner.

The paper deals with evaluating the success of small and medium-sized enterprises in the foreign market. In this paper two evaluation models are discussed. These models can be used by SMEs to determine how strong they are compared to competitors, where companies have strength and weaknesses. They can also identify their key success factors in the process of internationalization. A lot of SMEs have problems to identify the key success factors in the process of internationalization. They have also problems with determination of area, in which they can succeed in foreign markets. They have difficulties with determination of their strengths and weaknesses; therefore we decided to focus on this problem. There is presented a two simple performance models proposal of small and medium-sized enterprises' evaluation.

2. Evaluating the success of small and medium-sized enterprises in foreign markets

SMEs in the Czech Republic as well as in the other countries of EU play very important role in the international arena. In the last three decades it led to an increase of the SMEs number relative to large firms. SMEs have become an important market sector of the economy. Nowadays the driving force depends on the business growth, innovation and competitiveness. SMEs are also an important factor in providing job opportunities. In the Czech Republic 61.52% of SMEs are involved in the creation of jobs and 35.17% of the GDP.

Economic and social benefits of SMEs are characterized by several factors. These include in particular: mitigating the negative effects of structural change, acting as subcontractors for large firms, creating conditions for the development and introduction of new technology,

creating jobs at low capital cost, quickly adapting to the requirements and market fluctuations. They are a source of innovation and technological progress, they employ nearly 60% of active workers, they involve more than half of GDP, they complete peripheral areas of the market that are not attractive for larger businesses, they decentralize business activities and help accelerate the development of regions, towns and villages.
Small and medium-sized businesses have many advantages in the market, but they must face number of negative effects. The advantages of SMEs are as follows: the simple organizational structure that brings lower costs for company management and reduce bureaucracy, the setting up of the company capital is usually not as demanding as it is for large enterprises. Then there is flexibility - small and medium-sized businesses can react faster and more sensitively to changes than large corporations (with even greater flexibility and ability to improvise). Another advantage of SMEs is lower demand for energy and raw materials, SMEs also seek for small niche markets easier and adapt better to local markets. They can address the needs of individual customers. One positive aspect is also personal and direct contact with the company owner and other employees. The possibility of maintaining personal contact with customers is also a privilege. SMEs are considered as vectors of a large number of innovations.
The disadvantages of SMEs include greater difficulties to access foreign capital than larger companies. SMEs are unable to participate in a business where large investments are needed. They often have a weaker position in the bidding for government contracts; they cannot afford to hire top professionals and scientists. They have limited resources for promotion and advertising, their market share is low and often threaten. Threats of SMEs: it is easier to fall into insolvency, especially in cases of their customers' insolvency. SMEs have also major problems with entry in foreign markets, because they have lack of sufficient information regarding to foreign legislation, potential partners, the new market, and the availability of counselling services is at a lower level.
SMEs, unlike large multinational companies, do not have the vast resources and cannot afford to carry out extensive analysis and evaluation of foreign market opportunities, but they must spend their resources more effectively. Because of limited resources, which are a typical feature for SMEs, it is necessary to propose such evaluation models, which both provide valuable information for SMEs and are not resource-intensive. One way to facilitate SME business in foreign markets is to identify key success factors of enterprises in foreign markets using international performance evaluation models for SMEs.

2.1 Comprehensive evaluation model of corporate success

Under this method is designed a comprehensive evaluation model for small and medium-sized export firms. The indisputable advantage of the proposed evaluation system is its simplicity and the possibility of graphic representation. This facilitates the subsequent comparison of individual enterprises. Another indisputable advantage is the easy modification of particular parts of the evaluation model and adaptation to specific sectors. The assessment is divided into four areas; each area contains a number of thematically related questions. Exact distribution is shown in Figure 1.
The whole rating system is based on the assumption that each block of questions (key staff, internationalization, international orientation, performance IP) has the same weight in the scoring system, where for each block pertains the same number of points. To facilitate the evaluation, the total number of points was selected on a particular block. The points were in the amount of 120.

There are two parts in the basis for scoring. Structured questionnaires, which are divided thematically to provide answers to each question shown in Figure 1. And a publicly available documents of the company, which are integral part of the basis for scoring. The point system is based on a subjective assessment of respondents and is supplemented by objective data from the annual reports of companies. Each block contains four questions, respectively the maximum number of points per question is 30 points (120 / 4 = 30). Each question has a number of possible responses, according to the author's view, "the best" option gets the maximum amount of points, which gradually decreases with less appropriate response.

Fig. 1. General evaluation model of the company's success

2.1.1 Evaluation description of particular questions

The first block of questions is related to the level of internationalization of small and medium-sized enterprises and includes the following questions:

- To determine the form of entry into foreign markets, the respondent is asked the following question: What form does your company use to enter into foreign markets? - Maximum number of points gets the answer "*foreign direct investment*", since it is the highest and most demanding form of entry into foreign markets. On the contrary, the answer "*indirect export*" is the basic (lowest) form of input, and therefore the answer has assigned a minimum score.
- To determine the time since company's establishment till the entry into foreign market, the respondent answers the following question: How many years after the company's establishment did the company enter into international market? - The highest rating is

assigned to companies that entered the market immediately after their formation, because these companies have operated in the foreign market since their inception, so compared to other companies they enjoy the competitive advantages. The counterparts of these companies are enterprises, which spent more than 10 years in the domestic market and only after this time, they decided to enter the foreign market.

- To determine the number of countries to which the company exports its products was the following question: To how many countries does your company export the production? - An open question that offers no options and the answer depends on the actual number of countries in which the company operates. It was necessary to adjust these responses and include companies into ready-made intervals depending on the number of countries in which they are economically active. When creating each interval there were taken into account the psychological and cultural differences and geographical distances between countries. Evaluation is based on the assumption that export into a large number of countries is more complex than the export into a small number of countries. It is not only for logistical reasons but also due to cultural and linguistic differences. Therefore, the most points are assigned to companies exporting to more than 36 countries. On the contrary the lowest number of points obtained the interval of *1-4* countries, where export demand is not so high. There is a high probability that these are the neighbouring countries of the Czech Republic. The drawback of this assessment is the situation, where the company exports into a small number of countries, but which are geographically distant and culturally different. This deficiency is offset by the following question, on its basis the specific territory where the company exports its products is established and evaluated.
- To determine the territories, where the company exports its production, the respondents answer the following question: To which countries does your company export its production? - Semi-closed question where the individual variations of responses were compiled in a following way: The least-intensive export is considered export to Slovakia, a little more demanding export is to neighbouring countries of the Czech Republic, then further to EU, including the European Economic Area, the next step, in light of specific conditions in the existent markets, can be regarded as export to Russia and countries of the former USSR, former Yugoslavia (except Slovenia) and Albania. The second most difficult territory to export from the Czech SMEs point of view according to the authors is considered the U.S. and Canada, primarily due to greater distances. The most difficult territory can be considered as rest of the world variant. This group include the countries geographically and culturally most distant to the Czech Republic, therefore this response is assigned the highest value.

The second group of questions deals with the profitability of foreign trade enterprises, and is composed of the following questions:

- The proportion of foreign sales revenues to total company's sales revenues is investigated using a structured questionnaire, the question is: What is your company's proportion of foreign sales revenues to total sales revenues? - Maximum points will receive "91-100%", because these firms can be considered the most foreign market oriented.
- To determine proportion of foreign sales revenues to total company's sales revenues respondents have to answer the following question: What is the percentage of products/services sold abroad to a total volume of products sold? - Even in this response, the maximum assigned rating is "91-100%", because the larger the percentage, the greater the involvement of business in foreign market.

- To determine the profitability of foreign operations, respondents are asked whether the foreign operations are profitable. - For this question only three variants of answers are offered, of which the highest rating achieves the company, which responds that foreign operations are profitable. The second option was the answer, they are not profitable, but earnings are expected in the near future. As an option with the lowest score was a response that business operations in foreign countries are not profitable.
- To find the foreign sales revenues per employee, there are publicly available documents of inquired companies. – Each company generates a different amount of foreign sales revenues depending on the degree of involvement in international activities. The amount of sales revenues also affects the size of the company and this affects negatively the explanatory power of this indicator to compare companies within the industry. To have more informative value from the comparison of the foreign sales revenues level, it is necessary to adjust the indicator of value and compare the amount of foreign sales revenues per one employee. The adjusted indicator is possible to compare. It is necessary to create an assessment scale, so that each firm could be rated by appropriate number of points. Therefore it is necessary to determine the average amount of foreign sales revenue corrected to one employee at the surveyed companies, and on the basis of the average amount of sales revenue to compile the assessment scale. The maximum number of points corresponds to the situation where foreign sales revenues per employee are higher than the industry average that a company achieves above-average amount of foreign sales revenues and it is expressed per one employee. On the contrary, the minimum points obtains such response, where foreign sales revenues per employee are below average.

The third group of questions deals with international marketing and includes the following questions:

- In the first question it is determined the standardization degree of the product exported, and the answer is obtained using the question: What is the adjustments rate of your exported products and / or services to the target market? – The highest number of points obtains the answer "*very high*", because it means that the company has made significant efforts to adapt their products to target market conditions. The lowest points were assigned to respond "*low*" level of adaptation.
- To determine the standardization of marketing the respondent answers the following question: What is the degree of adaptability to individual export marketing areas? - The highest number of points will be for response "*very high*", because it means that the company has made considerable efforts to adapt marketing to target market conditions. The lowest points were assigned to respond "*low*" level of adaptation.
- Information gathered prior to the market entry are necessary for the formation of an appropriate strategy, i.e. to select the appropriate marketing tools, to eliminate or reduce the risk of failure, to exploit the potential which the existent market offers and to prepare other activities related to entry to given market. To determine the amount of information that the company had prior to the market entry, it is possible to use the following question: What information did the company have about the target market prior to the commencement of goods or/and services export? – At this response we pursue the number of selected answers. In the questionnaires there are stated 5 options and 6th variant contains a blank box, where the respondents can write their own answer. The more information the company had prior to export, the more points they receive.

- Frequency of management communication with foreign partners is determined by using the question: How often does your company's management communicate with foreign partners regarding the export of products and / or services? - Maximum number of points will receive a response "*daily*", reflecting the high intensity of the relationship of the company with foreign business partners. On the contrary the lowest number of points will be attributed to the response "*once a year.*"

The last set of questions deals with key employees issues:

- Language skills of key staff are identified through the question: What foreign languages do your key employees speak? - The better the language skills of key staff, the higher the score. We assume that if a company employs workers with good language skills, it simplifies the entry and subsequent business on foreign markets.
- To find the previous experience focused on foreign trade transactions we use this question: What is the previous experience of your key employees in foreign trade? - The more experience gained from previous jobs, the greater the number of points. The premise is similar to the previous answers. Employees with more experience in foreign trade shall facilitate the operations of business in foreign markets.
- Training, seminars and courses can help acquire the knowledge of foreign territories especially to less experienced workers. It can also improve language skills and overall assistance in carrying out foreign trade operations. The information needed to evaluate this section is obtained using the following question: How often do the key employees participate in training courses or courses contributing to improve knowledge and skills in the field of foreign trade? - The question has 3 variants. The highest rating is for the possibility that key employees are involved in training "*regularly*". The least points receive the respondents with answer '*Never*', i.e. situation where the company does not increase the expertise and skills of their key employees.
- Proportion of key employees who are involved in the foreign activities more than 50% over the total number of employees is obtained using the following question: What is the percentage of employees that are involved in more than 50% of the foreign activities over total number of company's employees? - The question assumes that there is a positive correlation between the proportion of key employees engaged in foreign trade and the size of foreign sales revenues. This correlation was verified on the basis of previous research.

For example, the questions listed in Table 1 are based on the assumption that there exist a relationship between the percentage of key employees and size of foreign sales revenue. This correlation was verified by testing hypotheses. The maximum number of points is assigned to the variant of 75 - 100% while the lowest score to 0 - 25%.

Point rating system		
Group of questions	**answer**	**points**
Key employee	4	120
What is the percentage of employees that are involved in more than 50% of the foreign activities of your business?	0 – 25%	7,5
	26-50%	15
	51-75%	22,5
	76-100%	30

Table 1. Example of point rating system

2.1.2 Graphical presentation of evaluation model

The indisputable advantage of the proposed success evaluating system of SMEs is the possibility of graphical presentation. It is a graphical image which enables easy comparison of rating success among individual firms. Graphical image is based on the above-defined score. The requirements for the graphical presentation are particularly: an easy interpretability and feasibility of results. Graphical demonstration of individual companies' evaluation is based on the counting of points in existent quadrants from which the position data are plotted on four axes. Combining the position date a rectangle comes up. This rectangle is specific to each company. By obtaining this graphical demonstration it makes it easier to compare companies among themselves, and also it is easy to identify areas in which are the companies successful. For more informative comparison of the enterprises value, it is necessary to add numerical values to a graphical presentation that will enable to determine the order of particular companies according to the respective blocks.

One of the possibilities of a graphical presentation is so called 'perfect company', which reaches the maximum number of points in all quadrants i.e. 120 points (Figure 2). Defining the "perfect company" will partly increase the informative value of graphical presentation of the evaluation and further it will help us to set the appropriate numerical rating.

Graphical presentation of a perfect company is obtained by counting up the maximum score of all questions and plotting the resulting sum to the axes of the particular quadrants. Thus we get the position date of a perfect company, by its merger will be created a square showing the highest possible score of the proposed model in all blocks. Presentation of perfect company in comparison to resulting evaluation of surveyed company will increase the informative value of graphical model.

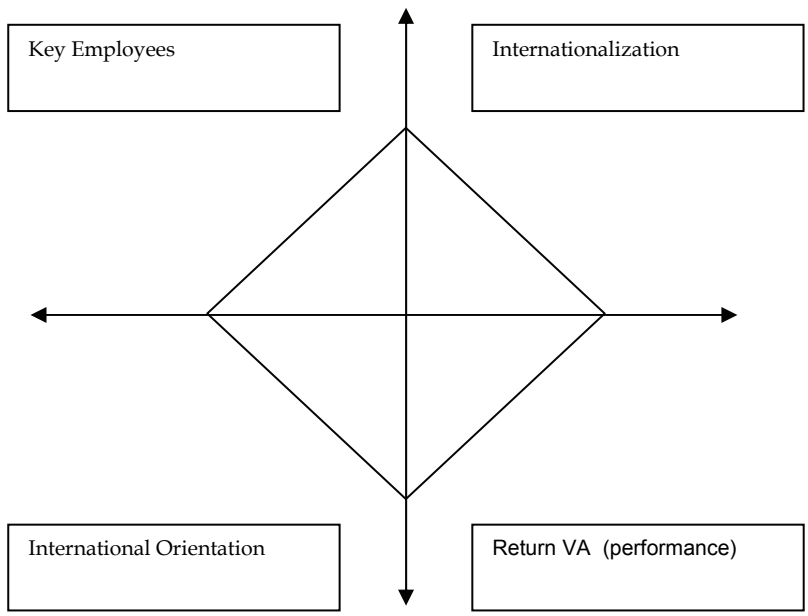

Fig. 2. Graphical Presentation

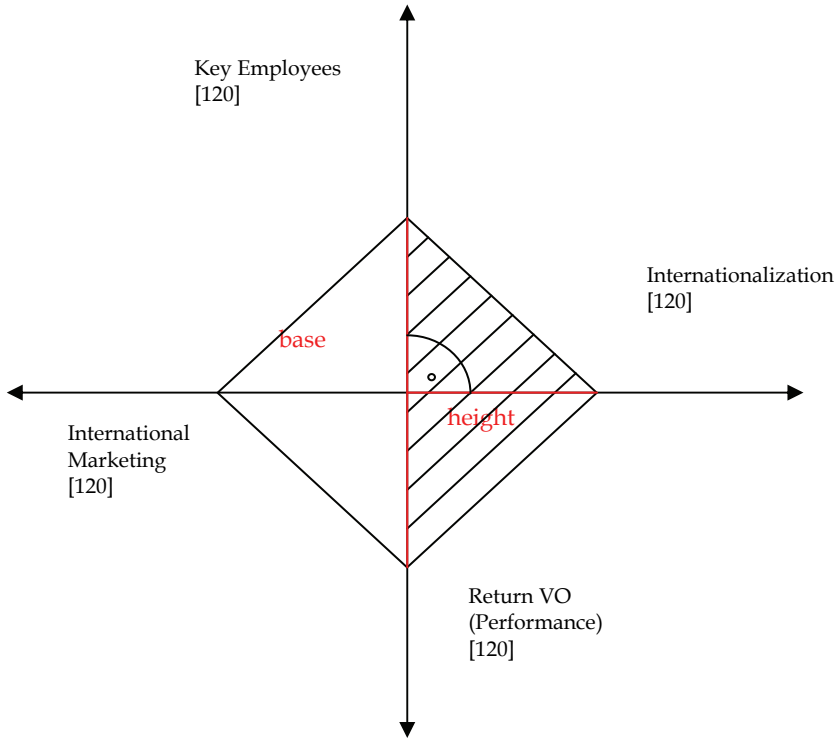

Fig. 3. Calculation of coverage ratio

Graphical image can help identify areas in which the company could increase its efforts or on the contrary, where are company's strengths. However, for accurate comparisons of individual companies among themselves the graphical image is not enough. This requires completing a graphical presentation by surface coverage ratio calculation of surveyed company in comparison to the area of perfect company coverage. To facilitate the calculation of the surface coverage ratio and avoid the lengthy calculations is the depicted rectangle divided into two triangles, whose areas can be easily calculated by using the formula for the calculation of any triangle:

$$S = 2 * \frac{z * v}{2} \tag{1}$$

In the formula "z" is the base of the triangle formed by the sum of the scores of key employees and performance in foreign trade operations, i.e. it is up to 240. "v" as the height of the triangle. These are points obtained in the internationalization block, where you can achieve the maximum rating of 120. In case of the second triangle, the base remains the same and changes only the height of the triangle, where we substitute points earned in the international orientation block, i.e. maximum is 120. We have to sum up the areas of two triangles to get area of depicted rectangle. The last stage of the calculation is actually a percentage of effective area coverage to maximum coverage obtained from the calculation of surface coverage of a perfect company.

The area coverage of a perfect company (in this case square area) is calculated as described above with the fact that we substitute the maximum value into the formula, and therefore it can be directly calculated:

$$2 * S = 2 * \frac{z * v}{2} = 2 * \frac{240 * 120}{2} = 2 * 14.400 = 28.800 \text{ [unit}^2\text{]}$$

The proposed model has two variants of the scoring system. The first is based on the assumption that the company should receive points even in the case of least appropriate response. Because even just the fact that the firm does business in foreign market can be regarded as a form of success, and therefore the company gets at least the minimum amount of points for each reply - A scoring method. The second assessment method is based on the assumption that for least favourable response the company will not receive any points – B Scoring method. The particular assessment options will not differ as regards the results in case of successful companies, while the less successful companies may show significant differences in the assessment, since these companies will reflect more the zero points score in case of a least appropriate response.

2.1.3 Modification of evaluation model

The evaluation system is designed in a way that it is not difficult to modify it according to specific conditions of individual industries. In the proposed scoring system is indeed used the same weight for all groups of questions, but it might be modified according to the needs of businesses, where companies can assign greater weight to one of the defined group of questions.

2.2 Application of evaluation system

Rating system described above was applied to data obtained in the engineering industry. There were approached 200 companies in the data collection, 40 out of 200 completed all the necessary questions. On the basis of the completed questionnaires the questions were analysed in the particular blocks, and each company was assigned the appropriate number of points, and therefore obtained position date to construct a graphical representation of Czech SMEs success evaluation. For each company the coverage area was calculated, and then the coverage ratio was given, which is shown in Table 2 and Table 3. The coverage ratio is shown as a ratio of a surveyed company and a perfect company.

Total results are recorded in the tables below, showing that the company achieving the best results is the company with the number 33. On the other hand the least successful enterprise is demonstrated by the serial number 21. Interval of success evaluation ranged from 22.85% to 73.69% in the A scoring method and interval ranged from 8.95% to 66.27% in the B scoring method.

The above mentioned Tables 2 and 3 show clearly the coverage achieved by all 40 companies compared to the perfect company. The best 3 companies in each scoring method are highlighted in red.

Success evaluation of single blocks for each company is indicated in the Tables 4 and 5 below. There are the results of the top three companies highlighted in red. Also there was performed a graphical presentation of results achieved in the individual blocks both according to method A and according to the method B (Figure 4).

Figure 5 shows a company that has achieved the worst rating and Figure 6 shows a company with an average rating.

Number of company:	A Scoring method	B Scoring method
1.	35,71	23,50
2.	43,47	28,90
3.	45,54	33,83
4.	40,69	27,58
5.	31,87	18,69
6.	31,93	19,54
7.	35,47	21,71
8.	47,92	33,66
9.	35,99	23,91
10.	37,84	24,02
11.	46,51	32,80
12.	31,79	17,86
13.	35,87	23,63
14.	45,68	34,65
15.	**59,74**	**51,18**
16.	57,93	47,33
17.	30,54	17,77
18.	52,88	42,58
19.	26,65	13,09
20.	44,03	32,49
21.	22,85	8,95
22.	44,94	29,04
23.	**65,40**	**57,07**
24.	58,17	43,91
25.	36,00	21,43

Table 2. The coverage ratio in%

Number of company:	A Scoring method	B Scoring method
26.	54,11	40,82
27.	35,61	20,43
28.	28,22	14,87
29.	34,37	21,61
30.	27,61	14,52
31.	50,40	36,40
32.	45,28	31,72
33.	**73,69**	**66,27**
34.	41,22	27,06
35.	39,07	24,40
36.	49,98	36,33
37.	38,49	24,98
38.	31,76	17,87
39.	57,98	44,95
40.	34,19	20,61

Table 3. The coverage ratio in%

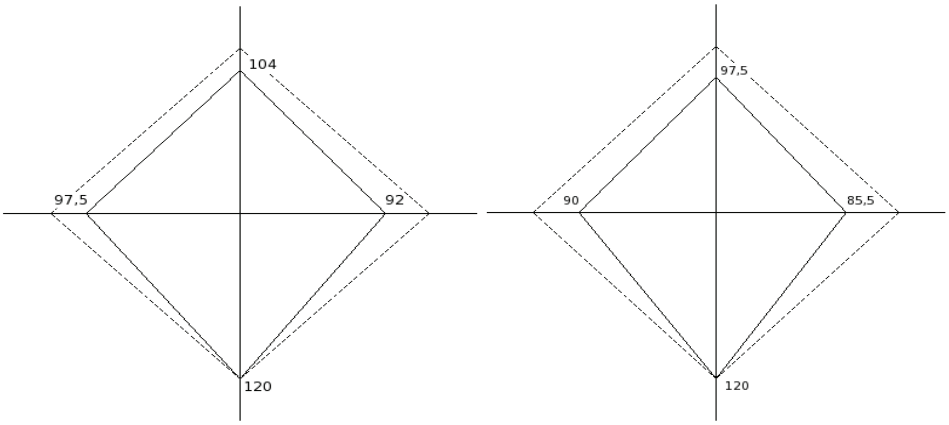

Fig. 4. Graphical presentation of the best companies with the serial number 33 (method A and method B)

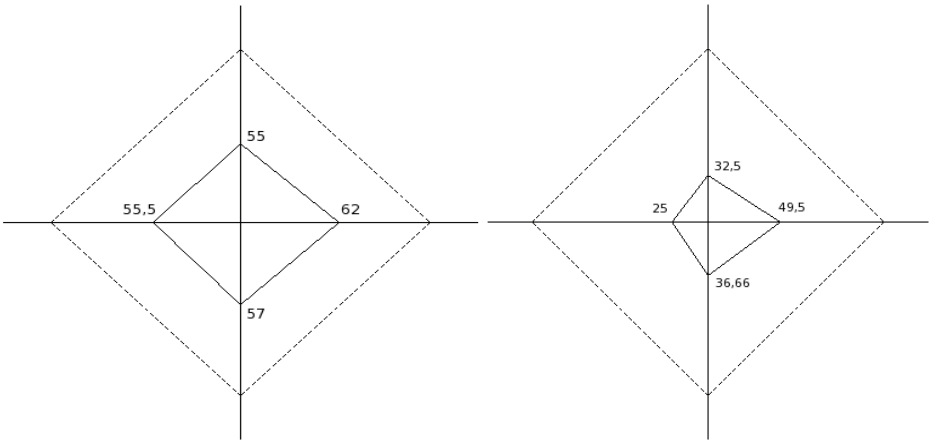

Fig. 5. The depicted rectangle of the worst company with the serial number 21

The above described model assesses the company as a complex and can be used to compare companies within one sector of industry. In addition, you can use the model to identify strengths and weaknesses of every single company with regard to their foreign trade activities. As a disadvantage may be considered that it is impossible to identify specific factors or groups of factors that influence the success of Czech SMEs on foreign markets, and especially cannot identify and define precisely the relationship between the studied factors and the resultant success rate of the company in foreign markets. This deficiency can be eliminated using the second model, which is focused on the scoring of using subjective and objective success indicators, as it is described below. This model allows us to define the dependent variable, which is necessary for further research to identify key success factors of SMEs in foreign markets.

Number of company:	A Scoring method				B Scoring method			
	I	V	M	Z	I	V	M	Z
1.	72	75	76,5	63,5	61,5	56,64	62,5	**52,5**
2.	57	102	82,5	77,5	43,5	86,64	70	**60**
3.	82	81	76,5	84,5	73,5	63,3	62,5	**80**
4.	57	87	82,5	81	43,5	69,96	70	**70**
5.	62	63	75	71	49,5	43,32	60	**55**
6.	67	72	75	57,5	55,5	59,97	60	**37,5**
7.	62	84	76,5	63,5	49,5	66,63	62,5	**45**
8.	77	105	67,5	86	67,5	90	50	**75**
9.	82	81	60	65	73,5	68,85	40	**52,5**
10.	57	93	69	80	43,5	76,62	52,5	**67,5**
11.	77	87	69	96,5	67,5	69,96	52,5	**87,5**
12.	72	63	70,5	65,5	61,5	43,32	55	**45**
13.	52	54	90	91,5	37,5	33,33	80	**82,5**
14.	57	108	90	71	43,5	106,62	80	**55**
15.	87	108	82,5	95	79,5	112,2	70	**85**
16.	97	111	75	83	91,5	109,95	60	**70**
17.	52	75	75	63,5	37,5	59,97	60	**45**
18.	87	96	75	92	79,5	93,3	60	**82,5**
19.	62	66	57	63	49,5	46,65	37,5	**40**
20.	62	87	82,5	88,5	49,5	76,62	70	**80**
21.	62	57	55,5	55	49,5	36,66	25	**32,5**
22.	97	87	75	63,5	85,5	69,96	60	**45**
23.	82	117	90	102	73,5	116,64	80	**97,5**
24.	102	105	90	69,5	97,5	90	80	**52,5**
25.	62	90	82,5	53,5	49,5	73,29	70	**30**
26.	82	108	75	90,5	73,5	106,62	52,5	**80**
27.	87	84	69	47,5	79,5	66,63	52,5	**22,5**
28.	62	62	64,5	66,5	49,5	38,31	47,5	**50**
29.	62	57	75	87,5	51,5	36,66	60	**75**
30.	**57**	**63**	**75**	**57,5**	**43,5**	**43,32**	**60**	**37,5**

Table 4. Scoring for individual blocks

Number of company:	A Scoring method				B Scoring method			
	I	V	M	Z	I	V	M	**Z**
31.	77	105	82,5	77	67,5	90	70	**62,5**
32.	72	93	90	68	61,5	76,62	80	**52,5**
33.	92	120	97,5	104	85,5	120	90	**97,5**
34.	72	81	75	80,5	61,5	63,3	60	**65**
35.	57	99	75	71,5	43,5	83,28	60	**52,5**
36.	62	105	97,5	75,5	49,5	90	90	**60**
37.	72	78	82,5	65,5	61,5	64,41	70	**45**
38.	72	84	63	51,5	61,5	66,63	45	**30**
39.	86	93	97,5	89	78	76,62	90	**77,5**
40.	**72**	**75**	**61,5**	**72,5**	**61,5**	**56,64**	**42,5**	**57,5**

Table 5. Scoring for individual blocks

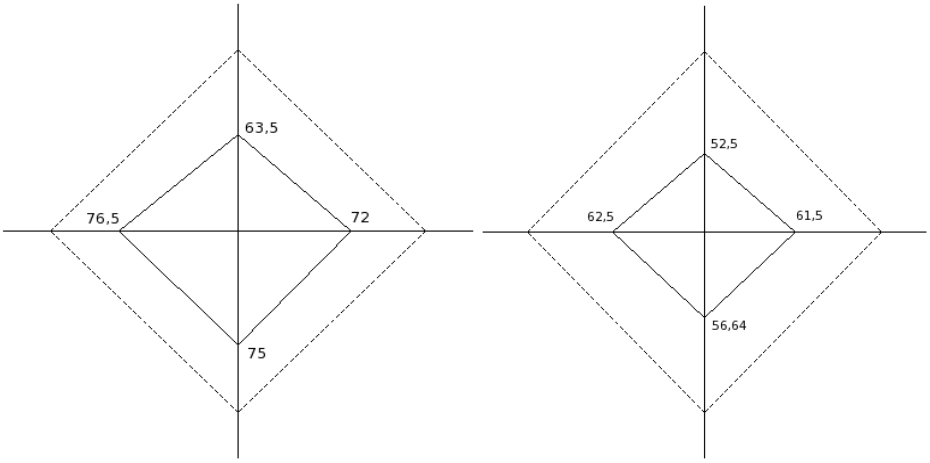

Fig. 6. The depicted rectangle of the worst company with the serial number 1

2.3 Assessment model of international enterprise performance

In the researches focused on the internationalization process there are very often used simple indicators for measuring the success of enterprises in foreign markets to identify key success factors. As a simple success indicator usable for subsequent identification of key success factors (namely for the definition of dependent variables for subsequent research) are most commonly used amount of foreign sales revenues, in addition profitability of foreign operations and international sales volume. These indicators can be classified as

indicators of objective and relatively easy to detect, but they do not provide enough information to evaluate the overall success of the company. Therefore it is necessary to add certain indicators.
For example there can be prefaced company whose amount of revenues from international activities does not achieve such large values as compared with total sales revenues. Foreign sales revenues and the volume of sales in foreign markets are not high either. In the case of using only objective business indicators, it can be evaluated as less successful or even unsuccessful. After including subjective indicators it may give different ratings. If management is satisfied with foreign activities and the targets were achieved, then we cannot consider this company as unsuccessful. So subjective indicators increase the explanatory power of assessments and higher explanatory power of the conclusion of subsequent research focuses on identifying key success factors.

