# KMU unter lokalen, regionalen und globalen Einflüssen
# SMEs under local, regional and global influences

# Entrepreneurial firms and globalisation: A theoretical perspective of faster speed to market for global traders

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## 1 Introduction

This paper is part of a broader program that is opening up a new area of research, namely: institutional preparedness for entrepreneurial economic development. In particular, it examines the preparedness of industry associations for economic development. The membership of these associations is predominantly made up of entrepreneurial firms that are trading globally (Obrecht 2000: p.185). This paper explores individual entrepreneurial firms' collaborative strategies to maximize the likelihood of faster speed to market for global traders (Tan 2000: p.423). Wherever there is change in a society you will find entrepreneurial firms carrying out innovation (Schumpeter 1934). The current era is clearly one of great change. Specifically, this paper conceptualises a theoretical model that clarifies the variations in both trust and power-dependence of institutional structures.

The objectives of the paper are twofold. The first is to enquire into the relationship between an industry association's innovation process, and the organisational structuring of enterprise development activities. "Innovative process" is the "accomplishment of actions that depends on organisational structure (Edwards 2000)". This definition of innovation draws on Giddens "structuration theory" (1982). It is a view that focuses on the "underlying mechanisms that enable or constrain innovation" (Edwards 2000). Our second objective is to outline a typology of industry association structures and trust that explains variations in their capacity to implement innovative actions.

Background to the research is the impact globalisation is having on entrepreneurial firms (Commonwealth of Australia 2001). Entrepreneurial firms often act collectively to engage in entrepreneurial development programs when they have limited internal resources (Christie 2001). This paper focuses on industry associations as the agents for entrepreneurial development programs. Industry associations are made up of firms within an industry and they seek out income that is normally membership-based but may include government funding. How well the entrepreneurial firm acts collectively in global markets as members of industry associations is not well understood. Specifically, how industry associations manage assistance to member firms is not well understood. Industry associations assist entrepreneurial firms across generations, cultures, differing levels of affluence, across old and new economies and through the life cycle of the firm and their resource needs. Although the benefits of industry associations for capacity building within communities are well acknowledged, there is little research about the industry association's internal operations of managing innovative assistance for member firms.

When attempting to obtain a clear picture of the external assistance provided to entrepreneurial firms it is necessary to investigate the types of initiatives, who are the sponsors, and how the assistance is delivered. This is because bureaucracies and the industry associations themselves may discourage industry association member firms' strategic initiatives on a number of levels. The types of institutional constraints for industry associations vary from country to country and from industry association to industry association. Industry associations can be subject to up to seven institutional constraints that influence the type of strategic initiatives that can be undertaken.

The first of these constraints relates to the main sponsors of industry associations. Sponsors may be government and/or member firms. Government sponsors can be characterised by a traditional bureaucratic system where accountability and responsibility are narrowly defined and stringent output controls are imposed. Thus, bureaucracies can discourage strategic initiatives through the implementation of tight control. This may impede the industry association from having the ability or scope to guide its strategic direction. Normally, a centrally controlled bureaucracy will narrowly define the scope of what an industry association can do rather than allowing it to take full responsibility. In contrast, many industry associations do not rely on government programs. They have a greater reliance on member firms to resource them. However, member firms can also have a strategic agenda that is narrowly defined and that does not allow for visionary initiatives.

A second constraint that can influence strategic initiatives is that governments can poorly resource industry associations. This is the situation in Australia. In contrast, there are large amounts of resources being committed to industry associations by other nation states in Europe and North America (Rosenkopf, Metiu, George 2001). Some industry associations have the possible advantage of a wealthy and/or a large number of member firms to draw fees from, or surplus generating enterprises. To compensate for poor resourcing and a dependence on one particular sponsor, industry associations lobby to have funding from a range of sponsors including different tiers and departments within government and from non-government sources.

Third, industry associations can be constrained by lack of national political leadership that has a vision for leadership in economic development. However, some industry associations have members who may be key opinion leaders in the nation state due to the reputation of their firms. These associations can effectively lobby government and thus influence economic development decision-making.

Fourth, program policy changes can occur with government electoral cycles rather than being driven by entrepreneurial firm development cycles. Consequently, in some cases (for example in Australia) when a different political party is elected to office, there are normally major policy changes in economic development. In contrast to this situation, programs in Europe are implemented over a period of five years regardless of the political persuasion of the ruling political party. The situation in Europe is similar to that in the USA and in many Asian countries.

Fifth, there can be a lack of skilled experts to implement initiatives both at the board and staff levels. Sixthly, there can be a shortage of development initiatives for developing these skills. Professional development initiatives can be carried out in an ad hoc

manner that can have an operational focus on the staff rather than on the board or other stakeholders. Seventhly, there can be a lack of career paths for staff that are normally employed on short-term contracts.

Despite these constraints, faster speed to market is becoming critical for entrepreneurial firms with the salience of globalisation. Entrepreneurial firms able to act within global markets receive the necessary returns that are not usually possible by operating in limited domestic markets. Entrepreneurial firms in industry associations form a unique alliance of traders who through a common industry, wish to act collectively. This collective action can assist in faster speed to market. For example, industry associations can be a mechanism for providing faster speed to market for its member firms through innovative assistance such as forming networks to stimulate export activity (McNaughton 2001).

The typology outlined in this paper draws on Giddens' structuration theory to explain why some industry associations are innovative while others attempt to institutionalise the innovation process in inappropriate structures. In particular, the model presented herein is an application of Edwards (2000) concept of the "innovation process" applied to the context of industry associations.

There has been insufficient research on how an industry association manages its assistance to member firms. In particular, the relationship between variations in industry association centralised/decentralised structures and variations in trust are not well understood. The purpose of this paper is to conceptualise a theoretical model that clarifies variations in centralized/decentralized structures (Anderson 1993, Halkier 1992) that are predictors of the effectiveness of an industry association. In addition, it explores variations in the level of trust by applying delegation as an indicator (Kumar, Paddison 2000).

