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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.

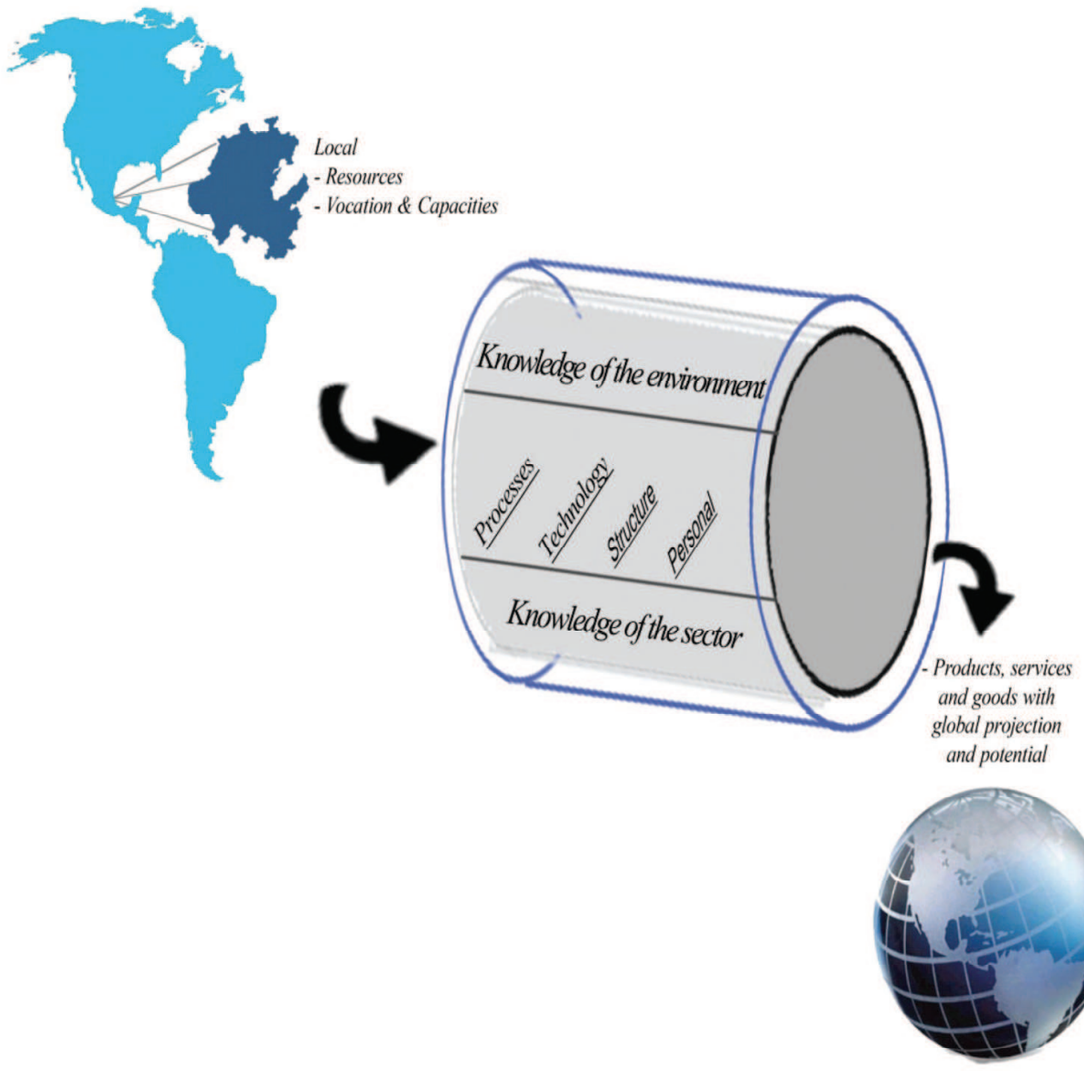


Fig. 1. Transformation of knowledge of SMEs in the globalization era within organizations

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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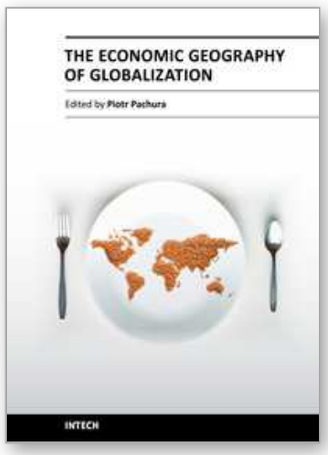
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Very often the process of globalization is referred the word economy evolution. Often we measure and study globalization in the economic relevance. The economy is possibly the most recognized dimension of globalization. That is why we see many new phenomena and processes on economic macro levels and economic sectoral horizons as well as on specific â€œgeography of globalizationâ€. 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 book is a valuable contribution and it will certainly be appreciated by a global community of scholars.

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