2.3.1 Performance evaluation model of international company

The second model uses the multidimensional success indicators to evaluate success. As it was mentioned above the model consists of both objective indicators and subjective indicators. Among the objective indicators belong the intensity of SMEs international activities, the absolute profitability of SMEs international activities and the relative profitability of SMEs international activities. Among the subjective success indicators are classified the success of targets achievement and the satisfaction of management with international activities. A combination of objective and subjective indicators will give greater informative value than simply using the most commonly used indicators, for example sales or profits. The indicators should be adjusted to be used for further research.
Among objective indicators belong the following:

The SMEs intensity of international activities

The SMEs intensity of international activities is evaluated as the sum of all revenues generated from international activities. The total amount of sales would not provide relevant data, therefore there is used the share of revenues generated by international activities in relation to total company revenues. Because of the more accurate results, the revenues are taken as the average sales for the last three years. Intensity indicator is necessary to adjust for the purposes of statistical analysis as follows. SMEs with an intensity of less than 15% will be rated with "0", SMEs with intensity in the range of 15-40% are rated with "1", the companies whose intensity is 41-65%, are rated with "2", and businesses whose intensity exceeds 65 % will be rated with "3".
In the case of entry into foreign market through licensing then the scoring scale is as follows. If the intensity is less than 3% the number "0" is assigned, in the range of 3-6% it is the number "1", in the range of 7-10% it is the number "2" and if the intensity is higher than 11% then the rating is number "3".

The overall profitability of SMEs international activities

It can mean several things within the presented methodology considering a term the overall profitability. It can be the gain or loss which was achieved by SMEs in foreign market. Under the terms gain and loss is meant the difference between the total foreign sales revenues and cost associated with SMEs international activities. There may be two possible

outcomes: "business activities in foreign markets are profitable" or "activities in foreign markets are not profitable". For purposes of data analysis is needed to adjust the obtained data. If the result is positive and the company will be profitable, this result is rated by number "2" if not then the number is "0".

The relative profitability of international activities

Relative Profitability Indicator of the Czech SME international activities is designed as comparison of the profitability of the activities undertaken in the domestic market and the activities conducted in foreign markets. The data obtained should be adjusted and again transformed. If activities in the domestic market are more profitable than the activities in foreign markets, then the result is evaluated with a "0". If it is profitable on the same level, the result is "1" and finally if the profitability of domestic activities is lowers than the foreign ones, the number "2".

The Success of the Targets

The success of the targets indicator assesses, whether in the company the objectives related to operation in foreign markets were attained. Performance is measured by scales, namely: set targets were not achieved, set targets were partially achieved, most of the targets were achieved, and all the targets were achieved. For subsequent data analysis it was necessary to evaluate the obtained data. The procedure was as follows: "0" for missed targets, "1" for partial achievement of targets, "2" for achievement of most targets, "2" for achievement of all targets.

Management Satisfaction

The second subjective indicator focuses on the general management opinion of the success evaluation of their business internationalization. Respondents will be asked to categorize their internationalization activities in one of the following groups evaluating the success of internationalization activities: "unsuccessful", "yet unsuccessful, but they promise development" and "successful". These indicators of success were evaluated for subsequent analysis as follows: "0" to failed, "1" to yet unsuccessful, but they promise development and "2" for successful internationalization activity.

Overall performance

A complex evaluation indicator of international performance consists of all above discussed success indicators. A detailed description is shown in Table I. First, based on gathered information, there will be summarized individual success indicators. On its basis the individual companies will be grouped into cluster according to success. In case of entry into foreign markets through exports, joint ventures or direct investment, the existent company can receive a maximum of 12 points. Firms are sorted into three groups. Companies that reach more than 9 points are identified as very successful companies. Firms that reach a range of 5-8 points are identified as successful companies. Enterprises that reach less than 5 points are classified as unsuccessful with regard to their international activities.

Individual firms are sorted into three groups. Companies which have reached more than 7 points will be marked as very successful companies, the ones that reach a range of 3-6 points would be assessed as successful and companies that achieve less than 3 points will be classified as unsuccessful with regard to their international activities.

			Success Indicators						
Export			Target Achievement	Management Satisfaction	Absolute Profitability	Relative Profitability	Intensity	Cumulative result of success SMEs international performance	Result for statistical analysis
Joint Venture									
Direct Investment									
Partial achievement of targets or missed targets	Achievement of most targets	Achievement of all targets	Successful	Profitable	International activities are more profitable to domestic activities	65 % and more	Sum of success indicators <9;12> very successful enterprises	Sum of success indicators	
Unsuccessful	Promising development								
Unprofitable									
Domestic activities are more profitable to international activities	Profitability is equal					<15–40 %) <40–65 %)	Sum of success indicators <5;8> successful enterprises		
Less than 15 %									
Sum of success indicators < 5 unsuccessful enterprises									

Table 6. System of Czech SMEs success evaluation

3. Conclusion

The paper deals with the success evaluation of small and medium-sized companies in the internationalization process. The process of internationalization is defined in the literature

in many ways; there is a countless variety of different approaches and models of firm's internationalization process. Like all processes in the firm also the internationalization process is accompanied by risks. For risk management it is important to know what the key success factors are in the international arena.

In this article there are presented two evaluation models that could be used by SMEs to determine several aspects. Not only how strong the companies are compared to competitors, but also at what level their key success factors in the process of internationalization are. The aim was to find a simple method to help small and medium enterprises assess their situation in the field of internationalization and to help them identify their strengths and weaknesses in this area. The first success evaluation model is based on graphical image of results. This graphical illustration of results allows us to simply compare the enterprises in terms of surveyed sectors surveyed sectors. To increase the information value of the model, the model is supplemented with numerical values, which simplify us the identification of strengths and weaknesses in relation to foreign trade activities. For data collection structured questionnaires are used and publicly available company's documents.

The second model is based on the use of multidimensional assessment indicators. On the basis of designed system, it is possible to assess surveyed SMEs and divide them into certain groups according to the achieved fruitfulness. The groups are: „unsuccessful", „successful" and „very successful". The evaluation success system of SMEs in the foreign market can enable comprehensive research to identify key factors influencing the successful internationalization of Czech SMEs in the foreign markets. Defined system is based on complex evaluation of Czech SME using multidimensional indicators, both objective and subjective. The proposed evaluation system monitors the proportion of export sales, the profitability of international activities, and both absolute and relative ones. Further there is investigated the management satisfaction with international company's activities and also whether the planned targets would be achieved. On the basis of this information the total company's performance is assessed. The enterprises are divided into several groups according to international activity success mentioned in the table No.1.

4. Acknowledgment

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10

A Proposed Framework for Service Trade Mode Selection: The Value Chain and Value Co-creation Perspectives[1]

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1. Introduction

Owing to business trends moving toward service economy and globalization, service trade is becoming a vital issue for many countries. This is particularly true for countries either fostering industrial development by governments or with lower revealed comparative advantage index (RCA) for service sectors.

In fact, the growth of service exports within the past 25 years is much higher than that of goods exports. The value of service exports has grown sevenfold since 1984, with a compound annual growth rate of nearly 7% per year (Habermann et al., 2002). In 1995 the World Trade Organization (WTO) was formed to help nations deal with the issues of service trade in a much more systematic manner. Then, came the General Agreement on Trade in Services (GATS) with its corresponding modes of service trade. In light of this growth, it is surprising to find that there is very little research focusing purely on service trade, in contrast, for example, to the number of studies on manufacturer internationalization (Cicic et al., 2002).

Generally speaking, key drivers for service globalization include deregulation and the opening of closed domestic markets, impacts from the GATS, increasing demand for services resulting from economic growth, advanced ICT, and trends towards service outsourcing (La et al., 2005).

Moreover, the current work on service research overemphasizes the features of service itself, processes and encounter (i.e., levels of service intangibility, contact and customization). For instance, Maister & Lovelock (1992) positions service industries by two static features: level of customization and level of interaction, and suggests that each service industry should belong to one single position. Restaurants, for example, are regarded as a service type with high degrees of customization and interaction. However, Teboul (2006) shows that restaurants can perform well and serve customers across a variety of modes, as in the case of fast food restaurants with low levels of customization and interaction. Such a claim may imply that, as long as a given service type can truly fulfill customer needs, service providers

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can still deliver services in quite different manners, while still cultivating a suitable environment for co-creating value with customers (Payne et al., 2008). Moreover, if the context of service target is taken into account, the service provider has to further think decisions on rearranging the value chain in this aspect.

The above evidence leads to a hypothesis that both value co-creation with customers and value chain analysis may contribute to determining the most appropriate GATS modes for service trade. Consequently, this research examines how to identify strategies and practical routes of service trade by integrating the viewpoints of value chain and value co-creation from the supplier's viewpoint. To explore this issue, we examine the healthcare industry case which focuses upon supplier value creating processes.

This paper is organized as follows. Section 2 highlights the service trade framework and the model of value co-creation. In Section 3, we introduce the basis of the healthcare sector (including the challenges, needs and the value chain), and the story of two representative Indian cases from the real world. Section 4 elaborates how to integrate with the modes of service trade and suppliers' value co-creation strategies through findings of these two cases, and validates by a pilot survey on Taiwanese hospitals. Finally, we conclude with the findings, implications and future works.

2. Current understanding: theoretical review

To provide a richer background for elaborating and building the framework for service trade, we review the literature in two main areas: the service trade framework with implications on value chain movement from GATS (so as to help redesign the change of value chains in the service trade context), and practices for identifying entry points of value co-creation for service providers.

2.1 Service trade and value chain movement

GATS, a formal written agreement of WTO, came into force in 1995, is the first set of legally enforceable rules of trade measure governed by WTO members in services. As shown in Figure 1, GATS defines trades in services as occurring through four possible modes of supply: cross border supply, consumption abroad, commercial presence, and presence of natural persons (Hamermann et al., 2002).

Cross-border supply of services (Mode 1) requires physical movement of neither supplier nor customer. The service itself crosses the border, usually delivered through information and telecommunications (e.g., through fax, e-mail, web services) or physical transportation (e.g., 3rd party global logistic service). Typical examples include management consulting (e.g., studies, reports, business plans and financial advice), education and training (e.g., e-learning and distance learning), and healthcare (e.g., e-medicine) (Hamermann et al., 2002).

Consumption abroad (Mode 2) involves services provided to another country's citizens, who are required to travel to the location for those services. The most significant examples are travel-related services and those services bundled with tourism (e.g., medical travel, agri-tourism, eco-tourism, and edu-tourism) (Hamermann et al., 2002).

Mode 3 is called *commercial presence* wherein services are sold in a member's territory by entities that have set up a presence there, but originate in another member's territory. Commercial presence refers to instances where a company from one country establishes subsidiaries or branches to provide services in another country, for example, financial services (setting up an oversea presence), construction engineering (setting up project offices to manage

local infrastructure projects), information technology (local offices set up to serve local clients), and distribution (including shipping, warehousing and logistics) (Hamermann et al., 2002).
Finally, *the presence of natural persons* (Mode 4) provides services in which require the temporary movement of natural persons. Service providers travel from their own countries to supply services in other countries. The most significant examples are exports that temporarily travel across borders for services like construction (e.g., architects and trades people), education and training (e.g., trainers and professional speakers), and recreational and sporting (including coaches, trainers and promoters) (Hamermann et al., 2002).

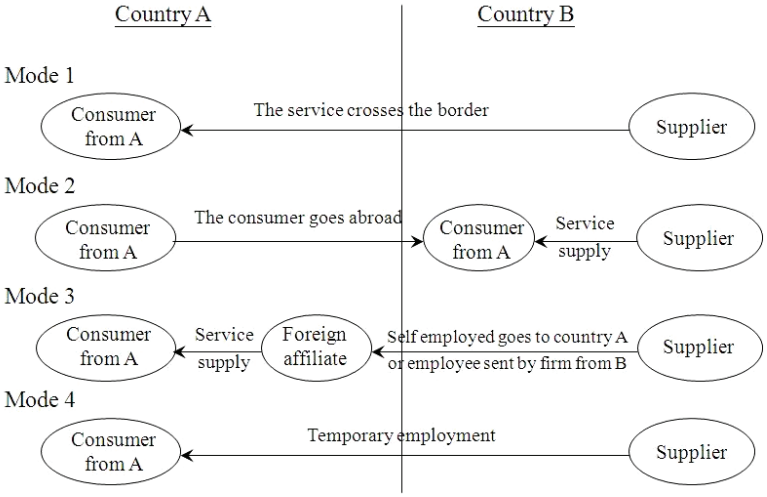

Fig. 1. The synthetic view of four GATS modes (Source: Hamermann et al., 2002)

According to GATS, it is clear that service trade no longer limits itself by the type of commercial presence (as the case of manufacturing sectors); in contrast, GATS helps not only stress the importance of service encounter design, but also highlight the possible impact of value chain design and possible patterns of need fulfillment for foreign markets.
Corresponding to the change of value chains, the mode of service trade from GATS in fact offers some practical guidance. As shown in Table 1, the four modes of service trade lead to different degrees of change and types of movement for existing value chains. In particular, a firm which adopts Mode 3 may result in the most significant impact on the movement of existing value chains, while Mode 1 may cause almost no change for existing value chains. Yet, at the same time, owing to different degrees of trade entry for the supply side and different levels of interaction for the demand side, a service provider adopting each mode may suffer correspondingly different degrees and types of challenges. Typical challenges include how to build customer trust, how to deliver services through current value chains, and how to build service delivery systems when no local networks exist.
Consequently, it becomes a vital issue to diagnose precisely current problems or unfulfilled needs in a region, and then design appropriate modes to enter the market, while subsequently strengthening the capability to penetrate into foreign markets. Service-dominant logic (SDL) or, more specifically, value co-creation, seems to provide a good starting point in this regard.

Mode	Type	Movement of the value chain
Mode 1	Cross-border supply of services	No change (delivery through remote approach)
Mode 2	Consumption abroad	Movement of clients (i.e., service receiver)
Mode 3	Commercial presence	Movement of the resources (asset/capital) of service providers
Mode 4	Presence of natural persons	Movement of people at service encounter (i.e., natural persons / service providers)

Table 1. GATS modes and the corresponding movements of value chains

2.2 Value co-creation

SDL stresses the importance of involving customers as part of the value co-creating processes. In particular, SDL emphasizes that service providers should not focus on delivering ready-made value to customers, but rather on supporting their customers' value creation (Gronroos, 2008).

Following Lusch and Vargo's (2006) concept, Payne et al. (2008) develops a process-based conceptual framework for managing value co-creation processes, with emphasis on the encounters between customers and suppliers. In this framework, firms may identify value-creating processes through the supply point of view, called supplier value-creating processes. The creation of value for customers by suppliers begins with an in-depth understanding of the customer's value-creating processes. However, the types of value co-creation are largely contingent on the nature of their industry, their customer offerings and their customer base. Three types of value co-creation opportunities exist in this regard: (1) opportunities provided by technological breakthroughs, especially as new technology solutions help create new ways for engaging with customers to co-create; (2) opportunities provided by changes in industry logic, particularly the industrial transformation driven by the development of new channels for reaching customers; and (3) opportunities provided by changes in customer preferences and lifestyles.

Additionally, three broad forms of encounter, communication, usage, and service, help facilitate value co-creation (Payne et al., 2008). Communication encounters encompass activities which are primarily carried out in order to connect with customers. Usage encounters refer to customer practices in using a product/service and include the services which support such usage. Service encounters comprise customer interactions with service personnel or service applications.

By its very nature, the concept of value co-creation is now driving service firms to change their current inside-out (i.e., firm-centric) viewpoint into an outside-in (i.e., customer-centric) perspective. If the value co-creation concept holds equally true for service trade, it might further imply that firms should capture customer needs and their own core competence exactly, thus adjusting their value chain to fulfill the market requests. Interestingly, such a perspective not only echoes GATS in certain ways, but also provides a possible alternative for analyzing the issues in service trade.

The authors believe that the integration of value chain analysis with value co-creation may help create a more innovative and holistic analytical framework for the service trade context, resulting in a stronger match with the GATS model.

3. The framework and the analysis

Based on the literature reviewed in Section 2, we aim to develop a framework for service trade mode selection by integrating the concepts of value chain and value co-creation. We also consider what roles a service provider should take when entering a new market. The proposed framework is mainly developed through a deductive approach and demonstrated by cases in the healthcare industry. The major reasons for using the healthcare industry as our exemplar are summarized as follows: (1) healthcare is a relatively big and complex industry amongst all service sectors; (2) it is a highly human-oriented, professional, localized, and regulated industry in most nations; (3) it provides both essential and value-added services, and is regarded as a highly innovative service sector.

We start by introducing the basis of the healthcare sector, including the challenges and needs within the industry, as well as the value chain of the industry. We then analyze how firms apply different modes for service trade through two representative Asian hospitals.

3.1 Challenges and opportunities of the healthcare industry

The global healthcare market is substantial in size comprising trillions of US dollars in revenue annually. The clinic service itself, for instance, accounts for US$ 804.2 billion; the market of health management and related services in total contributes US$ 235.5 billion; services for personal health information adds to US$ 21.6 billion; whereas professional medical / educational training devotes another US$ 4 billion to this industry (Acharyulu & Reddy, 2004; Dacanay, 2005). Despite already being impressive in size, the potential for growth in the healthcare market is nevertheless equally high. Particularly, when reviewing the eco-system and customer needs of the healthcare system, it is not surprised to find many opportunities and challenges worth further investigation or development.

In terms of barriers to the development of trade in health services, Gonzales et al. (2001) help summarize key concerns as following: nature of medical practice, laws and regulations, financing of care and insurance coverage, accreditation and standards, immigration and foreign exchange requirement, lack of market search on demand for health services, and competition within regions.

With respect to the major trends and opportunities for international medical services, they can be divided into two categories: problems for healthcare (system) providers, and changes in personal needs for healthcare services. With regard to problems for healthcare (system) providers, three key items were identified: (1) long waiting queues for operations in publicly owned healthcare systems in developed countries; (2) unqualified domestic medical service offerings in less developed nations; and (3) rapidly increasing costs of medical insurance and healthcare resulting from higher risks for treatment (Garcia-Altes, 2004).

As for the changes in personal needs for healthcare services, six trends are worth addressing: (1) a paradigm shift in healthcare from treatment to prevention; (2) lifestyle choices that favor surgery to enhance beauty and health; (3) the pursuit of holistic healthcare; (4) demand for customized services for wealthy people; (5) avoiding payments for expensive, domestic medical services (or insurance); (6) the emergence of international marketplace with lower cost options for healthcare services (Garcia-Altes, 2004; Carrera & Bridges, 2006).

Finally, based on GATS framework, Gonzales et al. (2001) helps illustrate the potentially six different forms of trade in health and health-related services, as shown in Table 2.

Mode	Type	Modes of trade in health services
Mode 1	Cross-border supply of services	Trade across borders through mail and electronic media; shipment of samples; analysis of information
Mode 2	Consumption abroad	Care for foreign patients Health profession educational services for foreign students
Mode 3	Commercial presence	Establishment of foreign companies, subsidiaries, or foreign investment for the management or provision of health services
Mode 4	Presence of natural persons	Temporary movement of health personnel to provide services abroad Short-term health consulting assignments

Table 2. GATS modes and the corresponding trade modes of health services (Source: Gonzales et al., 2001)

3.2 The value chain of the healthcare industry

Because of the design of domestic regulation and service systems, as well as the differences of service types, patterns for the value activities of healthcare services are hard to generalize. However, as service providers desire to extend their service targets into foreign markets, it is necessary to have at least a rough blueprint depicting this value chain.

By analyzing all possible activities within the healthcare processes, we elaborate those activities mentioned in Acharyulu & Reddy (2004), Dacanay (2005), Garcia-Altes (2004), Carrera & Bridges (2006), Oberholzer-Gee et al. (2007) and Herzlinger & Virk (2008), and draw the value chain of this industry as shown in Figure 2. Three stages consisting of nine key processes represent primary activities, and four types of supportive activities characterize the value chain.

With regard to the primary activities of this value chain, the three stages are pre-stage (i.e., the engagement and design stage, which include the basic activities of inquiry, engage, arrange, and inbound), during-stage (i.e., the time for receiving primary medical services, which include activities of pre-operative care, various types of major medical services, and post-operative care), and the post-stage (i.e., follow-up stage, which includes activities of outbound and after-sale services). Most activities within the pre-stage and post-stage can be regarded as possible service encounter points even though they may not be viewed as major services from the customer's perspective. Besides, these encounters can be done either as face-to-face or non-face-to-face, and either inside or outside hospitals, depending upon the complexity of the key medical services, as well as the preferences of customers.

In contrast, most activities in the during-stage are services offered during the encounter point. However, because of the high variation of medical service patterns (which can be either in-patient or out-patient, and which can be classified into five categories according to the needs of customers/patients), the portion of these activities which can be done in back-stage varies. For example, activities which are not sensitive to real-time and face-to-face encounters can be handled by people who do not present themselves in the front stage.

In addition to primary activities of the healthcare value chain mentioned above, we deal with the supportive activities in the last part herein. Generally speaking, four categories of supportive activities can be identified: software, hardware, material, as well as information

and cash flow. As seen in Figure 2, each of them covers a variety of activities. The software category covers at least five types of activities: operation management, staff training, laboratory services, R&D and call center service. The hardware category covers equipment, clinics/ room and accommodation. The material category includes transcript, medicine, food and others. While the information and cash flow category takes into account such activities as marketing, payment and insurance.

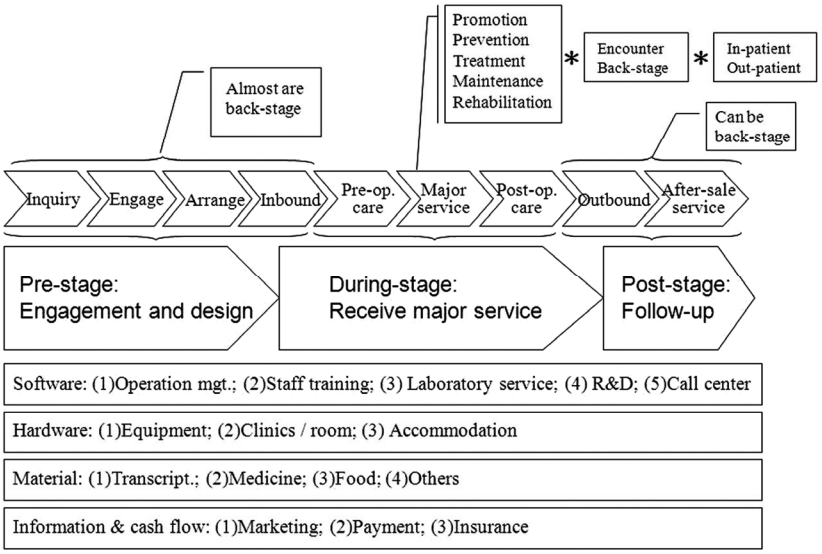

Fig. 2. The value chain of the healthcare industry

3.3 How hospitals penetrate into global markets: Lessons from two Indian cases

In order to clarify possible practices for hospitals penetrating global markets, we here introduce two representative cases from India: Apollo Group and Fortis Healthcare. These two hospitals are ranked as the top two hospitals in India, both in size and quality. Meanwhile, their strategies for internationalization have also been identified as representative for understanding the most common approaches to the healthcare service trade (Oberholzer-Gee et al., 2007; Herzlinger & Virk, 2008).

Moreover, with regard to the reasons for applying data from Asian cases, it was mainly because that Asia is regarded as the most representative and popular place offering medical services worldwide by multiple modes.

3.3.1 Apollo's approaches to global markets

Apollo Hospitals Group, the first for-profit hospital in India, is one of the largest private healthcare group in Asia, managing more than 30 hospitals with 6,400 beds. Apollo has treated patients from more than 50 countries; whereas its share in India's tertiary care market is about 14%. The Apollo Group, fairly speaking, is active in many parts of the healthcare value chain. In particular, Apollo Hospitals Enterprise Limited (AHEL), the publicly listed holding company, owns and operates hospitals in India and abroad, specializing in providing up-market tertiary care (Oberholzer-Gee et al., 2007).

To retain its leading position and to utilize its core competence, Apollo Group is keen to penetrate into global market through multiple approaches. The key strategies of service trade adopted by Apollo Group are described as follows.

Direct investment in other countries: The first Apollo hospital built outside India is Colombo Hospital in Sri Lanka. The main reasons for this direct investment decision are summarized as follows: (1) Apollo had a significant number of patients from Sri Lanka before starting Colombo Hospital; (2) no one else was willing to invest in Sri Lanka; (3) Sri Lankan patients were unwilling to accept Sri Lanka doctors; (4) there were few qualified nurses in Sri Lanka (Oberholzer-Gee et al., 2007).

Medical business process outsourcing: Apollo Health Street Ltd. (AHSL), a subsidiary, is involved in medical business process outsourcing. The most often referenced example is AHSL's hiring of more than 50 certified coders for American health care providers. In order to perform this business, Apollo built up its IT platform and related infrastructure, and set up a branch office in the US (Oberholzer-Gee et al., 2007).

International consulting services: In order to conduct this business, Apollo took two types of projects: transition and management (which help design and build facilities for hospitals) and operation management (which enables Apollo to actually run the facilities outside its own hospital, and staff the senior management team). Three main reasons can be used to explain why Apollo is competitive in this venture: (1) less cost to build a hospital (about half the cost of a competing Australian company's design); (2) integrated service provided by Apollo Group, including human resource recruitment, management and medical equipment sourcing; (3) lower consulting fees (Oberholzer-Gee et al., 2007).