## 2 Literature review

Resource-dependence, trust and innovation literatures provide the basis to explore the influence that power-dependence has on entrepreneurial firm's industry associations. Trust establishes an environment in which the industry association can undertake continuous interaction of shared understanding and mutually agreed upon decisions. It can be built and sustained if an industry association is able to achieve results, act with integrity and demonstrate concern (Shaw 1997). Trust is defined in this study as "confidence in the reliability of a person or system, regarding a given set of outcomes or events, where that confidence expresses a faith in the probity of another or in the correctness of abstract principles (technical knowledge)" (Giddens 1990: p.34). In the context of this study, trust is examined from the perspective of a modality rather than a passion. That is, it focuses on making conscious choices with a view to "handling the freedom of the other human agents or agencies" (Dunn 1988: p.73). Economies of high trust locations develop much faster than low trust locations. This happens because in high trust locations people are able to create "middle-tier institutions" (Fukuyama 1995) such as industry associations, which are more competitive and more efficient.

Delegation is a key indicator of trust (Kumar, Paddison 2000). In the context of this study, delegation is examined between government and the industry association and within the association. A working definition of delegation is the degree to which governments and industry association members allow authority to be delegated to staff.

Resource-dependence is a theoretical dimension that is fundamental to organizational sociology and focuses on environmental resources (Miller 1992, Pfeffer 1981, Singh 1990). It explores the exercise of power-dependence of individual organizations in an environment (Pfeffer 1981, Pfeffer, Salancik 1978, Thompson 1967). In terms of this paper, resource-dependence explores centralised and decentralised power in the relationship(s) between the sponsor(s) and the industry association. The focus is on the power-dependency that these relationships create within the delivery of an entrepreneurial development program. For instance, an industry association that is highly centrally planned and controlled would have a high level of power-dependence on sponsors compared to a decentralized organization with a greater emphasis on partnership.

Under conditions of decentralized planning and control, power-dependence is far more dispersed. As a result, there is a greater emphasis on partnership. This view is consistent with the emerging innovation literature. For example, in one study, managerial influence on variations in innovation is characterised by the level of centralisation/decentralisation in operational decisions and activities (McGrath 2000). In the context of industry associations under conditions of dispersed power-dependence, associations seek resources through a number of differing institutions rather than through a single sponsor. Resource-dependence for entrepreneurial development initiatives explores the degree of power-dependence that industry associations can experience and infers a range of strategic initiatives that industry associations can implement to affect their degree of power-dependence.

Not much is known about why industry associations, with low resource-dependence and with high trust, enable faster speed to market, sophisticated business practices and ROI/profit for members. What is known is that both social environment and organisational context have an impact on the frequency of innovation (Amabile 1996, Moorman, Miner 1998, Martin et al. 2001). In addition, organisations with low formalisation of structures and that emphasize loose coupling of groups and flat hierarchy in structures have a higher capacity to innovate (Burns, Stalker 1961, Kohli, Jaworski 1990). This is because low formalisation of structures can promote openness and flexibility in roles, which is a precondition for the initiation of new ideas (Martin et al. 2001, Shephard 1967). This type of industry association facilitates the sharing of expertise, is more open and encourages more frequent communication and has a tendency to focus on results rather than turf (McGinnis, Ackelsberg 1983).

In contrast, high levels of resource-dependence imply a high level of bureaucratic control that does not necessarily allow an industry association to have the full scope of strategic initiatives. These highly centralised organisations are characterised by high levels of formalisation of structures, high power dependence, low trust, little delegation and low innovation.

In summary, variations in structures and trust in industry associations can have a direct impact on innovation. These variations are the result of a combination of high or low

power-dependence, depending upon the diversity of its sources of income and level of trust between the sponsor and the industry association. However, there may be a single sponsor where there are low levels of control and high levels of trust. In this second situation, the industry association has a lower power-dependence on its sponsor and innovation is likely to occur.

Based on this review, the relationship between types of industry association structures, trust and innovation is summarised in figure 1.

*Discussion*

| *Trust* | *Industry association structures in place* | |
|---|---|---|
| | *Low formalization of structures/systems* | *High formalization of structures/systems* |
| *High (much delegation)* | Cell 1<br>*Innovation pervasive*<br>Manifests as creative individuals who are encouraged and have the opportunity to innovate. | Cell 2<br>*Innovation unguided*<br>Manifests as creative individuals whose efforts are unguided. |
| *Low (little delegation)* | Cell 3<br>*Innovation frustration*<br>Manifests as creative individuals not identified and industry association structures are frustrated. | Cell 4<br>*Innovation lacking*<br>Manifests as low valuing of innovative individuals and little formal interest in innovation. |

*Figure 1: Typology of industry association structures and trust*

Next is a brief synthesis of the literature review. The theoretical proposition of this paper is that formalisation of structures, coupled with trust has a significant impact on industry association innovation. Although power-dependence focuses primarily on external institutional relationships how these institutional relationships are structured will influence the industry association's strategy. The level of power-dependence creates differing structural conditions that are identified as decentralised and centralised structures. These two structural types are associated with either strategic or bureaucratic processes respectively. In turn, the structure/strategy typology that results from power-dependence has a significant impact on the internal management of industry associations. In particular, it influences the level of formalisation of structures/systems. Further, consistent with the proposition of Kumar and Paddison (2000), delegation is a key indicator of trust.

The model in figure one is now explained. Cell 1 relates to three factors of structures and processes that correspond to a situation that is "innovation pervasive". First, it relates to structures and processes that facilitate innovative practices for industry association for their member firms to get products and services to market (faster speed to market). Secondly, it relates to structures and processes that proactively encourage entrepreneurial citizenry. Thirdly, it relates to structures and processes that establish a strong foundation for firms to generate wealth through ROI. Fourthly, it relates to structures and processes that facilitate high trust with government and within the association.

Cell 2 relates to three factors of structures and processes that correspond to a situation that is "innovation unguided" because of high formalization of structures/systems and high trust that is observable through much delegation. First, it relates to structures and processes that constrain firms to get products and services to market (faster speed to market). Secondly, it relates to structures and processes that discourage entrepreneurial citizenry. Thirdly, it relates to structures and processes that establish some foundation for firms to generate wealth through ROI.

Cell 3 relates to three factors of structures and processes that correspond to a situation that is "innovation lacking" because of low formalization of structures/systems and low trust that is observable through little delegation. First, it relates to structures and processes that constrain firms to get products and services to market (faster speed to market). Secondly, it relates to structures and processes that discourage entrepreneurial citizenry. Thirdly, it relates to structures and processes that fail to establish foundation for firms to generate wealth through ROI. Fourthly, it relates to structures and processes that have a high level of factional conflict.