Medical tourism: Apollo regards lower cost of treatment (less than 1/10 the cost of American hospitals) coupled with equivalent or better quality as its competitive advantage. Thus, it started its medical tourism business in the early 2000s by targeting four types of international patients: Indians living in other countries, countries with national healthcare (like UK and Canada), US patients under 65 without heath insurance, as well as patients from regional markets where top-quality hospitals and health professionals were hard to find. To implement this business, Apollo cooperated with medical tourism agencies and brokers worldwide. Additionally, Apollo is building an after-care staff clinic in the UK to provide follow up care of patients (Oberholzer-Gee et al., 2007).

To sum up, the four strategies applied by Apollo Group not only cover the four modes of GATS but also greatly illustrate ways of combination of GTAS modes for implementing service trade strategies. More specifically, Apollo's direct investment abroad strategy represents a great combination of Mode 3 and Mode 4; Apollo's medical business process outsourcing strategy can be seen as the application of Mode 1 and with minor support of Mode 3; Apollo's strategy of offering international consulting services is accomplished through Mode 4, whereas its strategy in running medical tourism business shows the case of how Mode 2 is implemented with the minor support of Mode 3.

3.3.2 Fortis' approaches to global markets

Fortis Healthcare started its first hospital in 2001, and it has become the second largest for-profit corporate hospital group in India since 2007. In particular, with the acquisition of Escorts Hospital in 2006, Fortis is regarded as one of the largest healthcare systems in the world by number of procedures. Fortis refines many protocols imported from the west for the Indian market. As well, it makes significant investment and partners with leading

western healthcare groups, in order to build up current best practices, mechanisms and supported IT systems (Herzlinger & Virk, 2008).
Fortis decided to enter the international market based on the following rationales: (1) international patients typically yield more profit than local patients; (2) Fortis perceives its competitive advantage as low cost coupled with high quality care and world class outcomes on a high volume of procedures; (3) Fortis' excess capacity resulting in under-utilized facilities (Herzlinger & Virk, 2008).
To improve its competitiveness and attractiveness in the worldwide market, Fortis identified its focus target destinations and applied the following actions: (1) cultivating relationships with institutions in the US, Europe and the Middle East, hoping that foreign governments could enable Fortis to become an extension of domestic health care networks; (2) cooperating with medical tourism agencies, based in the US, UK and Canada, which routed patients to Fortis for a commission; (3) establishing direct billing relationship with some international insurers to provide cashless medical care to their subscribers; (4) signing contracts with the NHS under which Fortis' physicians could conduct a fixed number of operations in India for British patients, or fly to the UK with their team to conduct surgical procedures; (5) leveraging referrals made by Indian doctors in the US (Herzlinger & Virk, 2008).
After taken the above efforts, Fortis entered international markets through two major strategies, in order to fulfill different needs in different target areas and to leverage its core competence: (1) building an emergency cardiac center in Afghanistan, and (2) developing medical tourism business with supportive actions (Herzlinger & Virk, 2008).
From the very nature, these two strategies applied by Fortis also demonstrate how Fortis applied and combined these four modes of GATS. More specifically, Fortis built its service site in foreign countries successfully mainly through Mode 3, whereas Fortis realized its medical tourism business realized by applying Mode 2 with minor support of Mode 4.

4. Approaches to co-creating value and corresponding entry mode

Based upon the aforementioned cases, we see value co-creation as a key factor for service providers penetrating into new, foreign markets successfully. In particular, new service providers can look for opportunities for value co-creation through both local service providers and local patients.
We start with elaborating how to connect different modes of service trade to create strategies for value co-creation between providers and customers through the two Indian cases. We then summarize possible types of value that can serve as a co-creation basis for these two types of customers; the corresponding targets, conditions, approaches and detailed information are also identified. Additionally, we do a pilot survey on Taiwanese hospitals for concept validation. Finally, we match these value classes with the corresponding modes of service trade proposed by GATS.

4.1 Value co-creation with service providers

In terms of value co-creation with local service providers, business-to-business (B2B) is the major type of relationship between two parties. It is seen that the typical types of value co-creation arise mainly from the enhancement of current business competencies for domestic healthcare service systems.

Table 3 summarizes the types of value co-creation, and their corresponding features and practices in the B2B context. According to the table, three types of value co-creation with service providers on service trade are identified: cost reduction, service quality improvement and long-waiting queue resolved. When the target is taken into account, we find that these three types of co-created value are appreciated by different target countries: the healthcare service providers in developed countries may welcome foreign service providers that can bring any of the three types of values to them, while less-developed countries may appreciate those foreign service providers that can bring the value of capability improvement to them. Moreover, not surprisingly, the three types of co-created value in B2B context also call for different entrance strategies and pre-conditions, as shown in Table 3.

	Type 1	Type 2	Type 3
Major targets	Developed countries	Developed & less developed countries	Developed countries
Types of co-created value	Cost reduction / efficiency improvement	Quality assurance / capability improvement	Problem solving for the system challenges / Long-waiting time resolving
Strategies for entry	Process standardization Willingness to outsourcing	(Resource) exchange and leverage between each other	Resource expansion (by building partnerships)
Pre-conditions	Standardized process / activity Clarification of each party's responsibility Feasibility of replacing current activities with ICT applications	Clarification of each party's responsibility Capabilities for problem solving / with reputation	Willingness for service payers taking the responsibilities Recognized service quality and price
GATS modes applied	Mode 1 & 2	Mode 1, 3 & 4	Mode 2
Applied primary activities in front stage	Patient movement	Long distance diagnosis Set up sub-branches, including after-care service	Patient movement for referral or transfer
Applied primary activities in back stage	Tele-medicine Call center Remote diagnosis	Tele-medicine Remote diagnosis	Remote diagnosis
Applied supportive activities	Outsourced electronic transcript	Plan / consultancy services Staff training programs (thus driving Mode 2)	Information transparency

Table 3. Types of value co-creation with service providers on service trade

We now turn our focus on how these three types of value co-creation affect in applying GATS modes and in changing of value chain activities. For those pursing for value co-creation on cost reduction aspect, it may be either realized by moving patients abroad (Mode 2) or by outsourced the supportive and back-end activities abroad. For those regarding service quality improvement as the core for value co-creation, it can be made by utilizing those capabilities abroad directly (including doctors and back-end services; Mode 1) and by pulling foreign sources into domestic places (Mode 3 and Mode 4). As for those regarding solving the long-waiting queue problem as the primal goal for value co-creation, building a new service channel for easing the bottleneck may be the most efficient practice, which calls for an integrated solution leading current patients going abroad through referral or transfer system and with same guarantee in service quality and after-care services (Mode 2).

4.2 Value co-creation with customers

In this case, most situations are business-to-customer (B2C) rather than B2B. The types of value co-creation are mainly derived from fulfilling end customer needs through creating much greater service scope or utilizing ICT applications. Table 4 summarizes the five possible types of value co-creation, and their corresponding features and practices.

According to Table 4, we identify five types of value co-creation with end customers/patients on service trade: (1) holistic experience, (2) value-added services, (3) higher service level (in quality), (4) cost down, and (5) elimination of waiting time for receiving services. When the target is taken into account, the corresponding targets of each type in sequence are: (1) rich people willing to having new experience, (2) people going for travel with extra health service needs, (3) rich people care basic health, (4) people without enough medical insurance but need certain services, and (5) people unwilling to wait and with limited budget for receiving the service. Moreover, the five types of cocreated value in B2C context call for different entrance strategies and pre-conditions (see Table 4).

We now turn our focus on how these five types of value co-creation affect in applying GATS modes and in changing of value chain activities. In contract to the B2B context, although different target customers pursue different goals for value co-creation, most of the individual needs are all satisfied through Mode 2, with minor support of Mode 1 and Mode 3. This is mainly because different combination of travel and healthcare services can shape different service packages that bring different values to customers (e.g., health tourism, medical tourism, medical travel, and wellness tourism). As well, in the B2C context, it is hard for service providers to generate interfaces for value co-creation with individual customers mainly through unperceived key service activities. Thus, except for primary activities in front stage, primary activities in back stage and supportive activities are not the focus for service trade implementation in this regard.

4.3 Pilot survey on Taiwanese hospitals

To have further understanding on how hospitals treat and perceive on modes of service trade, this study held a pilot survey on Taiwanese hospitals. Most of the measures were adapted from Cicic et al.(2002), Erramilli et al.(1995), and Fischer et al.(2003); whereas the focus was put on the actions, intentions, purposes and concerns of these hospitals' decisions on service trade mode selection. Within the questionnaire, the measurements were designed with 7-point Likert scale (1= strongly disagree, 7=strongly agree). The whole survey process ran through July 2010 to September 2010. The questionnaire was distributed to the task

owners of the 30 Taiwanese hospitals that join the medical travel promotion project initiated by Taiwanese government. We received 24 respondents in total finally, while only 23 respondents were validated.

	Type 1	Type 2	Type 3	Type 4	Type 5
Major targets	Rich people willing to experience (Wellness tourism)	People going for travel (Health tourism)	Rich people care basic health (Medical tourism)	People without enough insurance (Medical travel)	People unwilling to wait and with limited budget (Medical travel)
Types of co-created value	Holistic experience	Value-added services	Higher service level (in quality)	Cost down	Elimination of waiting time for receiving services
Strategies for entry	Co-create new service climate	Add services to service stakeholders	Deliver reputation service quality than domestic players	Deliver cheaper but qualified services	As current providers' partners for resource expansion
Pre-conditions	New experience and free of risks	Capability of bundling extra services into existing packages	Reputation with customized guarantee (e.g., privacy)	Clarification of each activity's responsibilities	Clarification of each activity's responsibilities
GATS modes applied	Mode 2 (supported by Mode 1 and 3)	Mode 2 (supported by Mode 3)	Mode 2 & 3 (supported by Mode 1)	Mode 2 (supported by Mode 1 and 3)	Mode 2 (supported by Mode 1)
Applied primary activities in front stage	Customer movement Call center Set up sub-branches	Customer movement Set up sub-branches	Customer movement Set up sub-branches Remote diagnosis	Customer movement Call center Set up sub-branches	Customer movement

Table 4. Types of value co-creation with customers on service trade

Our results show that all the respondents prefer Mode 2, and regard this mode as an important mode for service trade (5.35). Meanwhile, most of the respondents (22/23) practice Mode 4 and rank it as the most important mode for service trade (5.44); one possible explanation is that hospitals may benefit significantly from the international medical aid programs in recent years and the short-term staff exchange programs. In contrast, Mode 3, the most common practice in manufacturing industries, is found less applied (8/23) and less interested (4.03) by the respondents. As for Mode 1, even though half of the respondents (12/23) have applied in order to offer services to both foreign customers and foreign

institutes, this mode is found hardly being popular unless both deregulation (in Taiwan) and the perceived importance (4.48) being resolved.

We then take an analysis on key factors behind the decision on service trade mode selection. According to our finding, insufficient foreign market information, regional regulations, and perceived investment risks (which including both sunk cost and probability of successful market penetration) are found critical for those hospitals in determining the modes for service trade. Meanwhile, the degree of internationalization of the firms and the degree of value chain connections with global markets for the healthcare industry are far behind the case of manufacturing industries. It may imply that an immature global service chain may lead firms less interested in adopting Mode 3 practices. That is, these interviewed hospitals with less experience in globalization prefer start their first business trial and design through B2C or B2B2C approaches, rather B2B ones.

Similar patterns can be also found from the analysis on service offering and goals of the respondents. According to the survey, these respondents regard service innovation and new market exploration as the two major purposes for service trade trial. However, when the emphasis is put on value positioning and service offering, the respondents are found tend to serve as direct healthcare service providers (rather supporters of regional hospitals), thus being more likely regarding current regional service providers as competitors (rather co-opetitioners). In other words, the respondents may design business models based on both B2B(2C) and B2C practices, putting most of their emphasis on value co-creation with end customers.

Consequently, findings of this pilot research tend to reveal that concerns on value chain and co-opetition with service providers (the supply side), and interests on selected targets on need identification and value co-creation (the demand side) may influence each other interactively, thus having impacts on the determination of the appropriate modes for service trade.

4.4 Linking value co-creation and entry modes

According to Table 3, Table 4 and the findings from our pilot survey, we found that a provider can generate extra value/revenues by two means: (1) creating extended healthcare business lines, which is B2B oriented, and is especially achieved through the extension of supportive and back-end activities), and (2) generating new customer base, which is B2C oriented and is especially achieved though tourism and local reach. Moreover, these two means are highly related to the mode of service trade. On the one hand, for those who are interested in creating new business lines, they may emphasize on developing practices through Mode 1 and Mode 4. On the other hand, for those who want to focus on earning new customer base, they may start their service trade business by Mode 2 and Mode 3.

Additionally, with regard to the challenges / barriers of applying each mode of GATS, they may have strong links with the competence of new service providers. Here, we make the following statements based on the aforementioned study. For service providers applying Mode 1, they have to make sure that they have strengths in ICT applications and are able to make major activities standardized and modulated. For service providers applying Mode 2, they have to make sure that customers are willing to move, free from legal concerns, waiting for after-care services, streamlined referral and payment systems. For service providers applying Mode 3, how to optimize the degree of movement of current value chains and how to lower customers' psychological distance become vital. While for service providers

applying Mode 4, utilizing existed links between parties and leveraging the comparative profession would be the basic conditions.

Finally, value co-creation can be realized by fulfilling the needs of either domestic providers or customers. Most importantly, we found that the traditional model of globalization (i.e., Mode 3) is not the only or major mode for service trade (at least in the case of healthcare industry). It may imply that value chains can change into different shapes to fulfill the kernel needs of each service trade mode, thus creating more flexibility for service providers in designing their delivery systems based on their core competencies and strategies. Thus, based on the above arguments, we draw our hypothetical model for service mode determination as illustrated in Figure 3.

The findings suggest that a firm should first deploy the industry value chain it belongs to when it wants to penetrate foreign markets. A firm may then identify the needs of the target customers (including both domestic service providers and receivers) through value co-creation and identify its own competence for entering into foreign markets. Both value chain analysis for the supply side (inside-out) and value co-creation analysis for the demand side (outside-in) should be applied in the mean time, and then came the alignment direction through fit/match analysis. Finally, by taking into account the features of the industry value chain, a firm can determine the most appropriate mode (and the corresponding routes if necessary) for service trade by following the GATS framework.

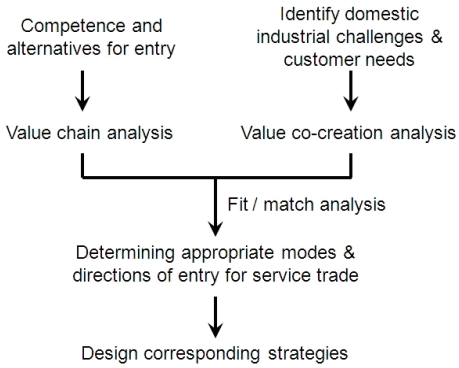

Fig. 3. Determining appropriate modes for service trade: the logic model

5. Findings and conclusions

The trends toward the service economy and globalization have made service trade a crucial issue for most service sectors. However, current analytical models relevant to service trade provide little guidance on linking service types and customer needs of targeted foreign countries, unfortunately.

This article, therefore, is interested in identifying patterns of service trade through the lenses of value chain analysis and value co-creation, and in understanding how these align with the modes of service trade proposed by GATS. We also pay our attention to the roles a service provider should take when entering a new market, as well as the key issues that may impede the attempt for going global from a service provider's viewpoint. This article starts with a deductive approach and demonstrated by cases in the healthcare industry in Asia.

We believe that the selected service sector and corresponding targets in Asia is worth taken as the benchmark for exploring the service export issue.

We first examine two case studies in the international healthcare industry. Based on the analysis, we found that service trade, in contrast to domestic service, implies that new service providers can seek opportunities for foreign market entrance in two ways: through the needs of current service providers (mainly B2B), and through the needs of service receivers (mainly B2C). With regard to the entry mode, in addition to foreign direct investment (FDI), new service providers can also position themselves as part of the current chain through their own competencies. Some of the patterns are seldom mentioned or proposed in previous internationalization studies targeting on manufacturing industries.

We suggest that when a service firm wants to penetrate into foreign markets, it should first deploy the industry value chain it belongs to, and then identify the needs of the target customers (which include both domestic service providers and receivers) through the filter of value co-creation. By taking into account the features of the industry value chain, a service firm can determine the most appropriate mode (and the corresponding routes if necessary) for service trade by following the GATS framework.

Further, this article examines the previous findings by a survey on hospitals in Taiwan. Findings of the survey helped strengthen our propositions by comparing with the current actions, future plans and perceptions on service trade of the respondents. As well, in-depth information about barriers for service trade helps to explore the gaps and patterns on value chain and value co-creation of those respondents.

In summary, we have demonstrated that value co-creation is a valid construct in the context of service trade. We also have argued that, even before considering value co-creation, the best way for new players to provide and deliver services in the service trade context is to gain more in-depth understanding of the overall value chains, rather than merely relying upon the design of the service interface / encounter.

Finally, owing to the limitation of number of cases and that of industries, we suggest future studies that conduct in-depth, quantitative analysis of the global healthcare industry, or apply the model to other service industries, so as to generalize and validate the proposed logic framework.

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11

Global Competition in Shipbuilding: Trends and Challenges for Europe

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1. Introduction

Shipbuilding is known as one of the oldest, most open and highly competitive markets in the world. Although shipbuilding industry has a big experience in how to survive over peaks and slumps of economy, the current global crisis hit shipbuilding industry rather severely. The global order book over the past 6 quarters since the end of 2008 was 4.5 times lower than that for the 6 previous quarters. In 2009, the portfolio of new orders of European shipyards was almost 4 times lower than in 2008. With such a decline, the world's shipbuilding industry is certainly among the sectors worst affected by the financial and economic crisis. It can have the most painful impact on many shipbuilding countries of the world due to the biggest overcapacity of shipyards ever seen and far greater supply of fleet than required by the market. Not all lessons were learnt from historical development of the shipbuilding industry.

Until the middle of the last century, European shipbuilding dominated the world. Fast growth of the Japanese economy and successful coordination of supporting program for shipbuilding as a strategic industry helped to win leadership for this country. For some time, Japan and Europe controlled 90% of the market, but gradually dominance was overtaken by Japan. In 1970s, S. Korea following previous experience of its neighbour country announced shipbuilding as strategic industry and in combination with low labour costs began to reach the leadership. Next Asian player, China, caught the industrial expansion strategy and surpassed Japan in 2006 and S. Korea in 2009 (if measured by order book volumes). New shipbuilding entrants such as Vietnam, India, Turkey, the Philippines, Brazil, and Russia grew up and together reached the quantity of orders to equal European total. Europe has gradually been losing its positions in shipbuilding despite of its strategic specialization as a niche player. Unfair competition on the part of Asian shipyards and delayed agreements in global playing field have distorted the market, shifted it to the Far East and created extra problems fighting against crisis. In September 2008, the new building boom that ran since 2003 ended sharply. The crisis didn't have pity neither for leaders nor for ordinary players. Even at the end of 2010, despite the signals of economic recovery, order book for new building was decreasing continuously. By the end of September 2010, new global building portfolio was 26% smaller in comparison to the quantities of the same period in 2008. Good news is that the total number of contracts in 2010 was higher by 205% than in 2009. Shipyards should begin thinking about new orders by investigating new patterns for successful competition.

Factors affecting the shipbuilding industry can be divided in two groups: macro factors (world seaborne trade, oil prices, economic stability, and political stability) and market factors (subsidies by the government, scrapping of old vessels, charter rates, vessels on order). According to some experts, seaborne trade should grow by 6.7% next year. Less optimistic experts wait for a double fall instead of real recovery of the world's economy. The Organization of the Petroleum Exporting Countries (OPEC) informs that in 2009 global oil demand reduced to 84.5 million barrels per day but grew at 1.8 million barrels per day in 2010 partly because of cold winter. Despite the fact that Japanese economy experienced phenomenal growth in 2010 at 3.9%, the earthquake suspended a successful recovering of their economy. The combination of various factors even natural forces complicates talks about economics stability in these days.

The next factors determining competitiveness of particular shipyard is the productivity, production range, and attractiveness of product, subsidy rate, exchange rate and cost position (Bertram, 2003). Productivity is influenced by technology, facility, management competence, work organization, work practice, the level of workers' skills and motivation.

The competitiveness of the European shipbuilding has been increasing through excellence, as it is defined in the LeaderShip 2015 – the strategy of the European shipbuilding industry. Created in January 2003, document summarizes the results of an intense discussion process among stakeholders. After the last revision of Leadership 2015, the conclusions about weak impulse in the implementation of strategy were announced. Experts have especially been worrying about the lack of trade rules because Europe again chooses quality and excellence over the low costs. A new European maritime policy proposes opportunities for innovative companies working on the development of energy efficiency and low emission ships. A large part of technical innovations have to be presented in relation to the goal of reduction of exhaust gas emissions NO_x, SO_x and CO_2. New hull designs, advanced hull paint, rudder and propeller design, speed nozzle, LNG as fuel, ballast water management systems, and etc. – all promise to have an environmental edge. Many issues related to the environment and climate change are relevant to the shipyards, too. Carbon trace associated with production, transportation of ship construction, ship maintenance and repair, dismantling and recycling have to be reduced. "Green growth" challenges provide the shipbuilding industry with the possibility of moving toward life-cycle environmental approach.

2. The industrial development of global shipbuilding

In time wood was replaced by iron and steel, leadership in the global shipbuilding (in GT, CGT) went from hand to hand: from G. Britain to Japan, then to S. Korea, and finally to China (Table 1). Nowadays ex-leader S. Korea is on the post-growth stage (Lorentzen & Stemoco, 2006). The world has been waiting for lodgment of a new leader, doubtless China. Announced by China, the programme "5 – 3 – 1" put down a marker to reach global leadership by 2015 (Dan, 2009). However, fortune was kinder to China than it might have expected. Its emerging economy, huge human potential, and State support have resulted in its target accomplishment in half the time.

Britain took over the leadership in shipbuilding in the 1850's and lost this position because of failure to modernize their shipyards. Some experts say that Britain was too slow in increasing its productivity by implementing new technologies and production management methods, unlike their competitors in Scandinavia, Germany, Japan. In the 1950's leader's position was gradually being taken over by Japan, mainly due to the rapid growth of the

Japanese economy after the Second World War and well coordinated State shipping and shipbuilding program. Japan dominated the world for more than three decades. For some time European and Japanese shipbuilders together controlled even 90% of the market. The Japanese shipbuilders began to lose their global dominance for several reasons. Firstly, Japanese shipyards faced difficulties in recruiting new young engineers and suffered from high labour cost. Secondly, Japanese shipbuilders were not flexible and did not adapt to changes in the global market that demanded bigger and bigger vessels. Third, over 60% of Japanese ship production was for the domestic market which didn't promote technological development and implementation of new production management methods. The latest reports of 2010 confirm this: Japanese shipbuilders are working for Japanese owners at 82.4%. Then the gap between the demand and supply for materials, increased delivery time and prices of its national currency strengthening against USA dollar – all in total hit the competitiveness of the Japanese shipbuilding industry (Song, 2003). It caused ceding the leadership to S. Korea in the middle of 1990's. On-stream as continuous low cost shipbuilders, they focused on large tankers, large/ultra large containership, LNG/LPG, offshore drilling rigs, and even on cruise ships that it is still niche of a few specialized European shipyards. Despite the fact that S. Korea still has many advantages some experts imply that S. Korea's competitiveness has been diminishing because of high cost of human resources, insufficient quantities of domestic steel and ever-rising prices of imported materials and components. The appreciation of Korean Won is worsening the competitiveness of their shipbuilders, too (Lorentzen & Stemoco, 2006).

Duration of the leadership	Country	Stage of business cycle	Causes
1860's – 1950's	G. Britain	Lost leadership	Failure to modernize shipbuilding industry
mid1950's – mid1990's	Japan	Post-maturity, weakening of competitive power	Ageing and high cost human resources. Reduced by shipyards R&D budget to less than 1%. The gap between the demand and supply for steel, increased prices of steel.
From mid1990's	S. Korea	Post-growth, maintenance of competitive power	High cost human resources. The gap between steel demand and domestic supply increased steel prices. The appreciation of Korean Won has worsened the competitiveness of Korean shipbuilding.
Since 2010, earlier than it was planned	China	Acceleration of growth	The lowest labour cost. Ambitious State programmes for the development, growing shipyards capacity, governmental subsidies.

Table 1. Leadership in the global shipbuilding

Though China entered world shipbuilding-market as a low cost shipbuilder in the 1980's, Chinese shipbuilders have only been a really serious competitor in the last 5-6 years. Chinese order book enlarged from 1.9 billion CGT in 1998 to 62 billion CGT in 2008 and grew more than two times faster than worldwide order book in total (ECORYS SCS, 2009). This with strong governmental support and huge investments, co-operation with MAN B&W, Wärtsilä, and other ship equipment manufacturers improved Chinese position incredibly. In 2010, they began domination in the world shipbuilding market. The strategic agenda of Chinese shipbuilding industry includes changes in the structure of their products towards more sophisticated, upgrading technologies, merger of shipyards for the developing of the specialized giants. Expansive and competitive industry requires more qualified technical employees and researchers. Chinese labour cost per unit product is still by far the lowest, i.e. nearly 50% of Japan and 30% of Korea (Lorentzen & Stemoco, 2006). Combination of listed actions with improving of credit conditions and providing of bank guarantees gives excellent example how significantly market factors can impact global shipbuilding competition.

Let briefly follow the dynamics of the global shipbuilding development over the last years. In 2009, it delivered the highest number of new ships – 44.4 millions CGT. During 9 month of 2010 completion reached 40.5 million CGT. Full 2010 year deliveries should reach the record of 53 million CGT (see Table 2).

Million CGT /year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010 1-3 Q
Order book	45.9	48.3	48.9	70.8	92.8	107.2	138.0	183.7	194.2	156.2	134.9
New orders	29.4	23.3	20.5	41.7	45.1	39.6	57.3	85.3	43.0	16.6	26.3
Completion	20.3	20.2	21.4	22.8	25.5	29.4	34.1	34.6	41.9	44.4	40.5

Table 2. World shipbuilding results in CGT during 1999-2010 1-3 Quarter (CESA AR, 2010)

In 2009, China overtook S. Korea having won 44.4 % of all new orders compared to 40.1% of S. Korean. Market share of new orders, completion and order book by main regions in million CGT are shown in the figures 1-3 (CESA AR, 2010). Despite a large total order book, this is shrinking fast because of a decrease in new orders. The last cancellations also took away: 209 ships or 2 million CGT in 2008, 506 ships or 7.8 million CGT in 2009, and 180 ships or 3.5 million CGT during 1st quarter of 2010. The majority of cancellations have been related to tankers, bulk carriers and dry cargo/passenger ships.

Japanese new orders market shares halved over the nine months of 2010 in comparison to 2009. In a period of 10 years, completions of Japanese shipyards reduced by 10%. The recent news announced about the exit of Japan's shipbuilding industry within 5 -10 years because of losing market shares. Additionally, the earthquake of 11th March, 2011 followed by tsunami broke Japan's economy very seriously. It might result in the decision of the State not to support shipbuilding industry sooner, as was expected before *force major*.

European shipyards' completions have become fewer after the gradual loss of the global order book share that was taken by new shipbuilding players such Vietnam, India, Brazil, Russia, Turkey, and the Philippines. They actually began expansion in the growing new building market before 2005. In 2008, they took 6% of new orders in global market, while CESA gathered 4.9%, in 2009 – 4.8% and 3.4% respectively. Shipbuilding industry of the Philippines has progressed quite noticeably. The Philippines controlled even 2.1% of the world's order book at the end of the 3rd quarter 2010, while in 2005 they took just 0.4% of CGT.

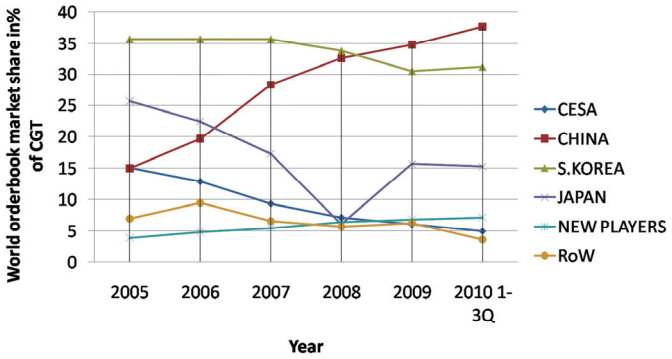

Fig. 1. Distribution of the world order book among the main players in % of CGT

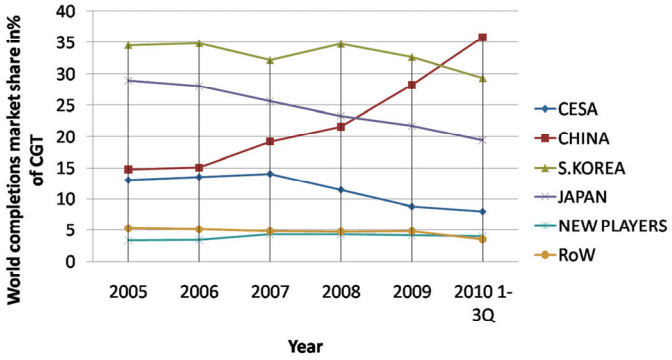

Fig. 2. Distribution of world completions among main players in % of CGT

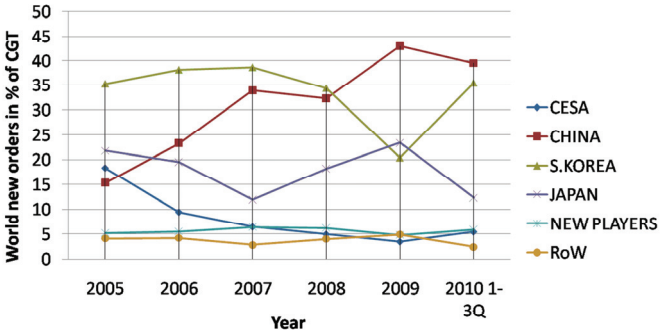

Fig. 3. Distribution of world new orders among main players in % of CGT

The statistics of the new players' market shares for new orders, completions and order book are shown in the Figures 4-6 (CESA AR, 2010).

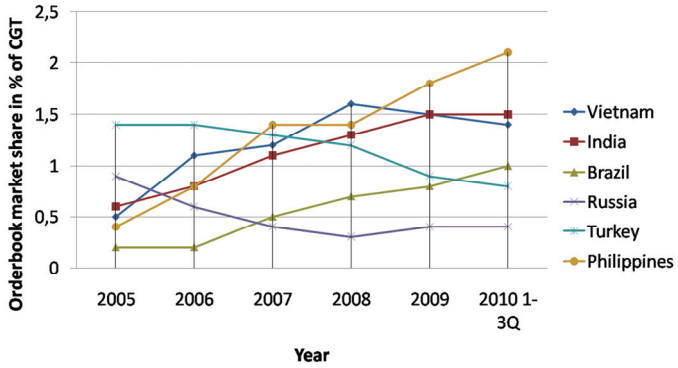

Fig. 4. Order book market share among the new players

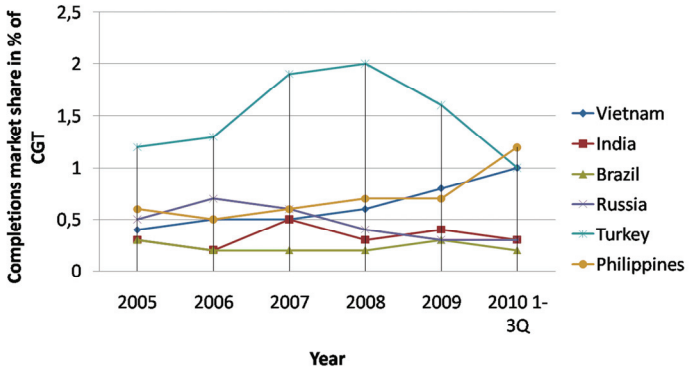

Fig. 5. Completions market share among the new players

The coefficient completions/order book is distributed by regions as following (Figure 7). New players' countries' (India, Vietnam, Philippines, Turkey, Russia, Brazil) position is better because of relative high order book and not expanded capacities of shipyards.

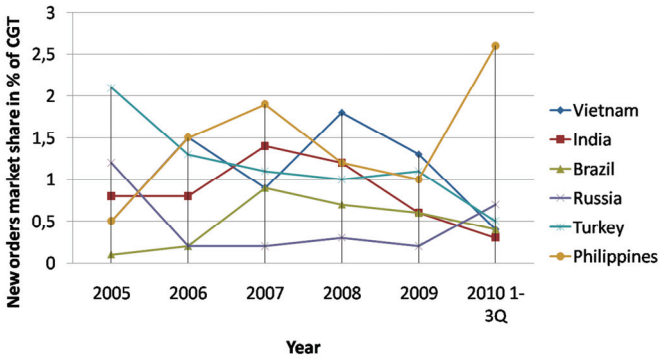

Fig. 6. New orders market share among the new players

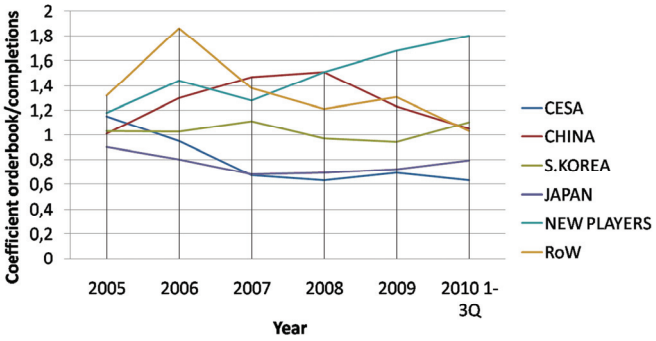

Fig. 7. Distribution of the completions/order book coefficient among the new players

In September 2010, among the main global shipbuilding players this coefficient was distributed in the following way: CESA – 2.1, China – 3.5, S. Korea – 2.9, Japan – 2.1. It is one more important criterion describing the density of orders. Despite the fact that by the end of 2009 Chinese shipyards held the order books of 188.17 million dwt distributed among 200 shipyards, around 30 S. Korean shipyards hold 172.23 million dwt. It means the orders held by Chinese shipyard are one fifth of that of South Korea (ECORYS SCS group, 2010).

2.1 Key players of the world's shipbuilding

The Chinese shipyards are divided into two conglomerates: China Shipbuilding Industry Corporation and China State Shipbuilding Corporation. Both are State owned. All large shipyards fall under these two corporations. The biggest shipyards are these: Dalian Shipbuilding Industrial (Rank No7 in the world), Jiangnan Changxing (8), and Jiangsu Rongsheng (10). In 2009, outputs of 11 shipyards exceeded 1 million dwt. Shanghai Waigaoqiao Shipbuilding Co., Ltd. completed 6.03 million dwt, Dalian Shipbuilding Industry Corporation completed 3.8 million dwt, Jiangsu New Century shipbuilding Co., Ltd. completed 2.57 million dwt. In 2009, China exported ships and boats to 159 countries and regions, mainly to Asia (Singapore, Hong Kong) and Europe (Germany). Gross Industrial Output Value of the same year was 548.4 billion yuan. The average growth rate between 2004 and 2009 was near 43% (ECORYS SCS group, 2010). Most of the production is bulk carriers and oil tankers, however, high value-added production capacity accounts for less than 10% of the world's market. Chinese shipbuilders are proud of three LNG carriers, first ultra-deepwater drilling oil storage platform, 3,000 meters deep-water pipe-laying ship and 356 feet jack-up platform. Head-start in parallel to Adjustment and revitalization plans of Chinese Government with the aim to stabilize the production of shipyards, control shipbuilding capacity, develop the offshore engineering and ship repair industry, merge & acquire shipyards, and improve innovation development should ensure their leadership in shipbuilding no worse than it was done by previous leaders. There are some challenges such as increasing steel prices, cancellations of 250 vessels (7 million dwt) between the third quarter of 2008 and the first quarter of 2010 that makes pressure for Chinese shipyards.

No-one could believe such impressive results of Korean decision to give strategic top priority to shipbuilding industry in the early 1960s. Established by Government "Special Maritime Administration Committee" together with Shipbuilding Promotion Law (1958), Shipbuilding Industry Encouragement Law (1967), Shipbuilding Industry Promotion Plan

(1975), Industrial Development Law (1985), Shipbuilding Industry, Rationalization Measurement (1989) ensured support for the development of shipbuilding industry. The best example illustrating the situation in today's S. Korean shipbuilding industry is that seven of their shipyards are ranked as mega size in World Top 10 Shipyards by Clarkson in 2008: 1. Hyundai Heavy Industries (HHI); 2. Samsung Heavy Industries (SHI); 3. Daewoo Shipbuilding & Marine Engineering (DSME); 4. Hyundai Mipo Dockyard (HMD); 5. Hyundai Samho Shipyard (HSHI); 6. STX Shipyard (STX); 9. Sungdong Shipbuilding & Marine Engineering. All these shipyards are designed to build VLCC size vessels. 8 more medium size shipyards produce AFRAMAX / SUEZMAX size vessels. More than 150 companies represent shipbuilding suppliers. 14 universities and 2 colleges provide naval architecture/marine & ocean engineering study programs, 2 large R&D centres are working for the needs of shipbuilders through the sponsorship on the part of the Government. Today S. Korea is represented by Korean Shipbuilders' Association (KOSHIPA) mainly because 81% of the order book is theirs. The biggest part of 105 000 employees involved in shipbuilding work as subcontractors, management and administration represent 5-6 thousand persons. Despite Korean efforts, they lost the leadership in shipbuilding last year. The world prefers the lower cost again.

In 2009, Japanese shipbuilders' order book totalled 51.8 million GT (gross tonnage). Six types of vessels were ordered in the following ratio: 59.2% of bulk ore carriers (30.7 million GT), 21.3% oil and chemical tankers (11.0 million GT), 6.9% of Ro-Ro and Pure Car Carriers (3.6 million GT), 5.1% of containerships (2.6 million GT), 2.2% LNG and LPG (1.1 million GT) and 5.3% of others (2.8 million GT). The majority of orders were received from Japanese owners (82.4%), others – mainly from Europe, the USA, and Hong Kong (CESA AR, 2010).

Japan dominated in bulk carries segment for a long time, but now it has gone to China. For the same reason Japan may expect more and more competition from emerging countries like India and Vietnam that are willing to lead not only the production of bulk carriers but also that of tankers and containerships in the nearest future. The biggest shipyards are Oshima S.B. Co (Rank No12 in the world), Tsuneishi Zosen (14), and Imabari S.B. (25) (ECORYS SCS group, 2010). In 2003, workforce began to grow from 40000 to more than 50000 in 2008. 46% of employees are older than 50 and 24% are younger than 30. The main Japanese shipbuilders' challenges are high steel prices and unfavourable currency index comparison.

European shipbuilders are mainly represented by CESA, the Community of 14 National Shipbuilders' Associations from the EU, Norway and Croatia. CESA members produce more than 99% of the EU shipbuilding production in more than 300 shipyards. European shipyards supply more than 100,000 direct jobs for a highly skilled labour force, generating an annual turnover of 30 – 40 billion Euros. Ship and off-shore construction repair and conversion activities in Europe are conducted by more than 400 companies – smaller and bigger specialized repair shipyards. The annual turnover of the European repair shipyards exceeds 3.5 billion Euros, and shows systematic increasing tendency (CESA AR, 2010).

2.2 Factors affecting the development of shipbuilding industry

In the 1940s the world moved on from Colonial System to Globalisation. This movement was accompanied by rapidly growing trade and the need for effective means of transport and its systems. Shipping industry has explored every chance and anchored in the world trade. Over the 50 years, seaborne trade grew by 64 per cent faster than GDP (Stopford, 2007). The growth was not stable: 1960-1975 seaborne trade was driven well above GDP trend due to increased consumption of raw materials by industries of Europe and Japan; in

1980-1996, sea trade was below GDP trend because of two oil crises of 1973 and 1979; 1997-2005 seaborne trade was above world GDP due to the growth of Asian countries. In 2008, before the crisis, maritime nations imported 2.7 billion tons of energy commodities (oil, coal and gas); 500 million tons of agricultural product (grain, fertilizer sugars, etc); 1 billion tons of raw materials (Stopford, 2007). The development of new technologies for communication (telephone, telex, fax, email, and world wide web), fast travelling (air transport), globalized materials and market supply (opening new energy sources, reducing transport costs by developing special types of ships, mechanized cargo handling, containerization), and business models (newly-developed flags, long-term time charters) assisted successful growth of the seaborne trade. In this context, the development of shipbuilding industry also wasn't monotonous. Let follow briefly what caused changes.

Over the past millennium, world population rose 22–fold. Within the exponential growth of population, world economy grew as well: per capita income increased 13–fold, world GDP nearly 300–fold. Since the 19th century, world development has become more dynamic: population rose more than fivefold and per capita, income more than eightfold. From 1950 to 1973 world economy growth has been higher than before: world per capita GDP rose nearly 3% a year, world GDP by nearly 5% a year and world trade by nearly 8% a year. (OECD, 2011). The demographic status of the world's population is shown in the Figure 8. World population as that of July 2010 was approximately 6.83 billion (Geohive, 2011) and is going to grow up: the mid-range estimate is 9.08 billion people by 2050 (DSD, 2008). Due to the fact that the main countries of growing population are India, Nigeria, North America, Pakistan, Indonesia, and China, main trade directions servicing the development of regional industries and international companies have to be clear. If China add extra billion tons of the trade in the nearest future the foreign shipping companies will not win much because of Chinese policy to enlarge its own fleet for servicing its own internal and external trade.

The urban population of the world continues to grow faster than the total population of the world. Currently about 3 billion people or just over 50% of the world's population are living in urban settlements. Consequently, a rise in urban population is expected to reach 5 billion by 2030 (DSD, 2008). This fact can also have a positive impact on seaborne trade because a large urban population not only creates a domestic market for goods and services but also drives the economic growth and innovation. Next probable positive consequence of the increasing urbanization is the development of strong middle class that tends to have higher consumption of goods and services.

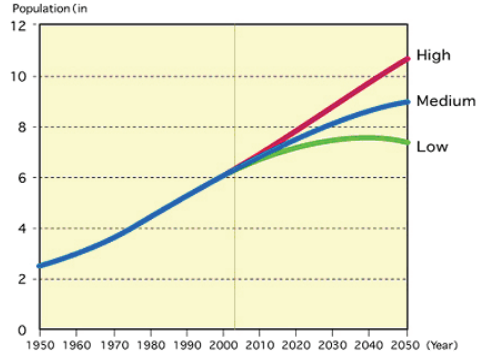

Fig. 8. Growth of world population

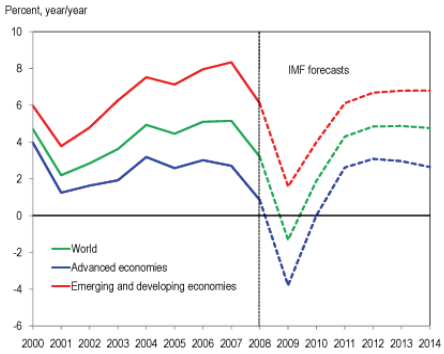

Fig. 9. Growth of world GDP

Globalisation requires tremendous amount of energy and raw materials. Thanks to uneven distribution of natural resources, growing population and water covering more than 70% of surface, shipping gave a crucial role in the process of integration global economy and developing the world into a single market place. Today sea trade is 8 billion tonnes that is 17 times bigger than in 1950. Since 2000 to 2008 seaborne trade grew even at 5% per annum. In the long perspective until 2050, due to the growth in world population and the emergence of new economies, the movement of goods should grow at 2.4% per annum. It is forecasted that sea trade will reach 23 billion tonnes in 2060 (Stopford, 2010).
GDP growth, energy (oil and coal mainly) demand, seaborne trade are in very tough relation. International Monetary Fund estimates the growth of seaborne oil trade because global economy recovers faster than previously expected and due to industrial demand from emerging markets, mainly China and India. The price of oil depends on the global demand. In 2035, the average real price of crude oil in the Reference case is $125 per barrel in 2009 dollars (Figure 10). World liquids consumption grows from 84.9 million barrels per day in 2009 to 92.2 million barrels per day in 2015 and to 110.8 million barrels per day in 2035 (EIA, 2011).

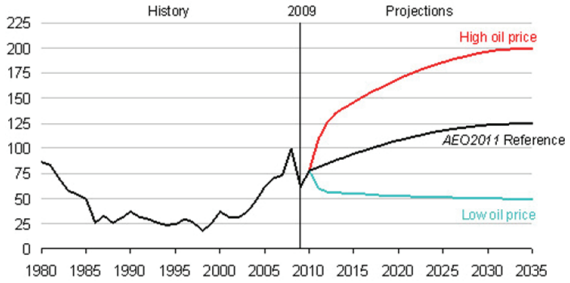

Fig. 10. Oil prices in 1980-2035

Energy Information Administration (EIA) expects continued tightening of world oil markets over the next two years, particularly in light of the recent events in largest oil producing regions North Africa and the Middle East. The currently Libya, that is the 13th largest crude oil exporter in the world and a very large producer of light sweet blends, has been

producing supply disruption. According to various reports, much of the country's production of total liquids of 1.8 million barrels per day has been shut in and it is unclear how long this situation will continue.

There are many reasons for market uncertainty that could push oil prices higher or lower than current expectations. Among the uncertainties are: the continued unrest in producing countries and its potential impact on supply; decisions by key OPEC member countries regarding their production response to the global recovery in oil demand and recent supply losses; the rate of economic recovery, both domestically and globally; fiscal issues facing national and sub-national governments; and China's efforts to address concerns regarding its growth and inflation rates.

The world tanker fleet is totalling 441 million deadweight tons depends on oil demand. 10.2% of it is single hull tankers that are in the phase-out state. 129 million dwt (or 29.1% of the existing fleet) of coming tankers are waiting on-order. Of course, some of new orders will be cancelled or it will be agreed on the postponement of their delivery time. Some of existing tankers have to be refitted according to new requirements for CO_2, SO_x, NO_x emissions or dismantled. Tanker Fright market, slow steaming, floating storage, changing trade patterns from Latin America and West Africa to China also should positively and better than expected influence the world's tanker fleet in prospect. The analysis of offshore investment trends shows its strong continuous growth to 360 billion US dollars by 2013. Offshore drilling in deepwater is expected to grow stronger than in shallow water. This together with sufficient oil prices to develop offshore projects and delayed large-scale projects will result in increase in new building demand for offshore in the long-term perspective.

The world coal and iron ore trade demand depends very much on the biggest purchaser China. Coal import increased to 100 million tons in 2009 and tends to rise upwards until 2020. In 2009, iron ore import demand to China reached 2/3 of the world's iron ore trade. The second biggest purchaser in the world is India that is looking for new suppliers in Russia and Latin America seeking to fill increased needs. Despite the fact that bulker market shows recovery signals since the end of 2009 the nearest future of shipbuilders focused on bulker carriers is not yet safe. During the first four months of 2010, it contracted 185 new bulk carriers (15 million dwt). Though prices of new building incentives have fallen by 30% the order book for 2010-2014 is overfilled: 3286 new bulkers (43.6% of existing bulker fleet) totalling 287.1 million dwt (59.7%)(CESA AR, 2010). This means that shipyards of China, S. Korea, Japan and new players focused on production of bulkers should turn to the building of other ship types. Consequently, the competition among high added value shipbuilders should be more intense.

Coming to a conclusion about further world fleet development the positive belief is disappearing. If at the beginning of the shipbuilding boom in 2003 the world's order book amounted for 13% of the existing fleet, now it reaches 48%. Some prices of ordered ships today are not reasonable; therefore, financing delivered ships is to be complicated. The recovery of seaborne trade will not supply enough shipping contracts to those suffering from the lack of cargo fleet. Some older ships will be dismantled; some inefficient ones should be renovated or converted. But one is clear: the world doesn't need as big shipyard capacity as is has today. Figure 11 illustrates shipbuilding overcapacity located in China, S. Korea, Japan, some new player countries, and Europe mainly. A huge reduction of 40-50% is estimated for existing capacity in the next 10 years (China's shipbuilding economy research centre, 2008).

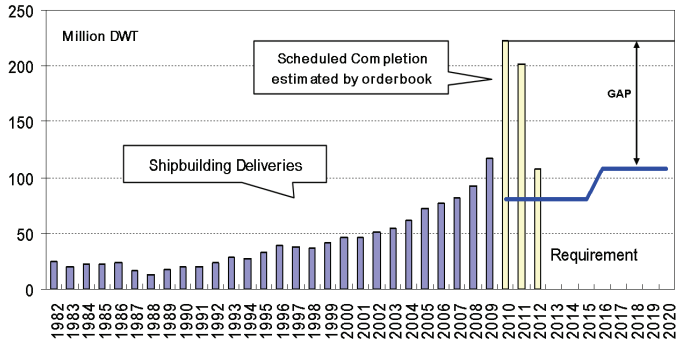

Fig. 11. The capacity utilization rates of the world shipbuilding industry

Such a danger as "tenth wave" is poising now over the global shipbuilding industry. What shipyards of what countries will survive it? It might be that some countries will decide to reduce shipbuilding capacity or even close it before their shipyards collapse.

The next factor determining the competitiveness of shipyards is the productivity. Productivity is the amount of output achieved for a given amount of input (materials, manpower and energy). According V. Bertram, the competitiveness depends on productivity (CGT / man year), production range (personnel cost / total cost), attractiveness of product (market price / CGT), S - subsidy ratio, X - exchange rate and K - cost position (labour cost / man year) (Bertram, 2003). These criteria are used for comparing shipyards, countries or regions with each other. Among the production costs, labour cost is the key determinant of the competitiveness of shipyards (Figure 12).

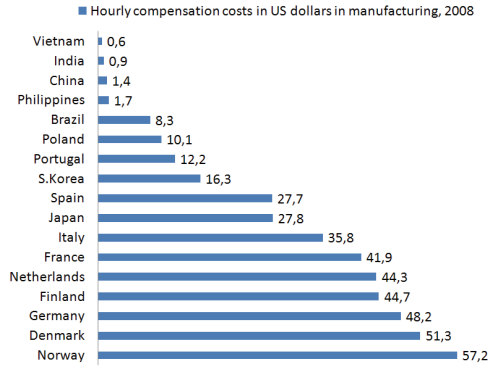

Fig. 12. Hourly compensated costs in thousands of US dollars included hourly direct pay, employer social insurance expenditures and labour related taxes. Source: Eurostat

Keeping of the low labour costs facilitate competition of China and new players in the global market despite of their low productivity.

Productivity is influenced by technology, facilities, management competence, work organization, work practice, the level of workers' skills and motivation. The level of the shipyard's technology is one of the most important factors influencing the cost competitiveness, especially for the large enterprise.

Traditionally shipbuilding is classed as an assembly industry and divides into two parts: steelwork – the pre-fabrication, assembly and erection of the steel structure of the ship; outfit – the installation of the systems, equipment and fittings into the ship. There are 14 processes in these two parts (Andritsos & Perez-Prat, 1999). As is known automation and/or robotize of the industrial operations increases efficiency and productivity of its. A very high level of automation as such is not of the highest priority in the development plans of the shipyards because one-of-a-type production. The processes of major interest from the automation point of view are the following: marking, cutting & conditioning of steel plates and profiles; fabrication of 2D blocks: welding of flat and shaped sub-assemblies (panels and sub-blocks); fabrication of 3D blocks in workshop; prefabrication of pipes, supports, modules; blasting and painting/coating; transport & handling; dimensional control & inspection. There are 6 levels of technological development of shipyards (Table 3). Very few world shipyards have reached the highest 6th level. The majority keep staying at the 4th level or even lower.

Level	Description
1	Reflects typical practice of the early 1960s – welded hulls, combination of blocks and assembly at erection, small cranes (<50 t), multiple open berths, post launch outfitting and little mechanization. Manual operating systems.
2	Reflects yard modernization of the late 1960s/ early 1970s. Fewer berths or dock, larger cranes (<250 t), some mechanization and pre-outfitting, numerical controlled metal cutting machines. Some computerized systems.
3	Good practice of the late 1970s, new/fully redeveloped yards, large capacity cranes (>350 t), some weather protection at dock or single construction area. High degree of mechanization and use of computers. Block manufacturing shops.
4	Technology advances of the middle 1980s. Generally large docks, protected microclimate zones, extensive early outfitting and fully developed operating systems. High lifting capacity of Goliath cranes (>800 t)
5	State of the art of the 1990s, with automation, integration of operating systems, use of CAD, CAM, CAPP. Computer aided material control and Quality Assurance. Increased automation and robotics in welding, pipe shops. Goliath cranes (>800 t)
6	2000 to present: large, renovated and some completely covered shipyards, large grand and ultra blocks to 3000 t, mainly robotics for welding and part assembly. Goliath cranes (>800 t)

Table 3. Technology (best practice) levels of world shipyards (Lamb, 2007).

Technology benchmark provided by T. Lamb shows very interesting results forcing to think what is more valuable for the shipyards competing in the market. It compares typical production elements such as steelwork and outfitting production, other pre-erection, ship construction, layout & environment, design & drafting, and organisation/operating of the main shipbuilding countries/regions. The highest overall level has Japan (4.43), the second – S. Korea (4.00), then Europe (3.4), and the lowest is of China (2.88) (Lamb, 2007). Is China a winner just because of low labour price? Or is Chinese labour cost lower because of small investment? Another reason impacting (more specifically – distorting) the competitiveness

of shipyards is State support that goes to increasing of the national shipbuilding capacity. For example, over the past decade Korea almost quadrupled its production capacities while Japan and Europe kept stable production volumes. Since 1998 to 2009, S. Korean shipbuilding capacity grew by 10.8 million CGT and Chinese - by 7.9 million CGT (ECORYS SCS, 2009). China and S. Korea continues to follow a highly aggressive expansion path. Under Chinese "Shipbuilding industry adjustment promotion plan" the government has defined provision of operating funds to shipyards and expansion of financial support to owners who order export ships. Not only these countries but also new players such as Brazil, Turkey, India, etc provide huge amounts of support and financial assistance to their domestic producers by using various forms of subsidies including investment aid, loans and payment guarantees to shipbuilders, suppliers, governmental bailouts, subsidies on ship prices for domestic ocean going ships' buyers, mandatory requirements to order ships at domestic yards and subsidized loans for domestically built ships, direct loans and debt guarantees to ship-owners, etc.

In such conditions, keeping a competitive edge of European shipyards becomes more and more complicate. Despite of the reduced order book Europe chooses quality and excellence over the low costs as the main strategic point of further development of the shipbuilding industry.

3. LeaderShip 2015 – the strategy of the European shipbuilding industry

LeaderShip 2015 defines the future of the European shipbuilding and ship repair industry by increasing in competitiveness through excellence. This document was created by a High Level Advisory Group for the LeaderSHIP 2015 in 2003. The Strategy summarizes the results of an intense discussion process among stakeholders, based on 8 key areas, which have challenges described and concrete recommendations spelled out (CESA, 2003). The activities such as development of Waterborne Technology Platform, VISION 2020, Strategic Research Programme, Implementation Road Map, etc. proved these plans were weighted and achievable. The summary of steps undertakes by 2010 is presented in the Table 4 (CESA, 2005-2010). One of the main objectives to apply World Trade Organization (WTO) rules to shipbuilding was not successful despite efforts of 20 years. This with coming downwards shipbuilding development cycle, overcapacity of shipyards, and fleet overproduction has all been aggravating not only European but also other main players' problems. European shipbuilding must solve own specific problems (Table 4).