Cell 4 relates to three factors of structures and processes that correspond to a situation that is "innovation frustration" because of low formalization of structures/systems and low trust that is observable through little delegation. First, it relates to structures and processes that constrain firms to get products and services to market (faster speed to market). Secondly, it relates to structures and processes that discourage entrepreneurial citizenry. Thirdly, it relates to structures and processes that fail to establish foundation for firms to generate wealth through ROI.

## 3 Implications for industry association management of assistance

An industry association provides a means to deal with the complexity of economic development and to coordinate innovative activities. Internal management expertise within an industry association is of particular importance in this post-Fordist period (Amin, Thrift 1994) that can be characterized as a period of economic history during which large public bureaucracies are consolidating. An industry association that can mobilise support for innovation within its local and regional community requires a high range of management expertise, though not all achieve this (Christie, Chamard 1998).

Specifically, public bureaucracies operate with diminished resources, limiting their direct capability for immediate involvement. Examples of the contraction of bureaucracies can be found in the rationalisation of the welfare state (Saul 1997, Tower 1995). This contraction of public bureaucracies is increasing the complexity of managing economies. Consequently, the industry association provides an alternate structural mechanism to government services that allows for greater citizen controlled partnering and coordination of complex economic development issues (Hassink 1999).

## 4 Limitations and further research

These cases must be considered within the context of the institutional strategic initiatives constraints of industry associations as outlined in the literature review. Future trends in industry associations indicate that power-dependence and trust have important implications for the way in which industry associations structure and delegate development programs to facilitate innovations that manifest as faster speed to market, sophisticated business practices and ROI/profit. Future research will need to consider the implications of how industry associations' structure and delegation of development programs can lead to commercial success for their program participants.

## 5 Conclusion

Globalisation has created the situation of entrepreneurial firms needing to increase their speed to market. The model suggests that industry associations can encourage innovation that can result in markets being accessed more readily. The model clarifies that variations in the levels of power-dependence and trust can inhibit or enhance this complex process. Further research is required to understand how the industry association is best placed to facilitate entrepreneurial firms into global markets.

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# Structural change, environment and policies of entrepreneurial firms in China

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In this paper, the authors try to answer three questions. What trends and structural change have entrepreneurial firms experienced during the last decade? What differences has China displayed compared with other countries, especially major GEM countries? What should China do next with regard to entrepreneurship policy? We find that the unstable trends in entrepreneurial start-ups and private enterprises are the most active part in the creation of new ventures. We also find that the environment for entrepreneurship should be improved in four aspects, and China should consider an entrepreneurship policy with a strategic view.

## Introduction

In a broad definition, there are about 40 million SMEs in China. According to a narrow definition, there are about 10 million SMEs. SMEs have accounted for 99%, 60%, 40% and 60% in total numbers of enterprises, sales, realised income and tax, and export, respectively. In the 1990s, about 76.6% of new added industrial income derived from SMEs. 75% of the working population were employed by SMEs, and 90% of the new jobs were created by SMEs. 60% of the export total came from SMEs. Wherever SMEs have good opportunities for development, the regional or industrial economy is in a good situation. In addition, 85% of SMEs are private firms, among which 15.2% are technology-based firms. SMEs play a very important role and occupy a significant position in the national economy.

One of key issues in the promotion of SME development of SMEs is the research into their environment and policies. Since in the course of the last two decades entrepreneurial firms haved emerged and grown continuously, they have become an important driving force in the development of the Chinese economy. Entrepreneurial firms are the most active forces of SMEs. When individually owned firms are also taken into consideration, then entrepreneurial firms account for a higher percentage in total of SMEs. So far, only little research has been conducted into the environment and policies of entrepreneurial firms. Therefore, this paper pays a great deal of attention to the environment and policies of entrepreneurial firms.

This paper is organised as follows. The following section presents the growing trends and structure of entrepreneurial firms with the help of statistical data. In the third section, a comparative analysis of the entrepreneurial environment is introduced. Entrepreneurial policy is presented in the fourth section. The fifth section concludes the paper.

## Growing trends and structures of entrepreneurial firms

### *Trends*

The absolute number of Chinese entrepreneurial firms increased from 18 million in 1990 to 38 million in 1999. The average annual growth rate amounted to 11%.

However, the annual growth rate of new entrepreneurial firms began to decline after the peak rate was reached in 1994 (figure 1).

There are two reasons for this: the first is that Deng Xiaoping, the designer general of Chinese reform and opening, stated definitely that China would become a market economy when he visited South China in 1992. Entrepreneurship was encouraged nationwide, many more private funds were invested, taking out bank loans was relatively easy. After 1995, an obvious inflation occurred. The government took measures to overcome the economic heat and reduced the volume of investments. The central bank exercised a tight monetary policy and strictly controlled the size of loans. The financial environment became significantly worse.

The second is that high-tech firms are only part of the number of entrepreneurial firms. Although there is a clearly rising trend in new high-tech venture start-ups, a majority of entrepreneurial firms are not high-tech firms. Therefore, on the one hand, high-tech firms are started up and grow fast, whereas on the other hand, the sum-total of new entrepreneurial firms is decreasing.

| Year | Small firms *(1M) (1) | Individually owned **(1 M) (2) | (3) = (1)+(2) | Numbers of start-ups per year (1M); (4)= $(3)Y_{n+1} - (3)Y_n$ |
|---|---|---|---|---|
| 1990 | 4.64 | 13.28 | 17.92 | — |
| 1991 | 4.86 | 14.17 | 19.03 | 1.11 |
| 1992 | 5.91 | 15.34 | 21.25 | 2.12 |
| 1993 | 7.50 | 17.67 | 25.17 | 3.92 |
| 1994 | 8.25 | 21.87 | 30.12 | 4.94 |
| 1995 | 8.42 | 25.28 | 33.70 | 3.59 |
| 1996 | 8.21 | 27.04 | 35.25 | 1.55 |
| 1997 | 7.72 | 28.51 | 36.23 | 0.98 |
| 1998 | 6.75 | 31.20 | 37.95 | 1.72 |
| 1999 | 6.52 | 31.60 | 38.12 | 0.17 |

Data sources:* Chinese SMEs Yearbook (2000);** Collection of industrial and commercial management Statistics (1991–1998), Office of State Administration of Industry and Commerce. Forty-Year Statistics of Administration of Industry and Commerce of China, China Statistics Press.