1st key area: Establishing a level playing field in world shipbuilding
Recommendations of 2003: Continuation of the present EU trade policy approach with determination. Full enforcement of applicable WTO rules to shipbuilding. Development of enforceable OECD disciplines through a new shipbuilding agreement by 2005 and an unambiguous interpretation of existing rules.
Progress report, 2005: Problems remain unchanged. The EC indeed vigorously pursued all available avenues to address the issue. The WTO procedures on shipbuilding were finalised in 2005. Effective international rules to be agreed at the OECD have, therefore, become even more important.
Progress report, 2007: Not much result has been achieved in this field. The difficulties with the application of international trade rules (on subsidies) were illustrated in the

WTO case between the EU and Korea. Progress in the attempts to negotiate an international shipbuilding agreement under the OECD (addressing subsidies and dumping prices) has been halted in 2005. However, progress has been made in starting bilateral discussions, including the shipbuilding Dialogue with China and, expectedly, an EU-Korea FTA negotiation process.
2nd key area: Improving Research Developing & Innovation (RDI) investment in the EU shipbuilding industry
Recommendations of 2003: The European dimension of shipbuilding RDI should be strengthened through integrating and concentrating efforts, with the aim to create Technology Platforms. Work being undertaken within the Maritime Industries Forum should form the base for this approach. Shipbuilding should, in substance, enjoy the same conditions as other industries that engage in similar RDI activities. Aid intensities need to reflect the actual technological risks taken in all phases of design, development and production. New definitions, notably regarding innovation aid, need to be developed where necessary. RDI investment support needs to aim at enhancing European technological leadership and should reward risk taking.
Recommendations of 2005: The Technology Platform WATERBORNE TP was launched in January 2005 and a Strategic Research Agenda was concluded by the end of 2005. In April 2005, a new initiative was launched to systematically develop "visionary concepts for vessels and floating structures". The new EC framework for state aid in shipbuilding, which entered into force at the beginning of 2004, has taken the a.m. recommendation fully into account and now includes appropriate provisions related to support measures for innovation.
Progress report, 2007: In the field of RDI stimulation, the updated provisions on innovation aid to shipyards have been an important improvement for the sector. Germany, France, Spain, the Netherlands and Italy have subsequently developed national funded schemes supporting innovation. The launch of the WATERBORNE TP and the increase of the budget for surface transport under Framework Programme 7 (FP7) have also been considerable steps in strengthening RDI in the EU shipbuilding sector. Industrial clusters play an increasingly important role in maritime industries.
3rd key area: Developing advanced financing and guarantee schemes
Recommendations of 2003: Explore the possibility of establishing an EU-wide guarantee fund for pre- and post-delivery financing. The alternative of harmonising standards in EU member states, in line with common market and OECD rules, could also be considered, albeit difficult to fully achieve. Any such tools have to be easily applicable. Export credit insurance companies, covered by appropriate re-insurance, should offer hedging instruments of currency risks.
Progress report, 2005: Priority has been given to establish a European wide instrument to enlarge the available volume for pre-delivery financing, which shipyards see as the most urgent need. In January 2005, it was announced the goal of creating such an instrument before the end of the year.
Progress report, 2007: The focus of the Commission in working on this issue has been on pre-delivery financing schemes (refund guarantees). Extensive contacts have been initiated with the European Investment Bank (EIB) that has indicated to face statutory constraints, lack of resources and sector specific knowledge required to take a leading role. The European Commission has explored the possibility of an EU guarantee fund for shipyards.

4th key area: Promoting Safer and More Environment-Friendly Ships
Recommendations of 2003: Existing and future EU legislation has to be strictly implemented and "exported" to the international level. A more transparent, uniform, efficient and independent system of technical surveys of vessels has to be promoted. A quality assessment scheme for shipyards at world-wide level should be developed, covering new building and repair. Maintaining and strengthening ship repair capabilities in Europe is important to ensure a high level of transport safety and environmental protection. The great potential of Short Sea Shipping needs to be exploited through appropriate political and economic framework conditions.
Progress report, 2005: The European Commission is actively pursuing a strengthened coordination role related to IMO activities. CESA supports these endeavours and advocates, in this respect, a European ratification process of adopting IMO conventions instead of the 25 separate ratifications by the EU Member States. A committee addressing technical concerns related to double-hull oil tankers was created at European Maritime safety agency (EMSA) in April 2004. CESA has established a Technical Advisory Committee, which contributes its expertise to the Commission and EMSA. CESA actively contributed to the consultation related to the Motorways of the Seas, emphasising in particular that ships have to be regarded as a fundamental part of the infrastructure for Short Sea Shipping.
Progress report, 2007: the EU welcomes higher global standards. The care must be taken that such standards do not lead to unintended technology transfer and leakage of IP. Both industry and the Commission are actively providing technical expertise to EMSA and are striving in various initiatives to reduce transport pollution and increase safety, e.g. by promoting Short Sea Shipping, applying the clean ship concept widely and introducing new intermodal maritime-based transport logistics chains in Europe.
5th key area: Securing the Access to a skilled Workforce
Recommendations of 2003: Programmes for shipbuilding-specific management training need to be developed and established. New skill requirements need to be analysed and addressed, ideally through a sectoral social dialogue. Exchange of staff and know how needs to be organised on all levels, from shop floor to academia. A publicity campaign, showing the vitality and sustainability of the shipbuilding industry, has to be implemented. Regional centres of excellence could provide crucial input for the realisation of the above recommendations.
Progress report, 2005: A formal Social Dialogue Committee for the shipbuilding and ship repair sectors has been established in September 2003. An Experts workshop to exchange best practice related to training & skill retention was held in October 2005. As part of strengthened efforts to improve the public perception of shipyards as high-tech production sites and to attract young people to the industry as well as highly skilled engineers, a Europe-wide Shipyards' Week was planned for March 2006.
Progress report, 2007: CESA and European Metalworkers Federation (EMF) launched a formal Social Dialogue Committee for the shipbuilding and ship repair sectors in 2003. In this Framework CESA and EMF have been granted the status of European social partner and were consulted on social policy proposals. Practical initiatives like the European Shipyard Week serve to improve the attractiveness of shipyards as a workplace for young high-skilled professionals.
6th key area: Building a Sustainable Industry Structure
Recommendations of 2003: The EU of the 25 must further develop its policy approach

to the sector, in line with its principles on industrial policies. A consolidation process among European producers should be facilitated, providing incentives to remove less efficient production capacity and thereby freeing resources for new investments. The current closure aid rules in the EU should be scrutinized with the view to facilitate a more pro-active approach, based on the idea of "aid to consolidation".
Progress report, 2005: The consolidation process in European shipbuilding is continuously developing. Systematic analysis of parts of the European industry have identified an insufficient level of net equity, often leading to "investment congestion"; further discussions on this issue, developing possible means to address it, are on-going.
Progress report, 2007: Defining the structure of the shipbuilding industry falls outside the scope of the Commission. Some developments towards mergers, acquisitions and joint ventures have been observed, making European shipbuilding groups better equipped to compete successfully. There is however scope for improvement in this direction, when compared to the industries of Japan and Korea.
7th key area: A European Approach to Naval Shipbuilding Needs
Recommendations of 2003: Joint requirements should be established to shape a number of major projects, enabling co-operation between yards and leading to interoperability of systems, vessels and fleets. Member states should address the issue of harmonisation of export rules. Common rules to create a European market for defence equipment have to be developed, based on the Council's request to create an intergovernmental agency in the field of defence capabilities development, research, acquisition and armaments.
Progress report, 2005: In July 2004, the European Defence Agency was established by a Joint Action of the EU Council. Its scope is to support the Member States in their effort to improve European defence capabilities and to further develop the European Security and Defence Policy (ESDP). CESA has established a new working group dedicated to naval shipyards, which brings together all major European players in this field. Complementing the CESA activities, the European Aerospace and Defence Industry Association (ASD), has formed a group with a wider coverage including also system, equipment and service providers.
Progress report, 2007: A trend of consolidation and co-operation between naval shipyards at national level is observed, which is welcomed by the Commission provided that it helps building a European Defence Technological and Industrial Base. Much work remains to be done in agreeing upon common operational requirements and harmonised procurement cycles in order to reach more interoperability of vessels and fleets. The competitive advantage of the naval sector in Europe is still at risk because of market fragmentation and resulting lack of synergies. Creation of the European Defence Agency is helping to achieve the goals.
8th key area: Protection of Intellectual property Rights (IPR)
Recommendations of 2003: The existing instruments for IPR protection (copyrights, registered designs, trademarks, patents, non-disclosure and specific collaboration agreements) need to be exploited to the full. Knowledge data bases for shipbuilding, containing information about the state of the art, existing patents, and the specific competitive situation for certain products and solutions, and key knowledge holders, should be built and run by dedicated IPR entities. International patent rules applicable to shipbuilding need to be examined and possibly strengthened.

Progress report, 2005: Several cases related to IPR in shipbuilding have been closely followed and discussions have taken place related to some of the key loop-holes. A systematic approach to the issue is intended to be launched mid 2005.
Progress report, 2007: Efforts have been made in raising awareness on the value of knowledge in the shipbuilding sector and the importance of protecting it. The Commission launched a study on IPR issues in shipbuilding in 2006. A Working Group of the Maritime Industries Forum looking into Rules, Regulations and Right is addressing IPR protection. The Shipbuilding Dialogue with China and other bilateral initiatives intend to include this issue as well.

Table 4. The development and improvement of the LeaderSHIP 2015

In 2010, CESA has decided to update the Strategy by developing a new LeaderSHIP 2020. Majority of strategic aims and objectives of LeaderSHIP 2015 will be transferred into the new document. Analysis of recommendations for the LeaderSHIP 2020 received from maritime industry representatives shows that it will be continuing efforts to sign a global shipbuilding agreement for creation of level playing field. Choosing competitiveness through excellence, Europeans plan an exchange of the best practices and awareness through RDI aid schemes at Member State level, to simplify procedures and improve access to European Union level RDI programmes. Actively promotion of a maritime cluster approach to innovation should be continuing for the next 5 years. Promotion of employment in technical professions and the possibilities of a specific labour migration within European maritime cluster have to be included into list of objectives, too. Developing of standards for Short Sea Shipping, creating schemes to fleet renewing based on environmental and safety standards will be stimulate as well. At the same time the awareness of IPR protection possibilities, especially among small and middle enterprises has to be rising. Since the developing of advanced financing and guarantee schemes on EU level still is in the low stage, it will be look for possibilities for creation of a regional and central guarantee funds.

Simultaneously, European maritime industry has to accept a new challenge. The European Community has resolved to reduce the overall greenhouse gas emissions by at least 20% below 1990 levels by 2020 and by 80-95% below 1990 levels by 2050 (EC, 2010). This with external dimension i. e. the new fuel standards established by the 2008 amendment to MARPOL Annex VI will impact on shipping and maritime industry, as well. For example, mentioned above Annex VI has introduced a reduction of fuel sulphur limits for fuels used in SO_x Emissions Controls Areas (the Baltic Sea, the North Sea and the English Channel in EU) since 1.5% to 1.00% (already in force since 1st July 2010) and to 0.10% since 1st January 2015 (AirClim, 2010). Many ships (covering 85% of world tonnage) will need to comply with a new fuel standard that increases the price of marine fuels. The EU's merchant fleet is the largest in the world therefore such reductions have been requiring the European shipping to turn toward environmental approach by delivering more energy efficient, safe and sustainable maritime systems in the next decade. Much is already done.

First of all, the well-known solutions such a speed optimisation, optimum trim, ballast, and propeller, proper maintenance of hull and propeller smoothness, etc. have been implementing for fuel-efficient operation of ships.

Due to increased focus on fuel consumption and CO_2 emission, the two solutions with the greatest potential were indentified for the improvement of the overall performance of the diesel engines. The first is sailing on low load mode for ships with electronically controlled

engines, the second is cutting out the turbocharger on ships with multiple turbocharger engines (Green ship magazine, 2010). Speed optimization if it agrees charter party terms not always can produce significant savings. Sailing at less than optimum speed consumes even more fuel. It may include increased vibration and soot.

Trim has a significant influence on the resistance of the ship therefore optimised trim can deliver significant fuel savings and CO_2, SO_x, NO_x emission reduction by 3% of each (Green ship magazine, 2010).

Optimum ballast achieving through right cargo planning helps to adjust optimum trim, facilitates steering. From the other point of view, pumped out ballast water transfers invasive organisms that cause harm to local ecosystems. Some researchers work on developing ballast-free ship solution (DNV, 2010) that helps to solve both problems. It is no need to transport ballast water as extras cargo in the tanks (add the reducing of fuel consumption) and any damage provided to the local ecosystems.

Using of optimum propeller, improving water inflow through fins and nozzles may increase propulsive efficiency and reduce fuel consumption to approximately 4-5%. Modern propeller combined with an asymmetric rudder can be utilised more efficiently compared to traditional rudders (Green ship magazine, 2010). Even the better voyage planning also may reduce fuel consumption if the rudder would be used as seldom as possible.

Hull resistance may be reduced by new technology-coating systems and regular cleaning. A new biocide-free fouling control paints are proposed to the market. New silicon antifouling paints saves ship daily running costs through keeping proper hull smoothness, reduction of fuel consumption and CO_2, SO_x, NO_x emission by 3-8% of each gas (Green ship magazine, 2010). The cleaning and polishing operations are very effective for propellers, too. Much work can be done in-water instead of docking.

Liquefied natural gas (LNG) auxiliary engines using for electric power supply in harbour conditions reduce emission of approximately 20% on CO_2, 35% on NO_x, and 100% on SO_x (Green ship magazine, 2010). Many other technologies such as waste heat recovery, water-fuel emulsion, exhaust gas recirculation and etc. were known to maritime society but integrated using of its in new conditions gives a new effect. All on shore and on board stakeholders should be involved into implementation of fuel saving and emission reduction measures by providing of necessary training of personnel.

European ship repairers' future has to be more favourable because all new ships will require maintenance and repair. The ship repair business differs substantially from the shipbuilding and brings obvious impact on the environment. As the industry has to fulfil a wide range of constantly increasing requirements in the scope of environmental legislation and regulation, the environmental impact of ship repair and conversion processes must be also reduced. Providing practical and cost effective solutions to the new eco-innovative ship repair and retrofitting processes is a new challenge and opportunity of European repair shipyards.

In the long-term future a lot of substantial developments have to be performed. Reducing independence from oil by implementing hydrogen-driven fuel cells and alternative energy sources, utilisation of new Northern routes, developing future concepts for inland and sea ships, floating recreational objects and marina & leisure facility, maintaining enlarged demand of off-shore industry, design of advanced hull structures, more efficient propulsion, and many other what would help to maintain growing population of our planet.

4. Conclusion

All goods have been moving depending on global development. The exponential growth of world population in the conditions of expanding globalisation requires tremendous amount of energy and raw materials. Developing of the world regions and countries has different speed for advanced, emerging or developing economies. It is estimated that world GDP will grow at 4.2 % in 2011 while advanced economies at 1-2% and emerging/developing economies – at 8-10%. This is close relation with the international trade.

Seaborne trade is essential to global prosperity on the one part and depends on world developing results on the other part. Due to faster recovering of the global economy after the last crisis of 2008, it is expected seaborne trade growth at 2.4% per annum and rising of oil, iron ore and coal consumption. It means providing with a cargo for some new built oil tankers and bulkers. Delivering of contracted new buildings within a few next years will make oversupply, especially for the bulker fleet.

Security of the shipping sector depends on how strong is world shipbuilding industry. Shipbuilding in majority of main players' countries with exception of Japan is export-oriented industry therefore most of governments try to support this industry. A flag of the shipbuilding leadership goes from hand to hand.

Asian countries have been gaining the leadership through the similar scenario: assigning national shipbuilding industry as strategic, developing and implementation industry support policy.

The global economic crisis has deeply affected the shipbuilding industry worldwide. The deep demand gap in combination with global shipbuilding overcapacity threw down new challenges to all shipbuilding countries. Further competition takes a cruel character.

Analysis shows that world shipbuilding order book is shrinking fast because of decreasing of new orders and cancellations. New players have taken portion of new orders from Europe and Japan. The global competitive position of the European industry is under severe pressure due to the difficult market environment and in particular due to extensive support measures in competing countries.

The facts speak that the large shipyards oriented to mass production may keep their market shares more successfully therefore a merger of shipyards is performing in China and Japan. Due to small and middle enterprises (SMEs) domination among European shipyards competition with Asian shipyards is not equivalent on the one part but SMEs are more flexible in adoption of innovations on the other part. The last factor must be availed as an advantage of Europeans.

Despite the fact that European shipbuilding industry keeps the gained a strong niche player's position in cruise vessel, yacht, and off-shore markets the main competitors have been shifting up towards more complex vessel segments, too. European's situation has been aggravating by highest wage levels and aging of the employees. Small companies do not have enough financial reserves and may do not survive further critical period until the next booming in new building.

As there is no base to compete on labour cost, European industry has to advance in superior products regarding ship safety, efficiency and marine environment protection as well as in innovative processes intended to increase production productivity. Choosing competitiveness through excellence, Europeans plan an exchange of the best practices and awareness through RDI aid schemes at Member State level, to simplify procedures and improve access to European Union level RDI programmes. Actively promotion of a

maritime cluster approach to innovation will be continuing for the next 5 years. Promotion of employment in technical professions and the possibilities of a specific labour migration within European maritime cluster have to be included into list of objectives, too.
European ship repairers' future has to be more favourable because all new ships will require maintenance and repair. The ship repair business differs substantially from the shipbuilding and brings obvious impact on the environment. As the industry has to fulfil a wide range of constantly increasing requirements in the scope of environmental legislation and regulation, the environmental impact of ship repair and conversion processes must be also reduced. Providing practical and cost effective solutions to the new eco-innovative ship repair and retrofitting processes is a new challenge and opportunity of European repair shipyards.

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12

Globalization Effects in Family Farms: A Case of Mexican Dairy Production

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1. Introduction

The globalization of the socioeconomic system has been a widely debated topic in the last two decades. Many disciplines agree that globalization is a concept that emerges from the new international division of labour. It is common today see a trend to regionalism which is based in the creation of regional trading blocks as a need to become more competitive in world markets and to capture others. In this way many countries or regions take advantage from theirs competitive and comparative advantages in many areas of commerce.

In 1994, the U.S. established the North American Free Trade Agreement (NAFTA) with Canada and Mexico, as a first step in the integration of the Americas. This union took place despite the fact that Mexico is still a semi-industrialized country compared to the U.S. and Canada. The market integration had a supposing that Mexico would improve technology to get an industrialized country and the same time create jobs and reduces the migration to U.S. Moreover such situation has not changed in the recent time.

The creation of regional trading block established regulations based in the release and the opening of market frontiers. The tariff barriers were gradually reduced allowing the free importation of goods produced in international market, which has been attractive in agricultural sector to Canada and U.S. due to Mexico historically an importer country of milk. This process has exposed Mexico producers to face a high competitiveness in the market. The NAFTA was to Mexico the globalization consolidation pointed out by a fast liberation of their market.

With respect to the Mexican agricultural and dairy sectors, globalization has meant an increase in foreign trade, food imports, and arrival of transnational enterprises which has introduced a system of intensive dairying, though not all at once. However, it also has meant elimination of subsidies to force competitiveness of products for domestic consumption, reduction of budgets of programs of production support and development, and reduction in the number of assistance programs for the poorest sectors in rural areas, which have brought a reduced of profit in the agricultural sector.

Thus, the present chapter has the objective to show, after sixteen years of market liberation in Mexico, how globalization has contributed to deteriorate or to develop of the family dairy production in rural areas; what strategies has implemented to survive and face the competitive challenge; and besides to point out what socioeconomical implications are presented to local, regional and global level.
In those terms, the information presented has been obtained by literature review of national and international data base; and to show the local effects, the Maravatio municipality in the state of Michoacán was a chosen as a case study.

2. Open economy in Mexico

During the early 80's, the prevailing economic model in Mexico experienced serious imbalances that became inevitable adjustment measures to stabilize the economy and change its structure.
Insufficient state revenues that supported public spending forced the authorities to resort to external debt to finance development, creating conditions of extreme weakness for the State and the national productive. The debt crisis manifested in 1982 was the start signal reforms.
From 1983 the production system began the transition to a new pattern of development characterized by reduced State intervention in productive activities, foreign trade liberalization, deregulation of the economy and balance in public accounts (Yúnez-Naude, 1998). The model consisted on insert the Mexican economy into the big international circuits of production and marketing in the context of the globalization of world economy.
Since Mexico entered in the General Agreement on Tariffs and Trade (GATT) in 1986, today called World Trade Organization (WTO), the tariff and nontariff barriers were reduced in order to allow the free importation of goods produced abroad (Janvry & Sadoulet, 1997), subjected to intense competition from domestic producers, favouring market competition. The NAFTA, signed in January 1994 for Mexico, the United States and Canada, was the consolidation of this process.

2.1 Agriculture globalization in Mexico

The inclusion of agriculture in NAFTA has been thoroughly discussed because agriculture plays a vital role in society and the economy in areas dependent on agricultural production. Officially it was argued that market liberalization would promote structural change and agricultural production in Mexico, in contrast, critics maintained that these political reforms would strike Mexican producers and threaten the country's food self-sufficiency. It was feared that the superiority of American agriculture on crop productivity of grains and oilseeds take out Mexican producers from market (Rodriguez & Smith, 1998), in particular maize producers.
The release of the agricultural sector was gradually provided for a period of 15 years (for maize, beans and milk powder). It was set a tariff of 215% for the first year, which fall to reach the total deduction in 2008. Forecasts of the impacts of the trade stated that Mexico would increase its imports of grains and oilseeds, and its exports of vegetables, fruit and calves, which would bring economic benefits to the country.
At the same time, programs and institutions related to agriculture were created. ASERCA (agricultural marketing board) was one of the first programs in 1991; it provides support to producers in the marketing of crops. PROCAMPO in 1993 began to be implemented to

compensate domestic producers from the subsidies received by their foreign competitors. Another program created in 1995 was "Alianza para el Campo" (now Activos Productivos), in order to promote efficiency in production units through substitution of crops for products with comparative advantages potential (mainly basic crops to vegetables and fruits). Other features include decentralization and state-level control programs and the investment contribution by the producers. Different programs generated as a result of trade liberalization policies were created as a transition to address international competitiveness and transform the structure of agricultural production in Mexico.

The main effects expected in the agricultural sector are summarized in the impact on prices and the structure of domestic production. In prices was expected that the law of "one price" for goods traded regulate the market, decrease the prices of imported crops, and the elimination of industrial protection reduced the price of agricultural inputs and, therefore, production costs. The production was expected to be restructured and increased efficiency; particularly domestic producers of imported goods would be forced to compete with producers in Canada and the U.S., thus more competition would carry out more productivity.

2.2 The globalization of diary production

The emergence of globalization meant for farmers, industrialists and consumers of milk a radical change of scenarios that were developing. Even before the 90's, the milk supply strategy was underpinned by the consumption subsidy, based on price controls and import of dry milk, given by the domestic supply and low prices of dry milk imported, limiting the national dairy development, whose cost was to discourage investment and production. During the 90's, the main actions aimed at boosting national dairy were new mechanisms for exercising the duty-free quota of imported dry milk, the release of milk prices and government support. The government only maintained the subsidized scheme of distribution of milk to social programs. Currently, the process of internalization of the dairy sector, led by transnational corporations, has been accompanied by economic regionalization, as market-sharing mechanism that includes a large amount of goods and services, from inputs such as registered animals, food, semen, embryos, medicine, technology for packaging and industrializing of dairy products, to direct consumer industrial goods, such as not-fat dry milk and whole milk, yogurt, cheeses, desserts, ice cream, as well as patents and consulting. As a result, Mexico is established as a leading importer of dairy products and inputs, and user of technologies established from models developed by neighbouring countries.

From the inclusion of Mexican dairy sector in NAFTA negotiations, producers and manufacturers of U.S.[1] opened broad expectations, since the peculiarities in the trade favoured them, while the outlook for Mexico were difficult; both views had support in many facts such as:

- U.S would have a granting of access of not-fat dry milk duty free for 40 thousand tons per year and would increase annually by 3% (Muñoz et al., 1998).
- Mexican production systems had low competitiveness, while in 1993 Mexico production costs were between 0.793 and 1.43 pesos per litre, the parity price for a liter of rehydrated milk ready for consumption ranged between 0.61 and 0.62 pesos per litre.

[1] The trade on dairy products was only between U.S. and Mexico; Canada keep out a unilateral strategy.

- Lack of competitiveness was not only explained by the inefficiency of the Mexican dairy systems, also by the substantial subsidies to production and exportation that products received by the governments of exporting countries, distorting international markets.

The sum of these and other features seemed to indicate that under NAFTA, the U.S. would have in Mexico an attractive market to strengthen their participation in dairy products.

3. Context of dairy market

3.1 Milk supply

The growth rate of national production has been around 2.6% yearly in the period leading into force on NAFTA (1995-2009), in 2009 dairy productions increased to 10,549 thousand of milk liters; this production has been insufficient to meet domestic demand, and therefore it must be supplemented by imports of not-fat dry milk, whey and cheese which have amounted 30-35% of national availability in the last years (Álvarez, 2009). This means that the national dairy system is depended on supply from other countries that have proved to contain systems more competitive than Mexican.

Growth of milk production in Mexico has been quite variable (Table 1). The greatest growth period matches with the beginning of NAFTA, that is the period when intensive systems in the country have been supplied of enhanced feed for livestock, genetic resource, agrichemicals and many inputs and equipment which are required for the rapid growth of intensive farming, and this is leading to these production systems are becoming the mainstay of growth in Mexican dairy. In contrast, the most difficult periods for national dairy match with those of major instability in the domestic market, and when the prices were less attractive to import multiple inputs that are required in intensive systems.

Year	Thousands of milk litres	Growth	Year	Thousands of milk litres	Growth
1995	7,398,598		2003	9,784,355	1.3%
1996	7,586,422	2.5%	2004	9,873,755	0.8%
1997	7,848,105	3.4%	2005	9,854,805	0.0%
1998	8,315,711	6.0%	2006	10,088,551	2.2%
1999	8,877,314	6.8%	2007	10,345,983	2.6%
2000	9,311,444	4.9%	2008	10,589,481	2.4%
2001	9,472,293	1.7%	2009	10,549,038	-0.4%
2002	9,658,282	2.0%	2010	10,711,619	1.5%

Table 1. Dairy production in Mexico 1995-2009
Source: Sistema de Información Agroalimentaria y Pesquera (SIAP) (2011)

These growth´s variations of domestic dairy production are reflect from the high price of commodities and raw materials for production process. This situation are originated from external factors that are located in the international arena, as the U.S. economic crisis, the high oil prices and other key products for the global economy. In addition, emerging economies like China and India has also been crucial in the increase of demand for a vast number of food products worldwide.

The attention to the effects of climate change has also affected the productive systems, as in the case of deviation of maize for producing biofuel that has triggered a shortage, and therefore, an increase of maize prices at the international market. This has meant a raise in production costs of animal production systems, especially the intensive, where the corn and other grains are consumed in large quantities. From the complete volume used between 50 and 60% of corn imports are intended for livestock, where dairy sector takes a third portion in corn consumption. The problem in grains prices get worst due to fertilizers and agrichemicals as well show a soar price as a result of oil prices increase.
International market shocks, which are characterized by high prices and scarcity, have been a major cause of slow growth of domestic production records in recent years and, in consequence, have decreased the international competitiveness; above, essentially highlighted the vulnerability of intensive systems in the international setting and, therefore, the variation in domestic growth supply. However, it should be noted that the Mexican dairy system is very diverse and, for that reason, not only depends on the intensive systems; for this reason, it is important to make a brief review of major systems developed in the country

3.1.1 Dairy production systems

National milk production has, as a column a technological and productive heterogeneity, which is mainly caused by socio-economic polarity of dairy systems. These can be differed in four from the most modern as the intensive and semi-intensive to most backward as double-purpose and family systems. Specialized intensive systems work under the Holstein model and have, as their biological axis, specialized animals from that breed; they have highly specialized technology, conducts specialized in preventive medicine practices, reproduction, breeding and feeding for high yields and regular in time, which facilitates the vertical integration with industry-to-eat plenty of milk and dairy products. It takes place mainly in the highlands, and arid and semi-arid north areas in the country. Within the national livestock inventory of dairy cows intensive systems represent only 17 %, and they supply more than a half of national production (Table 2).

Characteristics	Production systems			
	Intensive	Semi intensive	Double porpoise	Family
Herd size	300-400	100-200	40-80	5-10
Milky days	305	208-300	210-260	120-180
Performance (L/cow/year)	20-27	14-18		6-12
% of national herd	17	11	62	10
% of national production 1980	24	15	40	21
% of national production 2000	51	21	18	10

Table 2. Characteristics of milk production systems in Mexico
Source: Modified from Álvarez (2009)

Specialized systems, as a result of stationary prices, had to increase the size of their herds to maintain their incomes but each time with more serious problems. Since as mentioned they are highly resource-demanding as good and irrigated soils, as well as many imported

inputs, especially agrichemicals that regularly end up contaminating groundwater and air; plus they are highly demanding of water increasingly scarce.
In contrast family, double purpose and some semi-intensive systems work with modest parameters and efficiency levels (Figure 2). They mostly perform traditional practices such as manual milking, feeding with grazing and agricultural wastes, and having partial preventive medicine practices. Also, they remain to biological cycles and seasonal production of forage and pasture; and therefore, production tends to be seasonal, which makes difficult the supply to industry, and hence the vertical integration.
In the past the highest milk production were sustained by the double purpose and specialized (Table 2). This change to the intensive system was explained by the limits of productivity that double-purpose herds have, unable to produce large amounts of milk, although they have the huge advantage of low production costs.

3.2 Milk consumption

Milk consumption in Mexico is given after the arrival of the Spaniards due to the Indians had no domesticated animals for milk producers (mainly cattle). The merger of the two civilizations, as result of conquest, triggered new consumer habits and the development of particular industries; that results in the gradual development of derivatives such as cream, butter and cheese, which were taken peculiarities in each region. Slowly, milk consumption was widespread, as technology associated with dairy production has been innovated and the changing markets that a globalized society requires (Martínez & Salas, 2002); despite of milk is not part of the traditional Mexican diet.

3.2.1 Consumption trends

The Apparent Domestic Consumption (ADC) reported in 2008 was 12,140.2 millions of milk litres, and it has grown rate from 1995 to 2008 of 1.35%. The estimation of per capita availability of milk based on the ADC notes an increase in per capita consumption from 94.03 to 113.8 liters in 1995-2008; this also has been reflected in the daily consumption is seen as increased availability per person which step of 258 to 312 ml in the same period. Consumption of milk and dairy products is growing, primarily, as a result of the recovery of purchasing power of some sectors of the population, the decline in inflation and the increasing variety of milk products on the market.
Within the consumer trend, it has been observed that gradually they prefer industrialized products that facilitate their use, providing security in terms of safety and allowing them to meet their expectations of social status and caloric intake (Álvarez, 2009). For example UHT milk represented the 28% of the consumed milk in 1996, this proportion changed to 45% in 2005, which are mainly supplied by large and technologically advanced companies with large distribution channels. Nevertheless, some estimated references show that between 30% and 35% of milk is consumed as raw milk without any processing, which is provided by family systems, with the disadvantages of health and quality that it implies.
Some reports mention that big commercial enterprises such as Wal Mart, Comercial Mexicana, Soriana and others, which participate mainly in the urban centres of the country, develop 48% of milk products sales, while 34% are made in a small scale through gatherers and traditional markets, and the rest of the sales are developed within small businesses. This shows the diversity of marketing channels but with a marked tendency to channel more moderns, although still shows that there is an important focus of traditional marketing.

Milk consumption in Mexico is still modest, given that neither milk nor dairy products are part of the traditional diet. Fluid milk consumption has grown for their known nutritional intake and the development already undertaken by public authorities; instead, cheese consumption has been consolidated from fresh varieties that are incorporated as part of prepared products. In fact, in the last ten years, with the spread of the Western diet consumption of other products such as flavoured milks, yogurts, desserts, semi- aged cheeses and breast milk have been taken with greater force in the diet deeply of the Mexican population, mostly urban.

Despite these changes in per capita consumption of milk and dairy products, Mexico records lower consumption compared to developed countries; for example, it is consumed only 30% of the milk acquired by Dutch and less than half that Americans do. That consumption of milk is explained, in part, because for most Mexicans is a relatively expensive product, in fact, in recent years the price of milk (pasteurized) has increased faster than the minimum wage population (Álvarez, 2009).

4. Family dairy production in rural areas

Preceding pages has emphasized in describing the process of globalization in Mexico, also they point out some predicted effects in agriculture and dairy food system that would be triggered with structural reforms. This part point out how dairy sector has been affected by globalization, and how its effects have favoured, especially, to transnational corporations which have assisted to the productive growth of intensive systems, and therefore the increase of production and consumption of domestic milk. However, we do not yet review the effect on the less supported systems. For this reason, we conduct a review of family dairy production and how it has weathered the globalization process.

4.1 Rural areas in Mexico

Rural areas in Mexico have extensive coverage from 2,454 Mexican municipalities half are rural municipalities, and from 199,000 Mexican localities, 196,000 are rural (less 2,500 inhabitants), which involve 24% of national population. If we consider even more populated settlements, up to 15,000, where people have more rural than urban features and where the basic dynamic is agriculture and forestry, the estimated rural population would increase to 38.4 million people, 37% of national population.

Features that constitute rural areas are framed by polarized aspects. One hand rural population has the highest rates of poverty; in contrast, the wealth of natural resources is concentrated in these areas. Statistics of the National Council of Assessment of Social Develop Policy (CONEVAL, 2006), showed in 2004 that 10.9 million people who lived in rural areas, had food poverty and population increased to 12.5 million people in 2005, the same trend was observed for asset and capability poverties where the numbers have risen from 22.1 to 23.8 million of people, and from 13.9 to 15.4 million people, respectively.

Poverty dates are reflect of scarcity of formal jobs in rural areas. Nearly 9 million people receive a minimum salary, and more than 10 million do not receive any income. Therefore, international migration has increased to 40%. The rural household income from remittances of emigrants to the U.S. in the period 1995 to 2006 increased more than 600%; between 1992 and 2005 the annual income of rural households increased from just $1,332 to $1,539 dollars,

which represent 47% of the urban income (Instituto Nacional de Estadística, Geografía e Informática, INEGI, 2005).
In contrast, natural resources are huge in rural areas. They have 28 million hectares of farmland, 100 million hectares dedicated to livestock and 61 million hectares of forest land. Crop areas provide 34% jobs in farming activities, where 20% of producers are depend exclusively on agricultural and forestry activities. Currently, around the world 60% of population is rural people, 85% of them are dependent on agricultural production.

4.2 Socioeconomic of family dairy production

Family dairy develops diversely around the country, and their characteristics are linked to geographic and socioeconomic variables from each region, which determine the production process and the characteristics of different products offered. However, the socio-economic function is very similar in each region where the system area developed.
Family dairy fulfils a major socio-economic work. It generates income and jobs for women, children, adults and seniors that support for commodities and employment in rural areas. In some studies (Jiménez et al., 2009) has been shown that family dairy contributes to food sovereignty with total supply of milk to local markets, where covers the milk consumption recommended and provides a nutritional food at low prices (even $0.50 dollars below the processed milk). These features are present in most family farms that develop this system, which allows to the activity has an important social and economic role within the national territory.
Despite this, the families who developed this system have suffered marginalization and exclusion of the policies and actions of current globalization and from this paradigm the family dairy is deemed ineffective for do not take advantage from economies of scale (Cesín et al., 2009). Thus, the low volumes of production, poor yield per cow, and small farms where herds are developed, are consider limits to make efficient use of resources, leading to high production costs and low competitiveness.
In addition, producers have been subjected to prices fixed by the intermediation due to low volumes of production and lack of organization. The poor integration to production chains does not allow them to enjoy the benefits of added value of their milk, where agent gets a higher profit margin than producer sales on final price (Espinosa et al., 2008).
Another element of exclusion is given for the quality of raw milk. Globalization has brought new rules on milk market where is required high standards in safety and components in milk which is difficult to reach for small producers due to need technology to reduce contamination by human contact. The incorporation of technology is a limiting issue due to high investment; and therefore, family dairy is relegated to the local trade where usually operates the business and finds a market.
In addition, the population who work in dairy production is generally mature and elder which show a limited generational change. It has seen that this happen because dairy production is not an attractive economic activity for young people who have better opportunities in other jobs that are not so demanding of time and offer better remuneration.

4.3 Production process and market of family dairy products

The family dairy farms have Holstein-phenotype animals, creoles and their crosses. Establishments are adapted to small areas close or at homes. Management expenses may be

stabled livestock, or during the day grazing on common land or along roadsides and rivers, which the cattle are stocked at night. Management that is given to cattle depends on the availability of food resources and family labour.

Family dairy, as part of the peasant logic, is intimately associated with agriculture; rural families combine resources of temporary and irrigation surface such as corn, alfalfa and crop residues for animal feed. Regularly farmers complement feeding with some products outside their farm as local concentrates and balanced feed (Martínez & Salas, 2002).

Activities are often focused on milking, feeding, cleaning stables, and sale and processing of milk, all of them are made with family labour. It is not odd to see that some farms employ foreign labour as a support when the activities are increased, as in the harvest season.

This system is typified by a low technology level because the producers do not apply modern practices for breeding and genetic improving, such as artificial insemination or embryo transfer, mechanical milking and economical and productive records. In addition, animal health is scarce because producers usually do not carry schedules for preventive medicine, brucela and tuberculosis control, and hygienic handling of milk during milking and processing.

The family dairy market is also heterogeneous. Milk is mainly sold locally in different sale channels such as: direct to consumers, intermediary and/or rural or commercial industry, but it is not free to sell in big urban areas where the sale of pasteurized milk prevails. The sale direct to consumer is sold per litre, at this channel producers reaches a higher prices because they rescind the action of agent.

Intermediaries collect milk to supply either fluid milk market in urban areas or to manufacture of traditional cheese that has a remarkable market in cities or suburban areas. Commercialization to industry can be made in two ways: a) sale to local rural agro-industry which produces traditional cheeses and has an acceptance and cultural identification on local areas; and b) sale to commercial industry that is responsible of pasteurization and milk transformation.

4.4 Trends of family dairy production during globalization process

As it has been stated, one of the main effects that would bring globalization, specifically NAFTA, of national economy and dairy production was the trend to the market leave of millions of maize producers, the abandonment and disappearance of small-scale diary production, and the migration of thousands of rural people, so we will describe the impact of some of these trends on family dairy production.

4.4.1 Productive reconversion maize-milk

At the beginning of NAFTA it was expected that domestic production of maize declined and agricultural employment reduced, however they did not. That is explained by self-sufficiency in maize production in the third of small farmers, and because farmers were able to adapt and face the risks of market fluctuations and to maximize the family income with combination of maize and livestock production, which resulted in a productive reconversion.

The productive reconversion has been a trend in agriculture and has stated an alternative to the low prices of maize as a consequence of trade liberalization. This trend has been observed at regional level in states such as Jalisco, Michoacan, Mexico State, Veracruz, Morelos and Colima which the maize price did not compensate the costs of production; for

that reason peasant opted for conversion to livestock (Keilbach et al., 2001). This conversion has not been distinctive to Mexico, according to Delgado et al. (1999) it has also been noted in a global way, but in developing countries livestock has increased as a result of the global crisis of grains. Studies carried out in regions where maize production is the main activity, have showed that the contribution of dairy production to household economy was increased while the maize crisis was deepened (Wiggins et al., 2001). Economic evaluations showed that milk provided more economic returns than maize, and equal or better than those received in other non-agricultural activities. So those evaluations illustrate how the conversion maize-milk production is a local response to global policy.

4.4.2 Did family dairy production disappear?

In the global arena has been observed different productive structural trends as a result of globalization, one of them have been the decrease in the number of small farms (García et al., 2005). This trend has been observed either U.S. or Canada. the number of farms in U.S. decreased during 1992-2000 at 48,510 farms, which means a loss of 36.9%; and in Canada there are currently only about 7% from those in 1970 (Schwarzweller et al., 2000). Each country has different reasons to explain it, such as problems in land tenure, support policies toward the great producer, insecurity, and others.

In Mexico the trend to reduce of small-scale dairy production has been little studied. Studies at the beginning of globalization established that family dairy would be on disadvantage face intensive systems which were more competitive. The main weakness to compete were focus on the low profitability to collect small volume of milk, the poor milk quality, and the high cost to produce, which would keep out from competitive markets

The poor competitiveness is given because it is unthinkable to collect small volumes of milk produced at scattered small farms, which implies to add a higher cost than a large farm that produce a big volume of milk does. In this sense, the low production volumes and poor yields per cow in family dairy do not allow take advantage of economies of scale, and make an efficient use of resources, therefore that cause a high production costs and an uncompetitive at the end.

Furthermore, milk quality has been a complex element to handle by small-scale dairy production. Requirement levels on safety milk (low bacterial counts) and physicochemical composition (a minimum of fat) are an indicator of small producer marginalization because milk quality also limit to access to competitive markets where industries need to have an input of the highest quality with minimal cost. To maintain a high quality is not possible to think in a manual milking, it requires technology and automation to reduce human contact, same situation for cooling, storage and transport (Garcia et al., 2005). The incorporation of technology is a limiting factor for family dairy due to it needs high investments which are not covered by the income it earn, thus family dairy loss competitiveness.

However, although data in Mexico show a decline on family dairy participation to domestic supply (Table 2), it is also known that the number of small farms has not decreased. In the 90's there were 127,000 units of milk production which 77% of them corresponding to the small-scale dairy farms. (Martinez & Salas, 2002); those data are remained, in the last livestock census conducted in 2007 (INEGI, 2011) was found that around 73% of units correspond to the small farms. Therefore, statistics help to point out that the tendency to disappear and abandon family dairy production has not been established in Mexico, and in contrast family dairy has been an option for rural families.

However, it is fundamental to know how has family dairy persisted against the expected effects from globalization?

4.4.3 Persistence strategies in family dairy

Family dairy has persisted due to a range of adaptations and modifications made either their production model or their marketing scheme, some of them are intra-farm and other are attracted by external agents of market, so in the next paragraphs these strategies will be described based on arguments that point out disappearance of family dairy.

4.4.3.1 Local products and markets

First, it was said that the quality of milk would be a constraint to family dairy in market. Although, several producers could not face quality standards set by industry, those standards did not stop all producers went out of commercial market. Producers who kept on market under this scheme have had to adapt and change their patterns of production process. In the most dairy regions of Mexico, industries such as Nestle, Sello Rojo, Alimentos la Concordia, Alpura, LaLa, and others changed to a new strategy to collect milk that was defined in a system to obtain raw milk at best quality (cold milk), to achieve stability and security of supply, and to reduce collection costs.

The enterprises gave credits to producers to purchase of equipment for milking hygiene and infrastructure in the cooled milk, in order to decrease the bacterial counts. These measures forced producers to organize themselves in groups concentrated around a cooling tank, and implicit contractual relationships without previous negotiation. Thus, enterprises have bought the milk using reward and punishment rules where quality standards were increasingly more rigorous[2] than the previous (Cervantes & Cesín, 2008). This new industry strategy deepened the relationship with family dairy, redistributing profit margins and risks, where producers receive a payment for their milk but they would assume the risks and costs of collecting, cooling, and deliver milk with quality and safety standards required on industrial process; in the same way, they would be eliminated producers who are not efficient in terms of profitability and quality. Under this market scheme, farmers were subjected to industry needs to continue in market.

Producers who left from industrial market had to turn up to local markets which use raw milk to sell unpasteurized milk and to make traditional cheese. The market for unpasteurized fluid milk is still quite large, about 35% of fluid milk is commercialized in this way. This milk is appreciated not only by price but also by intrinsic features such as flavour and cultural identity; but with that the consumer ignore safety because during milk boiling that families do, it can reduce the health risks. Therefore, through from this kind of market many small farms still remain.

Regarding the raw milk sale for cheese, studies say that the traditional cheese market has increased on national and international markets, internationally in the market called "nostalgia", which is demanded in Mexican migrants. In Sonora production of "cheese tortillitas" are sold with high demand in the region. Today, they are so demanded that buyers go to "quesadilleros" homes to buy them. The Mexican population, particularly from

[2] Industry has reacquired increasingly lower bacterial count through the reductase, which is an indirect measure of the bacteriological quality. Reductase in the case of Altos de Jalisco step of 178 minutes (very contaminated milk) in 1992 to 574 minutes (safe milk) en el 2000.

Sonora, has increased in U.S., which has favoured the informal export of "cheese tortillitas" (Andablo et al., 2009).
Another case that has made a choice of alternative market has been the producer of "Cotija" cheese. This traditional cheese has been produced for many years in mountain chain region of Jalisco and Michoacan, and it is the third Mexican cheese in Mexican production (Villegas, 1993). In the last decade producers through an organizational process have sought in the Protected Denomination of Origin (PDO)[3], an instrument to create value so that compete in an unconventional markets in order to face globalized markets. Experiences in the process have point out that producers, in addition to using surplus of milk during the rainy season, have been able to enter in markets that offer better prices, 40% higher than they were paid (Chombo, 2007). These examples exemplify how rural areas have the possibility of alternative development to face stipulated forms without pass over the history and local culture.
However, raw milk is also a public health problem because it does not meet quality standards, so the consumption of some cheeses is a constant risk to human health. Despite this, traditional cheeses are widely consumed, the total consumed cheese in Mexico 80% are made from raw milk produced in family systems. Therefore, if safety quality of milk is improved, the opportunities will be promised.

4.4.3.2 Prevalence in use of family sources

High production costs in family dairy were a factor regularly point out as a limit to compete with intensive systems. Some studies suggest that high costs in dairy production are caused by high costs of feed inputs, especially by the price of balanced feed (Cervantes et al., 2001). The balanced feed is a resource, in many cases necessary, to obtain good yields of milk per cow; so many producers have to buy no matter prices. The strategies to reduce feed costs or use of balanced feed, was based in introduce ingredients produced own farms. Family dairy shift resources from agriculture to sustain a part of cow feed for instance corn and agricultural wastes (straw) mainly; in other cases, for example in Hidalgo, the incorporation of alfalfa to dairy production has been a resource to give value to crops, reducing its sale in the local market (Vargas et al., 2009). By incorporating own food ingredients, the family resources such as land, family labour, seeds, and others producers do not have to pay cash to buy these inputs, hence they reduce costs and add value to their resources.
Likewise there are other inputs such as facilities, cows, and especially, labour. The last input is a basic factor in every production process; hence the family labour has been for years the cornerstone to the subsistence of family dairy production. The use of family labour in the production process depends not only on the head of household, but also on the years of experience of elders, good management of resources for women, and the willingness of children to join to milk production process.
Resulting from the use of family labour is seen that farms keep a cost of production below to milk price, despite the fact that it allows them to have a profit margin; in many cases it does not reward their own labour. However, many labour of elder people, women and children who hardly have access to employment options in formal economy (Jiménez et al., 2008; Cesín et al., 2009), found on a family dairy a labour option.

[3] Protected Denomination of Origin (PDO) is a process of commercial legal protection of an agro food, whose quality are associated to natural and humans factors that territory provides

4.4.3.3 Pluriactivity and diversification of productive activities

Emigration of rural population in recent years has placed in doubt the permanence of rural dairy production. Mexico is first exporter of migrants in the world and the third receiver of remittances, while its migrants make up the largest foreign contingent in the U.S., where there are 21 million Mexicans. It is estimated that from 2000 to 2005 the number of migrants toward U.S. increased in 22% (De Luna, 2005), and that the main origin of emigrant people are rural.
Pluriactivity in family systems is an essential part of supplementing of family incomes; it means an increase of economic activities which could be inside or outside of farms. These circumstances, consistently are observed in family system; Espinoza et al (2005) indicates that the diversification of activities is part of the strategies used by producers to solve their difficulties, in certain regions such as Sonora, Zebu crossbreed are used in order to diversify their production, thus, producers can sell calves fattening and keep animals resistant to bad weather conditions (Andablo et al., 2009). Therefore, partial agriculture, diversification of activities on farm such as calves sell as an inside activity, and the emigration as activity outside, clearly reflect the pluractivity in households. The possibility to diversify production activities either inside or outside of farm makes possible to sustain the family with enough economical resources.

5. Global actions and their local effects: the globalization in family dairy production from Maravatio, Michoacan

The following case study aims to show local effects arising as a result of the actions applied in globalizations process and regional integration. We chose the main milk-producers communities of the town such as Santa Elena, Campo Hermoso, Dolores, Casa Blanca, and Tejero, all located in the valley of Maravatío. The choice of these took place mainly because despite having a low participation in state milk supply, they have a long history as producer, so with this we tried to not exaggerate the globalization effects at local level.
The information presented below is part of the results obtained in different research projects related to family dairy on Economics, Administration and Rural Development Department of Faculty of Veterinary Medicine and Animal Husbandry (FMVZ) of the National Autonomous University of Mexico (UNAM), conducted from 2002 to date.
The methodological framework is based on participation-action research. The fundamental idea of this method is to optimize the relationship between researchers and researched. For this reason we have made stays of 6 months to a year in different communities in order to create a trust link with communities. Information was obtained through semi-structured interviews and participant observation carried out in dairy farms which participated in the different studies; structurally observation and interview guide included three main elements: 1) access to natural resources, 2) organizational and family productive structure, and 3) production process and economics of dairy production.

5.1 Maravatío localization

Maravatío municipality is part of the state of Michoacán in central western Mexico. It is located northeast of the state an altitude of 2,020 meters above sea level. The distance to the capital of Michoacan (Morelia) is 91 km, and represents 1.17% of the state total size. Its climate is mild with summer rains, an annual rainfall of 897.7 mm, and temperatures ranging from 14.1 to 29.9 ^{o}C.

It is considered a high poverty county, agriculture is the main activity in the primary sector, being maize the main crop, it is cultivated in 17,683 hectares which 6.250 are irrigated and 11.433 are rain dependent. Livestock is the second most important activity in the primary sector, both agriculture and livestock account for 65% of economic activity in Maravatío (H. Ayuntamiento de Maravatío, 2007).

5.2 A brief history of Maravatio as milk producer

Milk production in the municipality begins in the early nineteenth century (Pérez, 1990). From 1900 to 1935 the activity was taking place mainly on three haciendas Santa Elena, Huerta and Casa Blanca. Rustic cattle were used for temporary milk production and cheese making; besides the accumulated manure in stables was used as fertilizer for irrigated plots (Léonard, 1988).

The arrival of the train in late nineteenth century bring out the expansion of marketing toward Maravatío and later to Mexico and Morelia, letting the development of dairy farming and cheese, mainly from Haciendas (Pérez, 1990). In contrast, it also was a motive for sons of small owners to immigrate to the United States.

In 1935, the characteristics of land tenure and agricultural production changed with the creation of ejidos; however, milk production remained monopolized by large landowners, which outlined a differentiation of activities. Little properties were beginning to split into even smaller production farms. Also, in the late fifties the use of chemical fertilizers became widespread, causing the abandonment of manure as fertilizer.

Since 1970 started the peak of dairy production in Maravatio, this occurs by the differentiation and accumulation of land in certain regions such as Campo Hermoso, for these reason Campo Hermoso was the first to purchase Holstein cows in 1971 (Leonard, 1988). The decline in wheat prices between 1970 and 1980, and the fragmentation of rangeland in 1978, provided the impulsion for dairy development, and gave guidelines to dedicate those plots of abandoned irrigation for growing grass and oats for cattle feeding.

In 1982 state government directed and developed those conditions in the Maravatio's valley with a project of family dairy development, although it was not the one project launched on Maravatio due to a project of big cowsheds (4 stables of 250 cows) also was promoted by Ministry of Rural Promotion; nevertheless they were closed because they had a poor management, bad organization and resource misuse.

The relevance in dairy development in Maravatio is originated by economic potential that geographical position represents, it is located near to urban areas such as Mexico City, Toluca, Queretaro and Morelia, besides it is a centre of many roads from these cities and others, for these reason it has opportunity to supply and sell dairy products to urban areas.

Currently dairy production is conducted by family farms mainly. In the last livestock census (INEGI, 2011a) was recorded 392 farms over five cows which had 2,692 cows, in average each farm had 7 cows. Dairy production showed stability during 2002-2009, in that period production had a growth rate of 0.65% where step from 4,794.05 to 4,923.96 thousands of litres which represented to Michoacan supply between 1 to 2%.

5.3 Maravatio's family dairy

5.3.1 Characteristics of natural resources

Study communities have access to water from the Fresno lagoon that irrigate crop land from Campo Hermoso, Santa Elena and Dolores; besides they have the Casa Blanca marsh and

other swamp places which increase their extension on rainy season so they are used to graze cattle. Casa Blanca, Campo Hermoso, Dolores and Santa Elena contain many springs that are used to feed community populations.

Farms own in between 1 to 15 ha of agricultural areas, some of them are taking to crop in temporary and irrigate lands where maize, oat, beans, strawberry, and grass are cultivated. Lands have different kind of soils such as sandy, clay and silt. In all communities is seen many inactive lands. Producers commented that they are left by owners due to there are not people who want to work it, and also many of them have diminished their yield. Problems related to access to natural resources are diverse, many of them concur in low efficiency of irrigate channels, pest in crops and frost that happen in winter, all of them are restriction to increase productivity in crops, not forget the high prices of inputs for instance fertilizers and agrochemicals.

5.3.2 Organization and social characteristics

Communities from valley of Maravatio do not exceed 1,000 inhabitants, except Santa Elena that have 1,700 inhabitants (IINEGI, 2011b). In average each family has 5 people; the most inhabitants are grouping in elder and fully adults, and at least 50% of farms visited have a family member in the U.S.

Migration is common in Michoacan that is considered a state with traditional migration, for these reason communities and many farms are not exceptional to this social phenomenon.

Population in town has been waved in number of inhabitants from 1995 to 2010 with rate growth lower to 2% as is seen in Table.; nonetheless, population in Dolores has a clear tendency to decrease, so rate growth is negative. These trends could be consequence that in most of the rural communities people tend to emigrates, especially, young people. They emigrate when finish the elementary school, and their destination is to Chicago in the United States. Information indicates that population have constant migratory flows which repeals that many communities raise, besides it provokes a lack of labour to work in agriculture and dairy farms.

Communities	**1995**	**2000**	**2005**	**2010**	**% ARAG***
Maravatío	65,694	68,849	70,170	80,258	1.34
Dolores	678	648	550	536	-1.55
Tejero	726	719	500	606	-1.20
Campo Hermoso	753	748	724	759	0.05
Casa Blanca	617	649	656	780	1.58
Santa Elena	1401	1544	1,701	1,893	2.03

Table 3. Numbers of people from communities of study from 1995 to 2010
Source: Made from National Population Census 1995, 2000, 2005 y 2010 (INEGI, 2011b)
*ARAG: average rate of annual growth

Communities have basic services such as potable water, electricity, only Casa Blanca and Campo Hermoso have sewerage and drainage; in education, communities have up to elementary school; as sport services they have fields of soccer, basketball and baseball; and to buy household goods they can buy them in little shops inside the communities and in the municipality market central that is located 10 to 25 from each community. There are roads to access to communities, where occasionally public transport is a way to move for purchasing basic goods and going to school but it is very limited because it takes 40 minutes or an hour to go. Beside they have telephone, television and radio as a commutation media.

As a form of community organization, communities have an Ejidal president and an order manager which are in charge of convening meetings for different purposes for instance notice of support programs and security problems. In productive organization, the Maravatío have two livestock associations, one of them is independent and the Local Livestock Association has register in the National Livestock Association. In addition, from the year 2000 the municipality has managed to form 6 livestock groups to validation and transfer technology (GGAVATT).

The livestock associations have up to 800 partners; the Local Livestock Association has 60% of producers. It has been leading role on keeping the livestock activities in Maravatio; in recent years it has helped to get more than 70% of support from "Activos Productivos," as its producers have said, the Association facilitate bureaucratic paperwork in order to get support, also sometimes it funds to producers to acquire the assets from programs. This help is due to, among others, producers have complications in requirements that producers by themselves could accomplish, at first because they have low scholar levels (in average they get up to 3 scholar years), and at second because they could not afford their economic part in such support programs. Therefore, Local Livestock Association has an essential utility to producers either to promote or make possible the access to support programs.