*Figure 1: Growth trend of entrepreneurial firms during 1990–1999*

### *Structures*

Two points can be read from the trends, namely that the number of entrepreneurial firms is still increasing, and the growth rate of entrepreneurial firms is decreasing. We can deduce that the total number of entrepreneurial firms cannot increase without limit, and the annual growth rate of entrepreneurial firms cannot always rise to a higher level. After a certain period of time, the annual growth rate will be stable and change in line with the economic cycle, environment and policies.

In terms of the nature of firms, however, growth would appear to differ. Start-ups of SOEs, collective enterprises and FDIs decreased. The collective firms decreased to the highest degree, followed by SOEs. At the same time, the numbers of private firms grew fast and at a higher speed (figure 2). Technology-based firms showed a similar trend to that of private firms.

Thus the growth structure of Chinese entrepreneurial firms shows that start-ups of SOEs, collective enterprises and foreign investment decreased, whereas start-ups of private firms and technology-based firms increased. This trend indicates that an unbalanced development exists in different types of entrepreneurial firms. More and more private and technology-based firms are emerging. SOEs and collective enterprises account for fewer entrepreneurial firms.

Numbers of start-ups according to types of enterprise (1990-1999)

| Year | SOEs | | Collectives | | Foreign | | Private | | Individually owned | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total number (1M) | Increment (1M) | Total number (1M) | Increment (1M) | Total number (000) | Total number (000) | Total number (1M) | Increment (1M) | Total number (1M) | Increment (1M) |
| 1990 | 1.15 | — | 3.38 | — | 25 | — | 0.10 | — | 13.28 | — |
| 1991 | 1.25 | 0.10 | 3.48 | 0.1 | 37 | 11 | 0.11 | 0.01 | 14.17 | 0.89 |
| 1992 | 1.55 | 0.29 | 4.12 | 0.64 | 84 | 47 | 0.14 | 0.03 | 15.34 | 1.17 |
| 1993 | 1.95 | 0.40 | 5.16 | 1.04 | 168 | 84 | 0.24 | 0.10 | 17.67 | 2.33 |
| 1994 | 2.17 | 0.22 | 5.46 | 0.3 | 206 | 38 | 0.43 | 0.19 | 21.87 | 4.20 |
| 1995 | 2.22 | 0.05 | 5.34 | -0.12 | 234 | 28 | 0.65 | 0.22 | 25.28 | 3.41 |
| 1996 | 2.16 | -0.06 | 5.01 | -0.33 | 240 | 6 | 0.82 | 0.17 | 27.04 | 1.76 |
| 1997 | 2.08 | -0.08 | 4.47 | -0.54 | 236 | -6 | 0.96 | 0.14 | 28.51 | 1.47 |
| 1998 | 1.84 | -0.24 | 3.74 | -0.63 | 228 | -8 | 1.20 | 0.24 | 31.20 | 2.69 |
| 1999 | 1.65 | -0.19 | 3.17 | -0.57 | 212 | -16 | 1.51 | 0.31 | 31.60 | 0.40 |

Data source: 1. Collection of Industrial and Commercial Management Statistics (1991-1998), Office of State Administration of Industry and Commerce. 2. Forty-Year Statistics of Administration of Industry and Commerce of China, China Statistics Press.

*Figure 2. Numbers of start-ups according to types of enterprise (1990-1999)*

*Private enterprises*

It is necessary to analyse the private enterprises in a special paragraph, just as above, we mentioned private enterprises as the active part among entrepreneurial firms. If we exclude individually owned firms, only private firms display a positive growth rate in start-ups since 1995.

%

| | Numbers | Investment | Employment | Registered capital | Production value | Sales |
|---|---|---|---|---|---|---|
| Eastern regions | 67.06 | 61.68 | 63.09 | 69.80 | 74.70 | 68.08 |
| Middle regions | 20.03 | 23.27 | 22.97 | 17.09 | 16.23 | 21.16 |
| Western regions | 12.91 | 15.05 | 13.95 | 13.00 | 9.07 | 10.75 |

*Figure 3: Private enterprise location and major economic indicators (1999)*

However, private enterprises in China developed unevenly. More than two-thirds of private enterprises are located in the eastern regions. The same applies to investments, employment, registered capital and sales. The eastern regions are among the more highly developed areas in China and have also been successful with regard to reform and opening. Therefore the development of private enterprise may constitute one source of economic potential. Without private enterprises, the eastern regions could not develop so fast and become so affluent.

*Technology-based firms*

Many preference policies and programmes are focused on technology-based firms in China. Favourable measures have been taken in a systematic and continuous way. From the beginning, high-tech entrepreneurial firms have been granted many more advantages than those in the traditional industry sectors.

The term *technology-based firm* seems to have been coined by the Arthur D. Little Group, which defined it as an independently owned business that has been established for no more than 25 years and is based on the exploitation of an invention or technological innovation which implies substantial technological risks.

Shearman and Burrell refer only to new independent enterprises which develop new industries. Shearman and Burrell regard the development of the medical-laser industry as a classic example of where technology-based firms are established because, when the industry was new, such firms were both newly established and independent.

Butchart's definition has been widely used. Technology-based firms refer to sectors which have higher-than-average expenditures on R&D as a proportion of sales, or which employ proportionately more *qualified scientists and engineers* than other sectors.

A very broad definition would embrace all new firms that operate in *high technology* sectors. However, the definition of high technology is also problematic. In the Chinese definition, technology-based firms refer to the small and medium-sized firms run or founded by scientists and technical personnel who are guided by the principles of "fund raising by themselves, voluntary cooperation, independent management, and sole responsibility for profits and losses", and are mainly engaged in the industrialisation of achievements of research and development, technology transfer, consultancy and technological services.

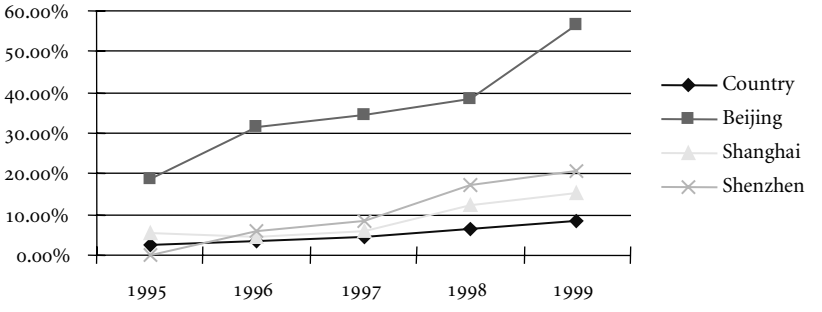
There are four contributions made by Chinese technology-based firms:

1. Creating a great number of jobs. While employment in the manufacturing industry decreased from 1995 to 2000, technology-based firms in high-tech zones retained a positive growth rate in job creation (figure 4).

| Growth rate | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|---|---|
| High-tech zones (%) | 25.3 | 15.2 | 28.9 | 18.4 | 27.0 | 13.6 |
| manufacturing industry (%) | 2.0 | -0.4 | -1.5 | -13.5 | -2.5 | -0.8 |

*Figure 4: Job creation comparison in the manufacturing industry and in high-tech zones. Data source: China Economic Information Website*

2. An increasing contribution to GDP. At the national level, technology-based firms contributed more and more to the GDP, from 2.6% in 1995 to 8.3% in 2000. Particularly in cities such as Beijing, Shanghai and Shenzhen, high-tech industries make higher contributions to the local GDPs, and these cities are also the most active places with regard to entrepreneurship (figure 5).




Source: China Science and Technology Statistics Yearbook (2000)

*Figure 5: Total income of high-tech industry zones as the percentage of the local GDP.*

3. A growing contribution to high-tech export. The export of high-tech products produced by technology-based firms accounted for 32.3% of the total of high-tech products exported in 1999. This is a great increase when compared with the quota of 15.4% in 1995. Obviously, technology-based firms are major players in high-tech product export.
4. A great number of entrepreneurs are appearing. In the past two decades, many successful new ventures and entrepreneurs have emerged. Their success encourages many would-be entrepreneurs. Their experiences provide valuable knowledge and skills, setting an example for followers. The real entrepreneurs have an impact on the entrepreneurial environment and policies. Actions and words from successful entrepreneurs are promoting the new entrepreneurial spirit.

**Comparison with entrepreneurial environments**

The degree of activity in the creation of new ventures is different in various types of firms. However, the entrepreneurial environment of private enterprise is not better than that of SOEs and collective enterprises.[1] Subsequent to the analysis of trends and structural change in entrepreneurial firms, it is necessary to examine the entrepreneurial environment and look for ways of improving it. Entrepreneurship is affected by a number of entrepreneurial conditions. We use the entrepreneurial conditions designed by GEM (Globe Entrepreneurship Monitor) to analyse the difference between China and major countries in the GEM report in a comparative perspective.

Entrepreneurial environment conditions include financial support, government policy, government programmes, education and training, research and development

1 High-tech firms are not included since high-tech ventures have a better entrepreneurial environment than that of other types of firms.

transfer, business and professorial infrastructures, entry barriers, access to physical infrastructures, cultural and social norms.

*Financial support*

Major financing ways in GEM countries include informal private investment, venture capital and a growing enterprise market. Comparatively, informal investment is the dominant financing source for new ventures in China. Owing to the lack of a credit system, informal investment also encounters many problems. Considering Chinese practical working life, more attention should be paid to improving bank loans, apart from completing venture capital mechanisms and encouraging private capital to involve industry investments. Acceptable methods of improving bank loans are the provision of incentives for banks to grant loans to entrepreneurial firms, guarantee mechanisms, and the establishment of an SME banking system.

*Government policy*

GEM countries have a lot of favourable policies that focus on entrepreneurial firms, including high-tech firms. However, favourable policies in China mainly benefit high-tech firms, whereas start-ups in traditional industries are not lucky enough to share those favourable policies.

*Government programmes*

Many technological innovation-promoting programmes have been set up, such as the Spark Programme, the Torch Programme, the National New Product Programme, etc. But only a small programme focused on new ventures other than high-tech firms. The most famous government programme for the support of new ventures is the Innovation Fund for Technological Small and Medium-Sized Firms founded in 1999. The purpose of establishing this innovation fund is to promote technological innovation in firms and to accelerate the industrialisation of achievements of technological sciences and technology-oriented markets, such as the industrialisation of achievements of the "863" Programme, the Key Projects Programme, and the "Torch" Programme. Its keystone is to provide money for projects and firms in early stages of industrialisation (seed stage and start-up stage) with high growth potential, technology advantage, and a better market future being the most urgent requirements for the government. By the end of November 2001, the innovation fund had provided about CNY 1.8 billion. The average amount of funds for each project is CNY 745000. Projects which obtained grants account for 75.46%, projects which received subsidies account for 24.54%.[2] Start-up firms that had been in existence for less than eighteen months account for 31% of the total of firms that received innovation funds. The projects of R&D and intermediary testing account for 73% of all the projects. Innovation fund support concentrated on the information technology industry (30%), the bio-pharmacy industry (18%), and the new-materials industry (15%).

2 Source: www.innofund.gov.cn

The establishment of a national innovation fund results in the establishment of local government's technological innovation funds. Local governments and high technology development zones follow three ways to match the central government's innovation fund:

1. they set up special funds, i.e. they set up funds similar to those of central government
2. they provide matching money to the projects or firms that received support from the innovation fund of central government. For example, Guangdong province decided to set up a fund to provide matching money at ratios of 3:1 to 1:1
3. they set up venture capital companies.[3]

*Education and training*

Major GEM countries generally attach importance to liberal education and inject much capital into it. Although in recent years China has placed more emphasis on the importance of education, input is still lower. Entrepreneurship education has started in China, but it is in its infancy in comparison with other countries such as the United States.

It is urgent that China should develop entrepreneurship education and training abroad, and boost the motivation for and consciousness of entrepreneurship. The content of entrepreneurship education has its special issues, such as opportunity recognition, integrating resources and cultivating the entrepreneurial spirit, which are heaven and earth compared with general training in business and administration.

*Research and development transfer*

Owing to a difference in research and development transfer, there is a large gap between China and countries with a higher level of entrepreneurial activities. Our suggestions for reducing this difference are to encourage R&D at the level of firms, to increase inputs into information infrastructures, to reinforce the protection of intellectual property rights, and to support the establishment of a combined research centre among universities and firms.

*Entry barriers*

The opening of domestic markets comprises two aspects: an opening of industry, and local protection. An opening of industry means that now, many industries allow entrepreneurial firms to enter. Local protection means that now, local governments strongly protect their own firms.