1. Numeric Identification	10. Artificial Insemination
2. Productive Records	11. Mineral Supplementation
3. Economic Records	12. Concentrates Supplementation
4. Milk Weighing	13. Silage and hay
5. California Mastitis Test	14. Artificial breeding
6. Drenching	15. Soil Sampling
7. Vaccination	16. Seeding of Cut Forage
8. Pregnant Diagnosis	17. Fertilization
9. Brucellosis and Tuberculosis Diagnosis	18. Manufacture of Compost

Table 4. Basic technologies to GGAVATTs

On the side of GGAVATT, it is important to point out that the program consist in giving technical assistance during 3 years, where government subsidy the salary of technical

assessor. The 6 groups that there were in Maravatio so far, just one is keeping as a legal figure (Society of Rural Production); other two groups are working with GGAVATT methodology since they have still a support year; and the others have disappeared after the support have finished. It is important to mention that the one GGAVATT kept since program beginning has been thanks to the advantages that have a legal figure and the financial compromises as group has obtained with the only reason to have assets.
This transfer of technology model has acceded to producers that have been in a GGAVATT (100 producers), to know a packed of technologies consider as basics for all country (Table 4); however, few producers has implemented it ordinarily. That has been a sign of weaknesses that the model has when is used a generic method to improve farms. such weaknesses are focus on a lack of knowledge from local culture, a lack of a real participation of producers on transfer technology, a mismanagement and resource misuse, and a lack of extension service that play a important role to transfer technology and group consolidation.

5.3.3 Productive and economical characteristics

Communities have dairy production as first economical activity that it is intimately join to agriculture, besides they could be complemented with other incomes for instance sheep and poultry production, land rent to crops, non-agricultural jobs (drivers, masonry, and others), and also, remittances from relatives who lives in the U.S. (Table 5). Milk sell represent almost 50% of average total incomes ($1,363.63 dollars per month) whereas remittance incomes 4% from totals (Jiménez et al., 2008), which denotes the economic importance from dairy farms to rural families.

Sources of Incomes	%
Dairy production	51
Migration to U.S.	33
Crafts trade (pottery, masonry, etc)	7
Little business	4.5
Formal employment	4.5

Table 5. Main economic activities in dairy farms

Most producers held have developed dairy production for at least 40 years; only 13% of farmers have less than 5 experience years. Their herds are compounded by Holstein, Jersey, Montpellier, Swiss Brown and their cross as breed animals. Their cowshed are located on an area where producers live for these reason they are consider as backyard units, facilities are made from concrete floors, sheet roofing and linear feeders, this place is used either milking or feeding, also it is used as stay and handle of cows; even though some producer in this place have adapted little milking parlour. Their cowshed have space and slope problems which originate humidity excess on rainy season, at the same time they have manure accumulated in excess that predisposes animal diseases and increase the possibility to milk contamination.

Dairy farms as technological practices execute preventive medicine such as drenching and vaccination but they are not scheduled and recorded; and artificial insemination which has increases its acceptance on dairy farms of Maravatio, it is used on 24% of census cows that was more than the national use (11.6%) (INEGI, 20011a). This acceptance has been derived by some producers that has received training and has been able to acquire quality semen from international enterprises such as SEMEX and ABS; as a consequence, the experiences about milk-yield increase has been transmitted among them.

The milking, animal feeding and milk selling are the main activities during productive process. Milking is made two times during the day, morning and evening, it is making manually, and only 20% used milking machine, during this activity, few producers do practice that safe milk hygiene and reduce mastitis such as sealing and dipping teat and California mastitis test.

Cow feeding vary depends on season and management system. In rainy season (May – September) feeding is based on grazing, commercial balanced feed, maize, bran, and maize or sorghum straw complemented with native grass, forage such as alfalfa, rye-grass and clover. In dry season (October – April) animals are confined on facilities where they feed with maize or sorghum straw, oat and commercial balanced feed, if producers have irrigate crops they could provide forage such as alfalfa, clover or rye-grass.

Balanced feed and chemical fertilizer[4] rising prices are the most significant costs in dairy production. Balanced feed prices have increase 20% just from 2006 to 2007, and fertilizers from 40% to 60% in the same period. Strategies to reduce the use of those inputs are related to use own inputs; balanced feed are reduce but it is offset by other ingredients for instance maize and oat which through trial and error, have gone balance to not shrink milk production, also in recent years some producers have been incorporated maize silage as an alternative to improve and have a better use of all maize plant due to it has a low cost to elaborate and ahs a better quality than straw; the incorporation of ingredients produced in own farms to cow diets allow that cost of feed is reduced up to 21% (Jiménez et al., 2008). To reduce the use of chemical fertilizers on grassland producers have come back to a traditional practice, to use manure as a natural fertilizer which was used before green revolution in Mexico.

All the activities are done by family where men are focus on forage production and animal management, children look after animals during grazing, and women are in charge to elaborate cheeses. Family labour tend to be masculine, however, with migration increase is quite evident that women participation has increased in productive process, between 20 or 30% are producer women. Two family members participate in production process who invests approximately 9 hours per day. Additionally, some farms paid for labour, it happens between 30 and 50% on dairy farms, and it is linked with season and number of activities in farm, so it regularly happens during harvest season.

Jiménez et al. (2009) report that dairy production would be guarantee 63% of jobs in people who are labour age. Nonetheless, because of economic retribution that people receive from dairy activities is lower than they expect at international migration, many elder, children and women use dairy as an economical labour option (Jiménez et al., 2008). Thus, dairy production gives the opportunity to any family member with the purpose they complement family incomes and productive occupation in rural areas.

[4] Broadly used to fertilize maize and grassland

Milk production is quite heterogeneous, volume in farms is from 10 to 400 litres per day, and each cow in average produce 14 litres per day (INEGI, 2011a). Cost of production, also are very inconsistent throughout the year, it is due to feed available in each season and herd size. Months where producers have the highest costs are June, July and August where they reach up to 130% of sell price, while September, October and November are the lowest costs because represent 53% of sell price (Gil, 2010). Size herd also is determinant on costs of production, more milking cows less costs of production; it is consider that farms should have more than 7 cows in production to get profits, while they do not take account the family labour cost (Jiménez et al., 2007).

As in other country regions, the use of own resources in order to lessen production costs are prevailing in Maravatio farms. Additional to family labour and ingredients incorporated to feeding, many producers in Maravatio have their own breeding, with this they save money to buy cows, reduce safety risks and have animals adapted to feeding and weather local conditions. For some famers to have a own breeding have permitted, on one hand, to renew frequently their herd, up to 25% yearly, and in less time to sum better genetic in their herd; and on the other hand to sell cows-residue at higher or equal price than heifers-in-calf. The use of all resources getting in the own farm can reduce up to 70% of total of production costs, making dairy production economical feasible (Jiménez et al., 2008).

The commercialization is made locally to cheese manufacturers, the dairying of Maravatio, sell direct to consumers, sell to agents on farms and own manufacture for selling cheeses. It is important to state that most farms used drink milk produced by themselves, this consumption represent from 10 to 20% of total production, and it is used either familiar or calf consumption. The sell point depends on each community, for example in Campo Hermoso milk is sold, in the most cases, within it, where is used to elaborate fresh cheeses; in Dolores and Casa Blanca is commercialized mainly to cheese manufactures and the dairying of Maravatio. Prices are also varied and depend on the sell point, they are between $0.35 and $0.45 per litre-milk, and the direct sell to consumer offers a better price.

Those ways to sell have perpetuated for years in each community. The transnational enterprises have not historically had influence on milk commercialization; some producers commented that Nestle some years ago could be an alternative to commercialize their milk but for quality requirements never was established any business; for these reasons safety quality has not been a limiting to access to local market, the only inconvenient that cheeses manufactures could punish is when producers add water to the delivered milk because water addition reduce cheese production, the punishment is not receive the milk of producers who have added water, in this way they loss incomes from a day. In contrary to other country regions, milk quality has not been a competitiveness element on family dairy of Maravatio which focus historically its market in local level.

Barajas (2007) in a market study on Maravatio points out that the rural communities are the main consumers of raw milk. Jiménez et al. (2009) in a study made in Dolores indicate that 63% of Dolores population consumes local raw milk; its consumption is more than national in 17% and consumers of raw milk exceed with 60 ml FAO recommendation (500 ml). The main factors related with a high consumption are flavour, accessibility, and low price of raw milk. In those cases dairy satisfy completely local consumption, which represent 20% of local production, and the surplus go to rural agro-industry that manufacture chesses, yogurt, milk candies and other products.

Despite of above, it has found that urban areas of Maravatio are a potential market to milk produced in family farm due to 25% of consumers of pasteurized milk would be disposed to buy raw milk if they had available it (Barajas, 2007), in the same way urban places are broadly consumers of dairy products such as cheese that is consumed each week in 500 gr. (Espinosa et al., 2003). Similar to border regions in Mexico, Maravatio has the opportunity to take advantage from "nostalgia" market because in season after Christmas's holydays (January-March), migrants used take local cheeses when they return to U.S.

5.4 Effects of globalization polices in dairy production

The policies taking to globalize the Mexican economy were based on market liberalization with country allies, the importation of basic goods with competitive prices, and the arriving of transnational enterprises that in national dairy system has brought the introduction of Holstein system of intensive production. At the same time, policies were guided to reduce either direct subsidies to producers or support budgets to get equipment and technical assistance and extension programs. These policies definitely had repercussion and effects in diverse manner on family dairy of Maravatio.

5.4.1 Liberalization trade of maize and milk

The importation of basic goods such as Maize and Powered milk brought a low domestic price on internal consumption level, which to producers of Maravatio meant a drop of maize price paid to them, this provokes as in other regions of Mexico that producers were including maize to cow diets every time in more proportion which was tend to a productive reconversion maize-milk.

During the globalization and trade integration years, producers have been able to overcome maize prices with economical, for instances if there are prices on market that cover production costs producers sell a major proportion to commercial maize enterprises, but if prices is lower than production costs they integrate maize in more amount to milk production. These strategies are not new to them since they have experienced similar challenging with weather uncertainties, so they have learned to overcome either natural risks or market uncertainties.

In the case of milk prices, it was feared that many producers left of market and disappeared many farms due to they have poor competitiveness face international prices; furthermore, quality on products imposed new rules of market where small farms would not overcome. To dairy of Maravatio the low milk prices do not have effect on dairy disappearance because the number of farms is almost the same that even they have increased the volume of milk production from municipality.

International milk prices did not affected directly to dairy production, and they would hardly do it, due to dairy farms never was integrated to commercial productive chain, so they did not compete with international prices of commercial milk, and beside due to international prices of milk were higher than raw milk. Family dairy of Maravatio only have local competiveness when there are a surplus provoked by the seasonal production which makes that prices get down or production be rejected in that season.

The safety and composition quality on milk have not restricted that dairy farms continue selling raw milk in Maravatio because producers do not have relationship with the commercial industry; even, for some features that raw milk have, many chesses

manufacturer prefer that milk to elaborate traditional cheeses which have a good acceptance in regional and local market. Solely, as we have mentioned, water added to milk is an element often questioned by cheese manufacturers due to cheese productivity are reduced by water added.

In an indirect way the globalization effects are reflected on the increase of prices of commercial balanced feeds. The increase of oil prices between 2007 and 2008 has increased chemical fertilizers on almost 200%, and as a consequence the inputs used to manufacture balanced feeds. That effects have been manifested in Maravatio where the increase of fertilizers have reflected on prices of balanced feed that is required imperiously every day to milk production. Despite of producers have introduced other ingredients, they have done very few to avoid being immerse on the dynamic of market prices.

The globalization among other objectives has pretended to homogenize the way to produce and consumption around the world which benefits to big transnational enterprises and industrial mass production. At this stage Mexican traditional cheeses are threatened by imported cheeses produced industrially, imitation cheeses[5] and analogues cheeses[6], and market cheeses of Maravatio is not immunity. Currently, it is introduced those king of cheeses which could be a hard hit to local market of traditional cheeses due to this cannot compete on markets where prices are an important aspect that consumers consider to buy cheeses which is reflected in the price paid to producers.

5.4.2 Liberalization trade and the arrival of Holstein system

The liberalization trade and free markets allowed the arrival of transnational enterprises on the different levels of the milk chain. Particularly in production level resulted in the introduction of the Holstein system of intensive production. This model was established as a competitive option to domestic dairy systems, even family dairy, it is because the model offers specialization and intensification necessary to get competiveness. However, Cervantes et al. (2001) states that in the country is impossible for family dairy to adopt this model for the different geographic and socioeconomic characteristics, but it is common that some producer partially follow the model according to their resources.

This has been notorious in some producers of Maravatio, especially who have participated in GGAVATT, where techniques and technological practices are aimed to intensification and specialization of family dairy. An example of what globalization with the Holstein model has represented in family dairy is the use of artificial insemination, where globalization has brought benefits to purchase quality semen and genetic from U.S. and Canada which needs better space, feeding and health conditions. These aspects hardly producers in the past had, but recently thanks to the experiences for using artificial insemination some of them were able to overcome these effects of Holstein model.

5.4.3 Reduction of subsidies and support programs

In past decades dairy production in Maravatio was highly promoted through different projects such as the 4 big stables in 80´s or the introduce Holstein cows in 70´s. those

[5] Imitation cheeses are manufactured using cow milk in part and other with vegetable fat.

[6] Cheeses manufactured with raw materials processed of dairy or non-dairy origin (dry milk, casein and vegetable fat) but not fresh milk.

supports were obtained with few costs and inversion to producers, maybe for this reason such projects were missing out and leaving up to their disappearance.
Many producers with decentralization and state-level control programs and their contribution on investment have been forced to a new stage of competiveness for getting support, since programs are not massive for requirements and budget reduction; therefore, they reach to very few producers. This has led to organize through the Local Livestock Association and the GGAVATT, to make investments financed by remittances, and to value the resources obtained. According to the above, it is beginning to generate a structural and productive transformation of agriculture and family dairy in Maravatio, despite it is made in a way imposed and enforced.
To sum up, we could assumed that globalization effects in family dairy of Maravatio have been contrasting. We could perceive that the globalization has been breaking producers' paradigms such as in the use of new productive techniques, the management of economic resources to face and adjust market trends, and the organization to get productive and economic advantages, even though they are not part of expected, they are a collateral effect that globalization means to local level. Family farms of Maravatio with that transformation and their natural, cultural and traditional local resources have been able to persist in a globalized economy.

6. Conclusion and future perspectives

Globalization in Mexico has encouraged the import of raw materials and food to low prices, intensifying competition in domestic markets, while the government supports and production subsidies has fallen; which for the agricultural sector and dairy subsector would initially mean the exit of millions of peasants and the disappearance of family dairy farms, and hence the search for new employment options in the migration.
In literature reviews about family dairy, and particularly in the case study of Maravatio, it is clear to notice that the expected impacts over 16 years of globalization in Mexico, migration to the United States is only the effects have appeared and worsened in that period, without this meaning that the family dairy production has disappeared. In this context is evident that family dairy is an activity that has been key to support rural families economically in the regions where they perform, for this reason dairy farming in rural areas has not disappeared.
Family dairy has persisted to a highly globalized environment through small changes in the paradigms of production and market that it have been subjected and forced by globalization, but mainly due to it reminds local features either in production or in market, which has helped generate persistence strategies.
In each territory where milk production is developed there are special features that allow build up specific local strategies; however, in general family dairy base their persistence in: a) the productive reconversion maize-milk where milk production has been a solution to the crisis in the prices of maize and it is a way of added value to agriculture; b) the prevalence of family resources mainly family labour and land, essential factors in production process for the development of any economic activity, c) the pluractivity and diversification of activities inside and outside of farms which gives ability to keep an adequate supply economic resources to family, and d) the dominance of traditional markets where prevail the preference for products originated from family dairy. Then, it is the heterogeneity, too

questioned in family dairy, which offers the strengths and opportunities in each region which can generate local strategies to work against global actions.

Despite these strategies, the future prospects of family dairy seem to be contrasting, in the manner that producers in the short and the medium term still have elements which could endure and persist at the local level regardless of distortions and uncertainties in the global economy; nevertheless in the long term future is uncertain, and perhaps a very unpromising to some producers.

Farmers-market dairy industry are from the perspective of their relations with the market industry the less privileged, since they have unbalanced contractual relations and there is not favourable ways nor the intention to regulate markets by the state. These facts over time could be wearing away to producers which do not want and do not have the intention to transmit the family dairy activity to future generations as an economic resource.

In the case of producers who have been maintained thanks to local markets, the immediate future can be tilted to a situation that may be eroding its market. With the massive promotion of uniformity in the consumption of dairy products and the increasing incursion of products with lower prices than traditional, trends in consumption may change as the consumer will always tend to find lower prices. Therefore, it is thought that this scenario would put at risk the family dairy production for future generations, and also traditional products which will lose some of the gastronomic heritage which identifies the territories and cultural diversity of Mexico.

The future of family dairy in the long term tends to have limitations in the order of increasing migration that occurs in rural areas. Without doubt, the remittances are an income resource for families, it is also a fact that with the exodus of rural, migration contributes to the deterioration of family dairy given that the moving away from primary production and rural life cause culture changes that in the medium and long term decrease the generational replacement in family dairy.

Economic globalization is a phenomenon that is here to stay, whether in Mexico began with NAFTA, it will follow with other countries around the world; thereupon, each day will impose new challenges to local production.

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Enhancement of the Resilience of Building Continuity - Development of "Independently Secured and Highly Protected Business District"

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1. Introduction

With the progress of economic globalization, as well as the current industrial structure in which the interruption of company activities could have a worldwide impact, preparations to maintain the operation level of important business tasks in the event of a disaster have become increasingly important. The business continuity plan (BCP) to ensure continuing business activities even in the event of a disaster is markedly different from the traditional concept of contingency and disaster prevention planning by a company's administration with the aim of reducing human and material damage. The central concept underlying BCP is the management of human and material resources, money, and information with special emphasis on measures to prevent interruption of core business activities even in a crisis, such as in the event of a disaster or accident.

Specifically, BCP is designed to maintain important core business activities even after a disaster, without allowing the operation capacity to drop to 0%, as shown in Figure 1, and to recover the operation level within the target restoration time. Both the government sector and private enterprise in Japan have stated that it is important to develop business continuity plans (BCPs) to enable important business to proceed in the event of earthquake disasters. Measures should be implemented in Japan to minimize risk and secure utilities, such as electricity, water, and gas, in the event of an earthquake. Countries around the world are currently in the process of developing regulations to meet the formalized standards defined by the International Organization for Standardization (ISO) under ISO/TC233.

The regulatory agencies in Japan also require companies to take immediate actions to address the requirements for BCP. The enforcement of related measures defined in BCP along with the execution and operation of such measures are known collectively as business continuity management (BCM).

Disaster prevention measures give top priority to life saving, and the focus to date has been on the hardware required for this purpose. However, measures that can be implemented in buildings or to maintain business activities after a disaster have not been given full consideration. In the near future, crisis management for buildings will change drastically with a shift in focus from "guarding" to "sustaining." (See Yukihiro MASUDA (2008) for a related discussion of this issue.)

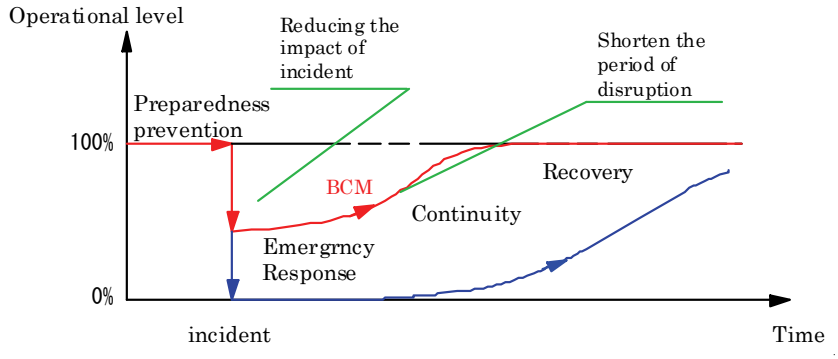

Fig. 1. Purpose of Business Continuity

2. Concept of building continuity

An earthquake with the epicenter beneath a country's capital city, which is the political and economic center of the country, is expected to result in both large-scale direct and indirect damage, which may lead to functional building loss. However, as BCP is concerned mainly with business contents from the management side, measures regarding the physical basis of the business may often be overlooked. For example, measures to be taken in the event of the death of the CEO or when the supply chain is cut are considered first, with considerations regarding the buildings—which are the business and production base—often limited to determination of earthquake resistance.

With regard to risks related to facilities and equipment, for example, ensuring the safety and reliability of air conditioning and power supply systems, a methodology for diagnosis and evaluation of a business facility from the viewpoint of maintenance of building functionality has yet to be established. An approach that is not limited to the framework of traditional disaster prevention is required to contribute to BCP. However, as different businesses have a wide variety of circumstances depending on a number of factors, such as the particular industry and condition of the business, it is difficult to classify them into a general pattern.

It is necessary to understand the state of the building as a system as a concept that ties the requirement for needs to be met for business continuity with efforts toward individual disaster prevention plans. We propose a concept of Building Continuity (maintenance and operation of functionality of a building) that combines the concepts of traditional disaster prevention and current BCP. As shown in Figure 1, operation capacity focuses more on building availability. There have been a number of studies of us to develop a methodology for maintaining suitable functionality of a building in the case of an emergency, and can be summarized as follows based on clarification of the performance requirements for the building and the correspondence of the building facility system:

1. Evaluation of the facility system and examination of management solutions considering an emergency situation.
2. Fault tree analysis of performance requirements on the building side and the correspondence of the building facility system with business continuity as an event.
3. A method of sending social information regarding reliability after measures through engineering reports.

3. A natural hazard index for megacities

Megacity*	Population* (millions)	Total risk index	Risk index components		
			Hazard	Vulnerability	Exposed values
Tokyo-Yokohama	34.9	710	10.0	7.1	10.0
San Francisco Bay	7.3	167	6.7	8.3	3.0
Los Angeles	16.8	100	2.7	8.2	4.5
Osaka-Kobe-Kyoto	18.0	92	3.6	5.0	5.0
Miami	4.1	45	2.7	7.7	2.2
New York	21.6	42	0.9	5.5	8.3
Hong Kong-Pearl River Delta	14.0	41	2.8	6.6	2.2
Manila-Quezon	14.2	31	4.8	9.5	0.7
London	12.1	30	0.9	7.1	4.8
Paris	11.0	25	0.8	6.6	4.6
Chicago	9.4	20	0.8	5.6	4.4
Mexico City	25.8	19	1.8	8.9	1.2
Washington-Baltimore	7.9	16	0.6	5.4	4.4
Beijing	13.2	15	2.7	8.1	0.7
Seoul	21.2	15	0.9	7.2	2.2
Ruhr area	9.6	14	0.9	5.8	2.8
Shanghai	14.2	13	1.1	7.0	1.7
Amsterdam-Rotterdam (Randstad)	8.0	12	0.9	5.6	2.3

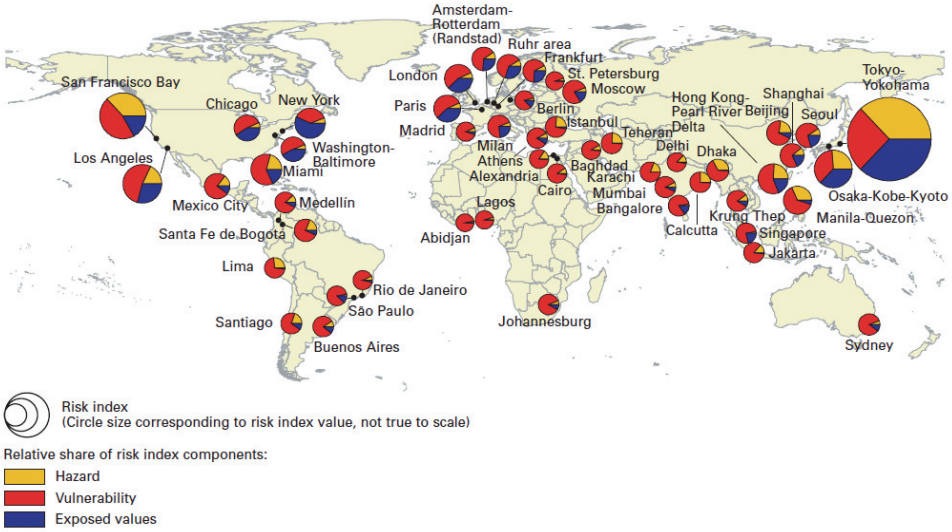

Fig. 2. A natural hazard index for megacities
(Munich Re Group)

One example of the evaluation of Japanese cities from the viewpoint of a foreign country is "A natural hazard index for megacities" published in 2002 by Munich Re Group, one of the world's major reinsurance companies. (Figure2) The report "Topics, Annual Review: Natural Catastrophes 2002" presents the "natural hazard index for megacities" in publications by Munich Re Group. Among 50 large cities from around the world that were evaluated, only the region of Tokyo and Yokohama showed an exceptionally high score of 710 by the natural hazard index. (See Munich Re Group (2003) and Munich Re Group (2004) for a more detailed discussion of this issue.) It is necessary to consider such a report as a warning regarding the safety measures in Japan, to behave responsibly as the world's second leading economic power. However, this index has several technical drawbacks regarding evaluation process and the fact that only natural disasters are considered, and it should be noted that the content of the evaluation is limited. (See Yukihiro MASUDA, et al. (2009) for a more detailed discussion of this issue.)

If Tokyo is recognized as a city that is not safe, foreign countries may unfairly evaluate the safety of the Tokyo metropolitan area. If this prevents these foreign countries from investing in Japan, this would be a great loss. Alternatively, requests by such foreign investors for excessive safety specifications from building owners or their business partners would represent an overwhelming financial burden. In this era where cities are constantly competing against each other, we believe that it is important for Japan to provide the world with assurances, backed up by convincing empirical evidence, regarding safety. By mainly assuming an earthquake immediately below Tokyo, and by establishing measures at both the regional level and the building level after specifying safe districts within downtown Tokyo utilizing the idea of new "urban-type ring levee", we believe that the potential for damage could be greatly reduced.

We propose measures at regional and building levels to realize building continuity, i.e., to maintain appropriate functions of a building, in the event of a disaster. By maintaining a high specification district and buildings, we aim to reduce rational/scientific risks. This concept will be discussed in more detail in the following section.

The goal of this concept is to avoid building insufficiency and to maintain proper function in the event of an emergency, such as a natural disaster, accident, or other such incident.

4. Development of independently secured and highly protected business district (measures at the regional level)

The idea of new "urban-type ring levee" is to construct an independently secured safety business district. This section introduces the development of an Independently Secured and Highly Protected Business District as a measure at the regional level.

The purpose of "The independently secured safety business district project" is to propose a new city lifeline for the urban renewal area of Tokyo, which would create a city that is both more eco-friendly and safer. A highly reliable and sustainable regional energy and water supply system that contributes to both the eco-friendliness and safety of the city in the event of earthquakes is organized in the safety district. Information-related and telecommunications functions will also be strengthened. Accommodation facilities for key people and evacuation facilities and space for temporary refugees are also in consideration.The following advantages can be reasonably expected. The buildings in the Independently Secured and Highly Protected Business District are resistant to earthquakes.

1. The buildings in the independently secured safety business district could take out loss-of-profit insurance against earthquake damage and lifeline seismic disasters.

2. The buildings in the independently secured safety business district could receive higher evaluation in the reinsurance market and in the real estate investment market (in the process of Due Diligence).