With regard to industrial opening, from among more than eight industrial sectors, state-owned capital is permitted to enter 72 sectors, foreign capital is permitted to enter 62 sectors, but only 41 sectors are open to private enterprise.

As the elimination of monopoly in China is beginning now, however, local protection is becoming stronger and stronger. Some scholars have found that the trade and investment barriers among provinces are even higher than those of the members of the European Union.

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3 Source: www.cssti.net.cn

*Access to physical infrastructures*

A better incubating environment has been provided for high-tech entrepreneurial firms. Almost all high-tech industry development zones have their own incubator(s). Originally, the government founded incubators, which were one of the services provided by the government. Since private capital discovered the huge space of value creation in a combination of incubator and venture capital, many new incubators were founded with non-government capital.

Moreover, the Chinese government has approved 20 university science parks after establishing high-tech industry development zones, incubators and high-tech guarantee companies in order to encourage the industrialisation of science and technology achievements and to drive the development of the high-tech industry.

*Culture and social standards*

China has a good tradition of becoming rich by hard work. Granting credit has always been respected. However, the most serious hidden problems in business operation are a lack of credit mechanisms and business rules. The former means that owing to the absence of a credit system, no monitoring and punishment mechanisms for bankruptcies have been established. Bankruptcy costs are very low. China needs to establish a credit industry through the introduction of an advanced credit system along the lines of other countries. Business rules should cover a firm's internal and external working requirements and the business ethic which employees should comply with.

**Entrepreneurship policies**

*Framework of entrepreneurship policies*

An improvement in the entrepreneurship environment directly depends on the guidance of entrepreneurship policies. The core of entrepreneurship policies is an improvement of the entrepreneurship environment, a reduction of the cost of creating new ventures, and the encouragement of entrepreneurial activities.

The framework of entrepreneurship policies should consist of legislative policies, business and administration policies, physical infrastructure policies, financial policies, fiscal policies, and education and training policies.

Concerning legislative policies, the central and local governments of China issued laws that enhance the legal position of entrepreneurial firms, such as the Law of Partnership (1997), and the Law of Sole Cooperation (1999). The State Commission for Economy and Trade issued opinions on encouraging and promoting the development of SMEs (2000). Now the very important law – the Law of Promoting SMEs – for entrepreneurial firms is being drafted at present.

The major purpose of business and administration policies is to reduce the costs of establishing a firm, which includes changing the system and procedure of starting up a firm, cutting down the steps and requirements, and increasing the efficiency of dealing with each item.

With regard to physical infrastructure, local governments support incubation aimed at high-tech firms, and actively encourage the development of local high-tech industry zones.

As to financial policy, local governments encourage various financial supports for entrepreneurial firms, such as bank loans, special funds, guarantee systems, and venture capital.

The most important policy for entrepreneurial firms may well be fiscal policy. The promotion of entrepreneurship in fiscal policy hinges on specific taxation policies. Even though most of these policies were not aimed at SMEs, SMEs obviously benefit from these policies, which include:

1. a township enterprise policy
2. a high-tech firms policy within high-tech industry development zones
3. policies concerning the tertiary industries
4. income tax policies for small firms.

*Evaluating entrepreneurship policies*

At present, the question is not if China has any entrepreneurship policies. China certainly does have entrepreneurship policies. The urgent question is how to design and form a national entrepreneurship-policy system and strategically push entrepreneurial activities. At this level, China has not modelled a systematic entrepreneurship policy. The policies mentioned above are only applied in different aspects, and most of them were not aimed at entrepreneurial firms. The national innovation system and technological innovation policies have been studied in depth in China and are closely considered by the government. Entrepreneurship policy is accorded the same importance as innovation policy. It is high time that all levels of government paid more attention to entrepreneurship policy.

Concerning the process of growth, entrepreneurial firms basically face four difficulties: it is difficult to raise capital, it is difficult to achieve innovation, it is difficult to get talent, and it is difficult to obtain a better entrepreneurial environment. Entrepreneurship policy can contribute many methods and ways to solve or overcome these difficulties.

## Conclusion

Many problems have been raised in this paper. We have found that in a worse entrepreneurial environment, private firms grew fast compared with other types of firms. The basic reason is that they faced much more competitive pressure and had a much clearer motivation to create wealth.

Four key improvements for an entrepreneurial environment should be to increase the opening degree of domestic markets, to create a better financing environment, to develop entrepreneurship education and training, and to establish a credit system.

China has an entrepreneurship policy. But the urgent task is to build a policy framework for entrepreneurship in order to provide strategic guidance for entrepreneurial activities in the country as a whole.

# Human capital and other important factors as elements of entrepreneurship and SMEs in developing economies

Klaas Havenga

## 1 Introduction

In recent years entrepreneurship and the nurturing of SMEs have become the dominant themes of development economics. This re-discovery of the importance of the spirit of free enterprise was undoubtedly prompted by the failure of centrally planned socialist economies. It was also enhanced by the achievement of impressive prosperity by certain East Asian and Western countries as a result of mobilising the creative energies of entrepreneurs and by reaping the benefits of relatively unconstrained competition.

## 2 The re-discovery of the entrepreneur and the SME-sector

Entrepreneurship was, and is still often treated in theory as the vague and unquantifiable force which brings together labour, and capital assumes the risks of production and distribution and on which the whole success of the capitalist system depends (Naudé 1999, p.2).

Schumpeter made the entrepreneur the focal point and key to the dynamic of economic development and growth. It is entrepreneurs who put together new combinations, and whose actions have consequences on the basis of their organizational skills, their creativity as decision makers, and the distinctive opportunity structures (the settings, circumstances or situations within which the decisions and choices are made). Schumpeter (1934) stated that entrepreneur is the decision maker in a particular cultural context who commands a range of behaviours that exploits the opportunities. His idea that the entrepreneur functions primarily as a creator of innovations in the production process has influenced much of the literature on entrepreneurship in developed economies. Alternative explanations of the entrepreneurial role have focused more on the entrepreneur's ability to organize rather than to create (Spring, MacDade 1998, p.2).

The natural home of the business entrepreneur is the small and medium size enterprise sector which in recent times assumed a position of almost universal orthodoxy. In all the successful economies of the world, they figure as a dominant force. The impressive economic performance of certain South East Asian such as Taiwan, Korea and Western countries has focused the attention of business leaders, policy makers and academic analysts on the prominent role played by SMEs.

Drawing on the experience of these countries and seeing what tremendous influence SMEs can have on the economic growth and development of a country, some developing countries also resorted to it as the engine for economic growth and development.

Leaders in developing countries also realize that the SME sector can make a significant contribution to economic growth, employment generation and social progress. They are the most effective job creators, because they are generally more labour intensive than larger enterprises and generate more direct and indirect jobs per unit of capital invested. They provide a seedbed for entrepreneurial talent and contribute to competition within an economy. They aid the promotion of free enterprise and self-sufficiency by creating and spreading wealth to the grassroots level and as a result enhance economic and political stability.

In many developing economies it has been found that the large-scale enterprises have had limited success in generating job-creating economic growth. The concentration of economic power and the capital-intensive nature of large business and manufacturing organizations were in many instances in direct conflict with more generally held goals of social and economic development. SMEs in contrast were found to employ a large proportion of the human capital. They also provide a productive outlet for expressing the entrepreneurial spirit of individuals and to assist in dispersing economic activity throughout a country.

### 3 Human capital, entrepreneurship and SMEs

The term "human capital" coined in the 1960s by Schultz, refers to the fact that labour is not just a homogenous factor of production, but is a differentiated and mouldable input into production (Cypher, Dietz 1997, p.384). Human capital also refers to skilled labour which is labour that functions on a higher level and has the ability to create new ideas and new methods in economic activity (Ray 1998). It is this type of human capital that contains the seed of entrepreneurship within itself, but needs improvement especially in developing countries, through education, work training, on-the-job training, health care, nutrition and sanitation in order to germanate and grow.

Naudé (1999, p.11) says that apart from the direct evidence from cross-country regressions that point to the significant effect of human capital accumulation on economic growth, case studies of developing economies provide dramatic illustrations of the potential significance of human capital.

When considering the role of human capital (and eventually entrepreneurship) in economic growth, it is particularly instructive to review the East Asian growth experience. In four of the NICs (newly industrialising countries) of East Asia namely Hong Kong, Singapore, South Korea and Taiwan, rapid and sustained growth in per capital GDP between 1960 and 1990 averaged 6%–7% per annum. Accompanying this rapid output growth was rapid growth in human capital accumulation and the growth in secondary and tertiary education.

According to the World Bank (1993) approximately 66% of the observed growth in NICs can be attributed to the accumulation of physical and human capital, and education is the single largest contributor among these factors.

The question that can be raised is how does "human capital" contribute to economic growth?

Referring to Benhabib and Spiegels endogenous growth model, Naudé (1999, p. 13) states that human capital affects growth through its effect on total factor productivity. This takes place through two channels. First, as Romer (1990) sees it, human capital influences productivity directly by determining the capacity of nations to innovate new technologies, thus creativity through entrepreneurial actions in countries becomes the dominant factor.

Secondly, human capital levels affect the speed of technological catch-up and diffusion – i.e. the ability of a country to adopt and implement new technologies from abroad as a function of its domestic human capital stock. It should be noted that the World Bank (1993) concluded with regard to the East Asian growth experience that higher levels of labour force cognitive skills permit better firm-level adoption, adaptation and mastery of technology. The question that can be asked is whether most African countries with its lower levels of labour force can really accomplish this?

A question that can also be asked is, why does capital not flow readily from rich to poor developing countries? Apart from the political instability and other related factors the role of human capital in the endogenous growth theory can also be used to explain the fact that capital does not flow from rich to poor countries. Physical capital in particular fails to flow to poor developing countries because of their relative poor endowments of human capital which acts as a complement to improve the efficiency of physical capital.

The human capital accumulation can broadly be seen as to include formal education, on-the-job training, basic scientific research, learning-by-doing, process innovations, product innovations and industrial innovations. Iyigun and Owen (1998) consider human capital as consisting of both "professional" or skilled labourers and entrepreneurs.

In their definition the entrepreneurs provide the economy with new ideas, products and ways of doing things.

Thus one can quite safely deduce that the higher the level of human capital the greater the portion of the labour component that are entrepreneurs and consequently the greater the provision of the economy with ideas, products and ways of doing things.

Consideration of the low level of human capital on the African continent therefore limits the entrepreneurial component and consequently retards economic growth and development.

The deficiency characteristics of entrepreneurship that makes it an important force for economic growth, and that differentiates it from more skilled labour are (Naudé 1999, p. 15):

- Entrepreneurial activity is risky. There is a positive probability that entrepreneurial activity will result in failure, or an outcome with very low payoff.
- Entrepreneurs learn by doing; entrepreneurial skills are honed by investing time working in an entrepreneurial venture.
- Entrepreneurial human capital may be more productive in the development of technology. Entrepreneurship thus determines the level of technology. This idea can be traced back to Schumpeter.

Recently it has been shown that the differences between entrepreneurs and professional/skilled labour is important for the composition and effect of human capital on economic growth (Iyigun, Owen 1998, p.454). More specifically stated:

- Entrepreneurial human capital plays a relatively more important role in intermediate income countries. This result is due to the riskiness of entrepreneurship. For instance, in more developed economies individuals may be expected to allocate fewer resources towards entrepreneurship because good, safe alternatives to the risky activity exist. The level of economic development and growth rate of a country is in itself a determinant, not only a consequence, of entrepreneurship. Thus;
- Professional labour is relatively more important in higher-income economies;
- Because there are more than one way of accumulating human capital, an inefficient allocation of an individuals time between schooling and gaining entrepreneurial experience may occur.

Economies that have a lack of either entrepreneurial or professional human capital may end up in a development trap. An example of the latter may be the countries of the former East Bloc, where professional human capital was accumulated to the detriment of entrepreneurial human capital. Even worse is the situation in Africa where a large number of countries have to little of either entrepreneurial or professional human capital. More than 90% of the human capital are unskilled labour, resulting in a situation where no or even negative economic growth and economic development situation occurs. Although it may seem, due to the vast number of small and micro enterprises, if adequate entrepreneurial human capital does exist, this is far from reality. These small businesses are merely forms of livelihood, ways to be part of subsistance economies with no real value being added to economic growth and development. In fact they are actually sharing poverty.

## 4 Government, financial systems and entrepreneurship

According to Naudé (1999, p. 8) two institutions have been identified as vital for reducing the uncertainty that may be inhibiting entrepreneurship, namely the government and financial system.