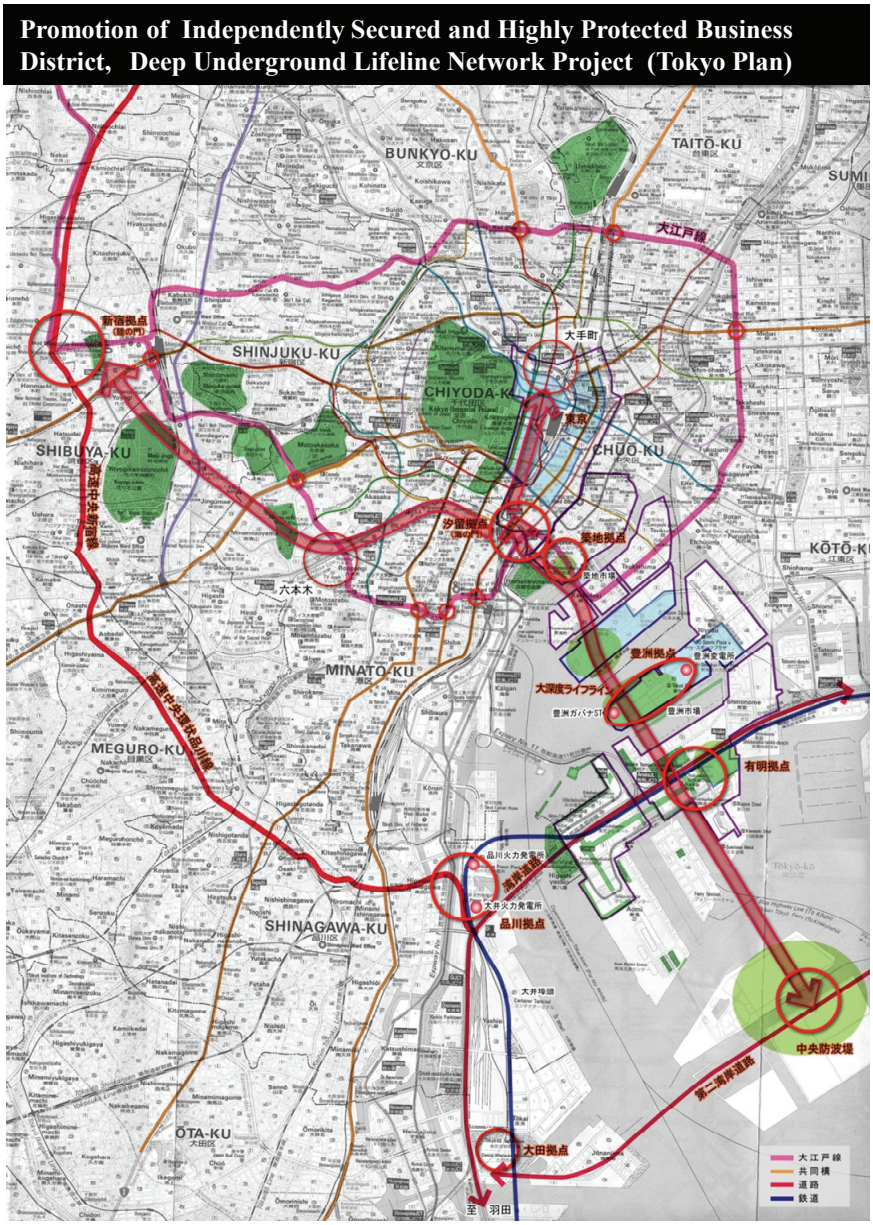

Fig. 3. Independently Secured and Highly Protected Business District and its Networks (Tokyo plan)

There have been some noteworthy case examples of higher evaluation in the real estate and reinsurance market for countermeasures against facility risks of buildings against lifeline seismic disasters.

The Independently Secured and Highly Protected Business District is an area of approximately 100ha in part of the Tokyo metropolitan area where urban functions are highly integrated and are specifically maintained to continue important business functions in the event of an earthquake.

This district is safe and highly reliable, and will be capable of maintaining necessary core functions even during a disaster covering a large area, such as a large-scale earthquake. This district, which is capable of supporting the establishment and enforcement of each company's BCP, is a special area where safety of the buildings and infrastructure is ensured, and in which BCP is considered for the district as a whole. The buildings within the Independently Secured and Highly Protected Business District as well as "Life-spots" in the form of new city facilities that are under consideration for development to have the properties of both independence and endurance as follows:

- Independence: Durability of the structure and facility.
- Endurance: Continuity of supply or function.

Therefore, we believe the following are important functions of the Independently Secured and Highly Protected Business District :

1. Stable supply of energy and water.
2. Maintenance of functionality of the telecommunications system.
3. Secure data center and related technicians capable of data backup and system recovery.
4. Accommodations for VIPs.
5. Measures for people who cannot reach home after disaster.

In Japan, where the risk of earthquake disasters is relatively high in contrast to the USA where concerns are focused more on terrorism and other artificial disasters recently, it is effective to work as a region to establish measures against earthquakes as a common likely disaster in the region. The core of BCP is examination of the contents of businesses from the management viewpoint, and thus measures for buildings that are the base for business and production are sometimes overlooked, or only considered from the aspect of earthquake resistance. When discussing BCP, measures regarding software in combination with those regarding hardware, such as building facilities or reviews of regional infrastructure, must be considered to facilitate the continuity of business functions during disasters.

5. Field survey of the emergency power supply related to business continuity

Enforcement of Building Continuity (i.e., maintaining the appropriate functions of the building) can be strongly supported when lifeline and secure energy infrastructure are viewed as issues for the region rather than each company focusing on actions that are feasible for them to perform on an individual basis. Here is an example of the actual condition of electrical power. (See Yukihiro MASUDA, et al. (2009) for a more detailed discussion of this issue.)

The most important system that must be secured to ensure business continuity in an emergency situation is the electric power source. Almost all building utility equipment uses electricity, and therefore if the power supply is interrupted by an infrastructure failure and insufficient emergency power supply, it would be impossible to achieve business continuity.

It is necessary to secure two types of power load in an emergency, such as an earthquake or a power supply failure for commercial use: disaster prevention load and security load.

1. Disaster prevention load:
   In the case of power failure due to a fire, the load to supply power to disaster prevention equipment/systems installed in the facility (automatic fire alarm systems, escape guiding systems, fire alarm apparatus, extinguishers, smoke control equipment, emergency use power outlet, etc.).
2. Security load:
   The load to supply power to maintain the functionality of a facility during a general power failure.

In Japan, the legal minimum time for power supply in an emergency situation is set based on the disaster prevention load by appropriate regulations, such as the Building Standards Law and the Fire Protection Law. These regulations stipulate the requirements for in-house power generators, storage battery systems, and incoming electricity power receiving system exclusively for emergency power, and buildings subject to these laws must comply with the legal minimum time for power supply in an emergency situation. However, as the disaster prevention load is calculated and designed based on the load necessary for fire extinguisher equipment, escape facilities, etc., the electrical power load required for business continuation is not considered. Therefore, it is necessary to take the security load into consideration in designing disaster prevention facilities to preserve building functionality in an emergency.

A sampling survey on office buildings indicated that mid- to small-sized office buildings cannot secure sufficient security load either because of insufficient financial capacity or because of cost reduction measured in the design phase. The security load capacity was limited to powering computer servers and building security systems during a power failure. BCPs are in place for large-scale, luxury or higher class buildings and those used as the headquarters of major corporations as well as buildings with important uses such as financial institutes. These buildings had both BCPs and measures to ensure security load to allow continuation of important business tasks to a certain degree. Even if the measures were insufficient, management were aware of the requirements and were trying to work toward these goals.

Therefore, in the present study, this survey was limited to the major business districts of Tokyo and Osaka, which are the major commercial centers of Japan, and a field survey on emergency power supply facilities was conducted with regard to emergency power supply in buildings. Previous studies provided statistical data on emergency power supply after completion of construction. However, there have been few studies in which the area of survey was limited to major business districts representative of those in Japan to determine the capacity of the emergency power supply facility, including the capacity for security load in buildings with higher performance requirements and buildings of higher grade. This is an important distinction of this study.The findings of this study can be summarized as follows.

There was no proportional relationship with maximum operation time using only the emergency power supply (Fig. 4), but the operation time was less than 24 h in most of the buildings included in the analysis. Therefore, if a power failure continues for longer than 24 h, business continuity may become impossible. Most of the companies with a maximum operation time using only the emergency power supply of over 24 h are financial institutes,

disaster prevention facilities, company headquarters, infrastructure companies, and those considered important facilities.

The results regarding the percentage of capacity of the emergency power supply in contract demand indicated a specific trend for each type of facility. The percentage of emergency power supply in corporations of importance, such as data centers, broadcast/IX companies, disaster prevention facilities, and financial institutions was 40% or greater. Two government-related disaster prevention facilities showed a value of approximately 90%. The values in offices in Tokyo were around 20% regardless of total floor space, while those in Osaka were around 40–50%. These relatively low and limited capacities of the emergency power supply in offices in Tokyo were thought to be because they were designed only to supply power for common spaces.

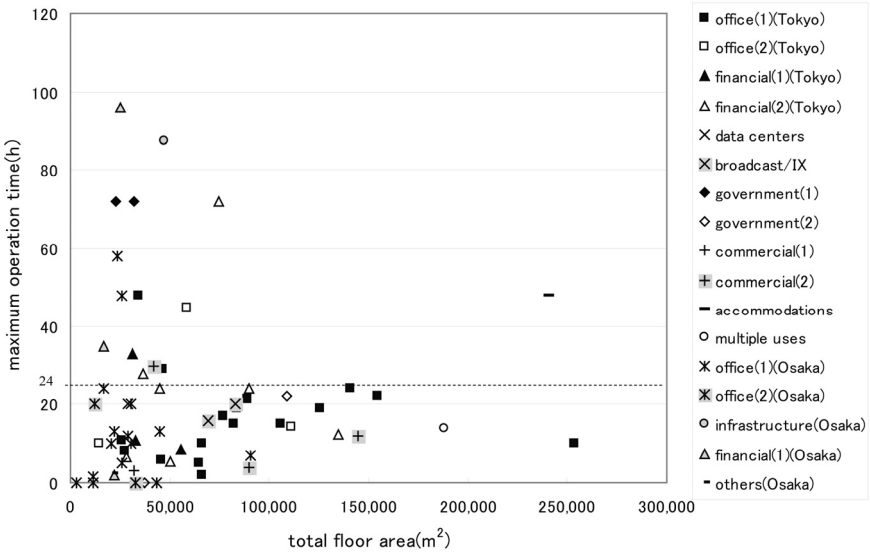

Fig. 4. Maximum operation time

The corporations with relatively large emergency power supply capacities of above 50% of contract demand and that have secured long maximum operating times on emergency power supply were disaster prevention facilities, buildings for infrastructure companies in Osaka, financial institutes in Osaka, and headquarters of financial institutes in Tokyo. Other facilities considered to be highly important also have relatively large capacities of over 50%. However, some important facilities, such as a data center located in the area around Tokyo station, had shorter maximum operation times despite the large percentage of emergency power supply in contract demand. In such cases, business continuity may not be possible if the electrical infrastructure is obstructed for over 24 h.

As just described, implementation of building continuity is strongly supported by managing the lifeline and securing continuity of energy infrastructure as the problem in the land area and the district, not only by individual companies, exceeding its manageable level.

6. Practicing scientific facility management based on measurement (Measures at the building level)

The practice of scientific facility management based on measurement is the key to the development of new systems and devices at both the building and city levels. The availability of measurement data related to various conditions of the building is very important.

As the problems related to addressing global warming are becoming more widely recognized in the civilian sector, thorough energy management in buildings and the availability of supportive information technology, such as BEMS (Building and Energy Management System), are becoming increasingly important. Appropriate evaluation of the current condition from the viewpoint of energy saving, appropriate performance validation at the operational phase (commissioning), benchmarking, and scientific and rational discussion related to the setting of appropriate target values become possible based on the measurement information obtained using technologies such as BEMS.

The maintenance of important building functions, such as business base and production base, in an emergency such as an earthquake or accident is required. Therefore, risk management and Business Continuity Plan are becoming increasingly important. To maintain the building function, a system to provide stable function is necessary in addition to construction measures, such as those discussed previously from the viewpoint of seismic reinforcement. The aggregation of information that is important for crisis management therefore is necessary for facility and building management. In the event of a disaster, it is important to have an accurate understanding of what has happened and the current condition at an early stage. Scientific facility management based on measurement is important even in an emergency. However, this is not yet recognized fully under current conditions. Especially, it should be noted that standard center monitoring systems currently in use cannot always obtain information necessary for crisis management.

Information management technology such as BEMS used in daily facility management will not only contribute to maintenance of room environment quality, but can also be effective for crisis management in an emergency from the viewpoint of scientific facility management based on measurement. It is desirable to promote the upgrading of center monitoring systems and aggregation/visualization of facility and building management information measures, as such technology will contribute to both the global environment and to disaster prevention.

6.1 Contribution to the global environment through appropriate facility management

Systems that provide information related to energy consumption and room environments can lead to appropriate energy saving and maintenance of room environment quality. To implement such environment management continuously, it is important to improve business continuously by repeating the four steps of the PDCA cycle (Plan, Do, Check, Act). For this, it is essential to obtain data indicating current conditions. Without such data, it is usually difficult to determine current problems. This prevents investigation of appropriate handling measures and makes it difficult to determinate the effectiveness of these measures after their implementation. As various measures are required for interior environmental control in buildings, such as task-ambient air conditioning and lighting, appropriate sensing functions and measurements are required. On the other hand, with such detailed support, it

is predicted that both initial and running costs may increase. Therefore, it is important to develop cost-effective processes. It is necessary to determine the best solution in each case by comparing the economic effects of energy saving and increases in productivity, by calculating the initial costs and running costs. With such processes, the value and competitive advantage of the building will increase, which may strengthen the organization. Furthermore, the importance of facility management, which optimizes the methods of retention, implementation, maintenance, and conservation of the building and equipment, and the enhancement of cost-effectiveness are attracting attention not only in the private sector but also at the level of local governments, which own many public facilities. In addition to items related to energy and the environment, total information management related to failure, deterioration, repair history, and daily maintenance and conservation are also becoming increasingly important. In addition, new businesses in such fields are attracting attention.

6.2 Contribution of appropriate facility management to disaster prevention

The importance of enforcing monitoring and facility management to save energy by gathering and managing energy-related data from various devices and equipment has been widely discussed in relation to the requirement for measures to counteract global warming and to save energy. On the other hand, there is less emphasis on the significance of scientific measurement-based facility management in the event of an emergency.

Although the highest priorities in the event of an emergency are the protection of human life and buildings to minimize direct damage, it is also important to avoid indirect damage caused by building insufficiencies. It is vital to maintain various functions of the organization and to maintain buildings for business continuity in the event of an emergency to protect the damaged area as well as people's lives and to facilitate prompt recovery. Functions such as those of public companies, physical distribution companies, data centers, and banking facilities should be maintained because all of these are necessary for recovery after a disaster in addition to the functions of government buildings and hospitals, which will act as bases in disaster recovery efforts.

Three items are discussed below as guidelines regarding how to obtain and handle information to promote building risk management.

The first item involves the type of information to obtain. A Business Continuity Plan (BCP) is a plan to be established with the clear target that the important operation of an organization should not be stopped regardless of what events occur. That is, implementation of business continuity involves measures and management of people, goods, money, and information to avoid fatal conditions, even under critical conditions due to a disaster or accident. It is important to maintain building function, as buildings are important resources used for business and production. Examples of clear targets would be that the data center in this area should remain active under all circumstances, or the function of the important business area and the server room on the 7th floor of the headquarters building should be maintained at all costs. It is questionable whether the building side can fulfill such requests from the viewpoint of the continuity of the organization or clear requests from the viewpoint of society or users.

Therefore, when an especially important work area is set as the target of a Business Continuity Plan, it is necessary to investigate, select, and systematically arrange the functions within the area that require continuous operation, the equipment required to

support these functions, and related information to understand the conditions and operating situations of the equipment. It is desirable to aggregate the information necessary to achieve continuous function of an important workspace in an integrated manner in a central monitoring system. However, the information necessary for the BCP cannot be obtained using only the information obtained by normal central monitoring.

As the conditions differ among buildings, actions should be started from arrangement and confirmation of the following:

i. Information regarding operation conditions and quantities are controlled in real-time in the central monitoring system;
ii. Information regarding abnormal values are controlled in the central monitoring system;
iii. Information that is not currently controlled in the central monitoring system but is suitable for such monitoring on future segmentalization of measurement points to save energy in the future;
iv. Information that is the target of new sensor development in future and the target of monitoring by application of sensor technology in the construction field.

As conditions differ according to the usage and scale of the building, it is necessary to select information carefully at each site and to confirm how to respond to each request from the user.

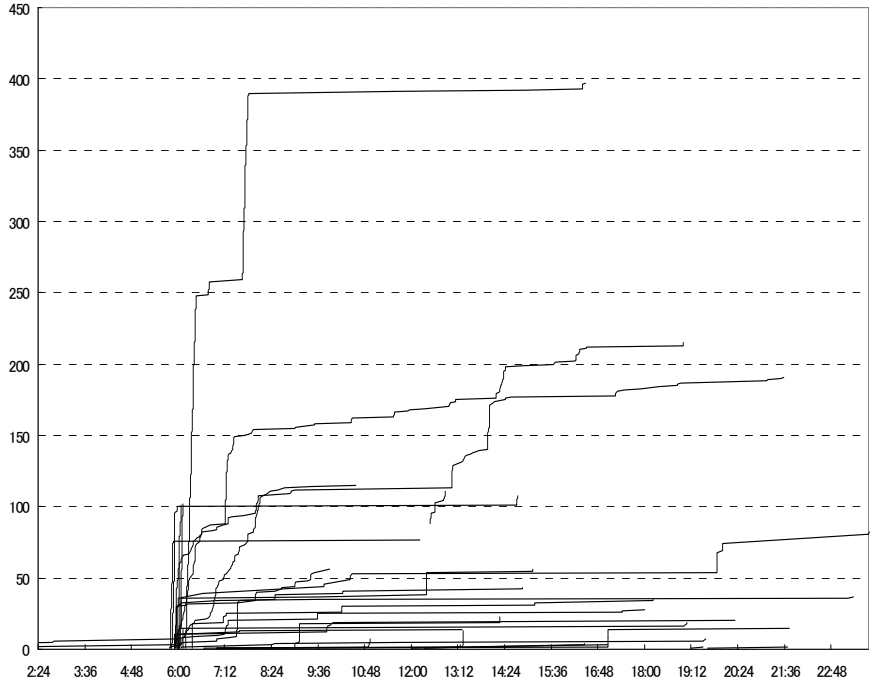

Fig. 5. Relation between amount of information in the log file of the central monitoring system and the occurrence time in the Great Hanshin-Awaji Earthquake

The second item is related to how information should be obtained and managed. (See Yukihiro MASUDA (2009) for a more detailed discussion of this issue.) Investigations related to alarm information of the central monitoring system at the Great Hanshin-Awaji Earthquake and verification from the viewpoint of information management (obtaining, utilizing, and recording information) to accurately determine building condition in an emergency clarified several points as follows.

In the event of a large widespread disaster, various abnormal conditions will occur in the building and a number of alarms will sound simultaneously, which may disrupt the person in charge. Fig. 5 shows the corresponding relations between the amounts of information from multiple buildings and the timing of the information issued by extracting alarm information from the log file, which is considered especially important to gain an understanding of the condition of the building in an emergency. As shown in Fig. 5, many alarms sounded around 5:46 a.m. when the Great Hanshin-Awaji Earthquake occurred. (Occurrence of many alarms)

Furthermore, a great deal of information was announced immediately after the disaster, and normal operation of the system could not be assured under conditions in which so much information flows into the central monitoring system at once.

Therefore, in this case, it was suggested that some information may have been dropped. Measures should be taken for emergency situations to ensure that information can be obtained and recorded securely even under abnormal conditions, such as an inrush of a huge amount of information at once. In addition, there are problems associated with controlling the time stamps of alarm information. The system that controls the timing of alarm information when the information enters the central monitoring system, the actual occurrence time of the alarm event, and the time stamp of the alarm information may not coincide in an emergency. Therefore, it should be noted that it is not possible to obtain full information to validate the event in an emergency in chronological order by simply verifying the log file of the central monitoring system.

The third item is related to handling the obtained information. If only the number of measurement points is increased to improve crisis management response capability, the amount of information produced would be huge. Therefore, it is important to prioritize necessary information by grading its importance to obtain the information required for continuous operation of the work space. Furthermore, a system to change such important information gathered every second into the information required by the user and to display it in an understandable way will be necessary, to act as an interface between building information and the person in charge. The development of such a system will allow the facility manager to survey the information of the whole building at once, which in turn will facilitate decision making.

At the same time, it will be necessary to train personnel as highly competent facility managers, capable of handling such issues as maintenance of the effectiveness and safety of the building function based on scientific measurement. It is also important to strengthen cooperation between the disaster countermeasures office, priority operation area, maintenance control operation contractors, security contractors, etc., to achieve unified facility management in an emergency.

Finally, it is necessary to consider the cost-effectiveness of introduction of such crisis management measures. In the event of an earthquake, it takes time to determine whether there has been any damage to the building itself and any equipment it may contain, and therefore it takes some time until function can be restored. On the other hand, the person in

charge may tend to escape at once from the area before the extent of the damage is known. Figure 6 shows the time course from the time at which the disaster occurred until restarting work, indicating the availability and degree of operation of the building on a vertical scale. If no measures are taken, the degree of operation becomes zero as soon as a disaster occurs and restoration takes a long time. However, if measures are taken to continue building function, the degree of operation does not drop to zero even in the event of a disaster, and the time until restoration of full function may be reduced. Costs related to disaster prevention are likely to be considered as expensive outlays. However, cost-effectiveness is an important consideration; it should be emphasized that disaster prevention measures can yield significant returns on investment if necessary building function can be secured in the event of a disaster, allowing business to continue. Such approaches may lead to beneficial social investment in new construction. Based on this background, building performance capable of withstanding a disaster is now called resilience, which means the ability of the building to be restored to full capability from functional failure in the event of a disaster. This is expected to be used as a new performance index to measure the functional continuity capability of buildings or as a scale to evaluate the degree of building continuity.
To date, we have studied issues regarding means of obtaining and handling information necessary to promote future crisis management in buildings, and items that should be considered related to the direction of new system development and new performance evaluation indexes, as a guide for appropriate facility management in the event of an emergency.

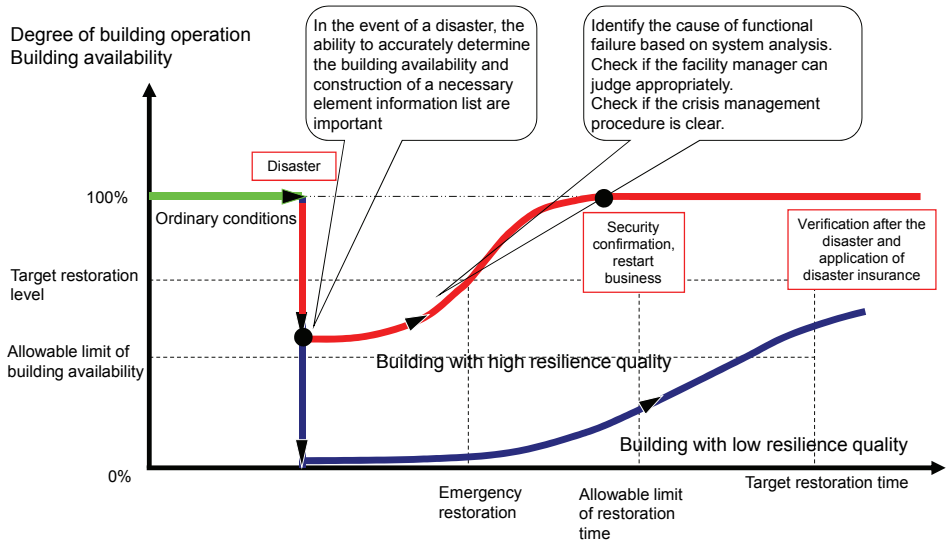

Fig. 6. Resilience of Building Continuity

6.3 Images of facility management in the future by visualizing information related to environment and disaster prevention

Finally, we will discuss the future of facility management by visualizing information related to the environment and disaster prevention promoting investigation in the redevelopment

area of Tokyo, Japan. The area located in the center of Tokyo, is currently undergoing complex redevelopment combining high-rise housing, low-rise housing, commercial facilities, nursery schools, etc., in an area of 3 ha. This area has prioritized life continuity requirements of local residents. In this area, the living environment and local area community are highly valued, which is a very new type of city redevelopment. In such areas, the facility management system that can aggregate and visualize information related to the environment and disaster prevention in the area shown in Fig. 7 is now under consideration. With regard to system design, Fig. 7 shows the multi-monitor type system. Information such as energy consumption conditions, three-dimensional building information, event information in the area, and safety/watching aged person information can be displayed in addition to information monitored at the normal central monitoring system and disaster prevention center. Moreover, especially important information is aggregated and displayed in an emergency, and information regarding building availability and causes of functional failures will be displayed promptly and in an easy to understand manner.

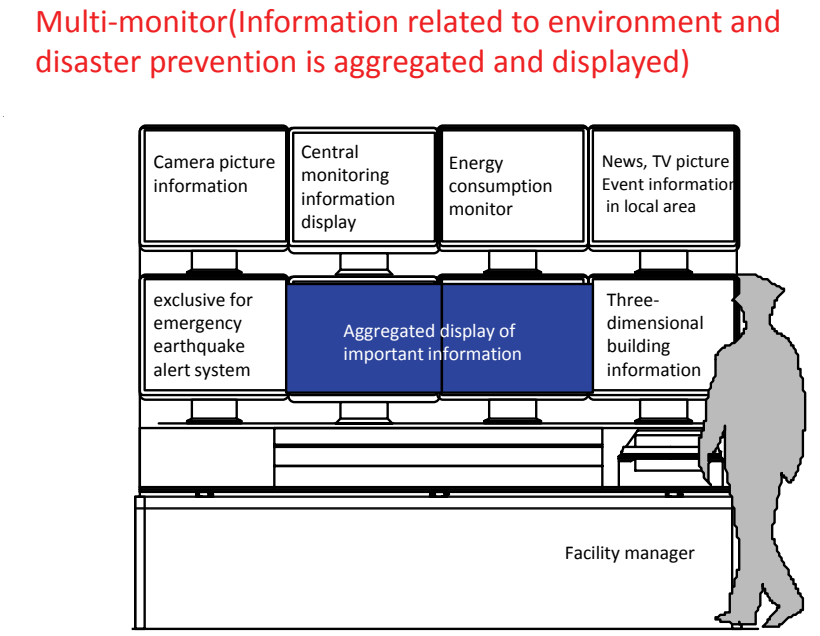

Fig. 7. Example of new facility management system visualizing information related to the environment and disaster prevention

Such systems may be set in the central monitoring room or disaster prevention center for the local area. Although great care should be taken in accessing and handling such information, energy consumption information and image information will also be displayed through monitors in public spaces and lobbies in the local area. Necessary information can also be accessed through the intranet at home. Such systems are intended to function as a platform

to aggregate information regarding buildings and the local area. We plan to construct a new model to enhance quality of life and activity in local areas by aggregating various types of useful information for living and local businesses. It is necessary to comprehensively address various issues, including the environment, disaster prevention, and other related issues at the global level, rather than by restricting investigations of the environment or disaster prevention separately.
This concept will maximize cost-effectiveness in a synergistic manner, and will therefore increase the value of the local area. In the course of such investigations, issues related to the environment and disaster prevention, as well as other related issues, will be integrated.

7. Conclusion

Construction is an indispensable foundation for modern life and social activities. Needless to say, for people living and working in buildings, they can be considered as far more important and familiar than industrial products, such as electrical products and vehicles for common family use.
Each building is unique, and they have special positions as real estate, although the social value of buildings is not as well recognized as that of mass-produced goods. People in various positions in industries related to construction and in the academic community should make greater outreach efforts to reduce the distance between buildings and users. As discussed in this paper, information management and information supply will become increasingly important from the viewpoint of users of these buildings. In the future, systems to build a bridge between the user and the building with regard to both the environment and safety will be implemented as both hardware and software in new construction projects and equipment.
It will be very important to enhance building and district quality in the future global market with mature societies where high-level environmental characteristics and safety/security are required. Building and district quality may be enhanced through competition. Thus, the environment and disaster prevention will be considered as important added value of the buildings and district. This concept may upgrade the value of the buildings and district, and is expected to create a new assurance system and businesses utilizing data regarding buildings and district credibility as described in this paper. In this way, the reliability of buildings and district will be enhanced and increase in global market evaluation.

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