With regard to governments and constitutions it is shown that low security of property rights over physical capital, profits and patents may reduce incentives and opportunities for entrepreneurs to invest, innovate and obtain foreign technology. Furthermore, cumbersome and dishonest government bureaucracies, which are numerous on the African continent, may delay the distribution of permits and licences or other forms of assistance, thereby showing down the process of creative destruction.

It is especially in Africa where the institutional requirements on government for growth and economic development is lacking. This disfunctionality of African governments according to the Bates-Morrison Thesis (Collier 1977) is a result of a number of African Governments having permitted only a low level of civil liberties whereby ordinary people are denied the channel of popular protests. Secondly, the argument that African governments' credibility have been severely eroded by its reneging on past reform promises.

As far as the role of financial institutions on entrepreneurship is concerned another one of Schumpeter's ideas, namely, that the services provided by financial intermediaries are important for technological innovation by entrepreneurs to take place, has recently been taken up (King, Levine, 1993a; 1993b).

Firstly it is especially commercial banks that are important, in that they provide financial risk management and investment information services to entrepreneurs. Effective financial risk management stimulates economic growth by increasing the rate of human and physical capital accumulation and by improving the efficiency with which economies use that capital.

In the second instance the financial system fulfills the role of a selection mechanism. They evaluate prospective entrepreneurs, mobilize savings to finance the most productive activities, and diversify the risks associated with annovations brought forward by entrepreneurs.

The importance of the financial system and appropriate institutional framework should be clear, and as Naudé (1994) puts it: "Government policies towards financial institutions therefore have an important causal effect on the long run growth".

## 5 Some realities of African entrepreneurship and SMEs' entry into entrepreneurship

If we now take a closer and more practical view of entrepreneurship and SMEs on the African continent it may prompt the reconsideration of previous dictums or assert the applicability of new theories. However, this is not the objective of this talk, but rather to highlight the discussion with some facts.

In Zaire, MacGaffey (1998) shows that the lack of state support for business activities forces survival strategies to new heights as entrepreneurs provide missing infrastructure, use substitute currencies, and pursue unusual trade networks to maintain "the second economy" in the absence of the first. The scope of these entrepreneurial enterprises encompasses large and small firms, mostly in the informal sector, because there is previous little left of the formal sector.

MacGaffey borrows from Schumpeter's definition that if entrepreneurs "have not accumulated any kind of goods, they have created no original means of production, but have employed existing means of production differently, more appropriately, more advantageously".

Entrepreneurs function outside the defunct official economy using creativity and ingenuity, in the force of "insurmountable obstacles". These include the collapse of the banking and transportation systems, the unavailability of foreign exchange, the decline of public services and administration, the collapse of supply systems, and the harassment, extortion, and arrest of entrepreneurs.

In short entrepreneurs fill in the functions of a government that has failed to supply the infrastructure that is conducive to business in general and small and medium size enterprises specifically.

Daniels (1998) questions whether the supply of labour (human capital) hypothesis (surplus labour with limited skills and access to capital) or the market demand hypothesis (entry influenced by consumer demands for micro and small enterprises) holds.

In this case both influence entry into commerce, but the labour supply hypothesis is supported by evidence from low-profit SMEs in which people turn to these informal sector enterprises as alternative income sources in a declining economy. In contrasts the high-profit entry model is not driven by excess supply of human capital, nor is it affected by changes in the GDP; these entrepreneurs have some access to capital as well as greater business experience. Still, there are entry barriers to high-profit entrepreneurial activities, and these include capital, experience, and government regulations.

## 6 Public policy and private initiatives in entrepreneurial development

Entrepreneurial activities are highly affected by public policies and their level of enforcement. As mentioned previously the business sector in Africa especially SMEs frequently suffer from harassment by government officials. Even within the formal sector private enterprises often do not find a conclusive environment within the financial system, reducing tariff restrictions, providing adequate infrastructure (Himbara 1998), producing educated skilled human capital (Naudé 1998), ensuring access to technology, and creating markets (Blewett, Farley 1998).

Specifically focusing on policy, Himbara (1998, p. 219–232) departs from conventional interpretations that hold that colonial governments used restrictive policies to impede the development of indigenous African Enterprises and to restrict them to a few types of industries. He maintains that such interpretations are myths and argues that instead of impeding or obstructing African entrepreneurs, British colonial policy in Kenya fostered an indigenous entrepreneurial class by promoting SMEs in the informal sector as a base from which an indigenous capitalism could develop.

Government policy in Kenya encourages their people to establish medium-, and large-scale businesses in commerce and industry, but, Himbara argues, most Kenyan Africans are not yet ready for the step. He attributes the stagnation in the private enterprise sector to policies that impose "capitalism from above". These policies benefit reigning politicians and high-level civil servants rather than indigenous private sector business persons. The misunderstood colonial approach was vindicated in the 1980s when the government began to integrate the small-scale and informal sectors into its overall policy regime.

In 1994 the new South African Government inherited an apartheid economy with specific problems, which required the urgent implementation of an appropriate economic development strategy. Since this time the new government produced a number of important policy documents to assist in the formation of entrepreneurs and the development of SMEs.

## 7 Structural adjustment programmes

This address in the present period would not be complete without touching on the global allocation of resources. Here we focus on the impact of externally induced policies, such as the SAPs (Structural Adjustment Programmes) and foreign assistance and control.

How entrepreneurs react to these external pressures, and how these programs affect the ability of developing economies entrepreneurs to compete in their own domestic markets and succeed in the international marketplace should also be considered.

How do SAPs affect entrepreneurs? SAPs particularly affect those entrepreneurs that form part of the informal sector, in part because of their already disadvantaged status in obtaining capital, credit, and training, and in part because of the increased competition from those who have lost formal sector jobs and enter the informal sector. (Osirim 1998).

As an example one can refer to the Zimbabwean case (Osirim 1998, p. 277–297). Recent changes in the Zimbabwean state and its economy, presented micro-entrepreneurs (micro-businesses) with new challenges. Declining prices for primary product exports, destabilization in the region caused by the situation in South African and war in countries bordering Zimbabwe in the 1980s meant that the government could not sustain the growth in unemployment and the expansion of social services it embarked on in the immediate post-independence period. In order to rectify the economic crisis, the government enacted a SAP in 1990 at the behest of the World Bank and the IMF.

The result of this SAP was that many males lost their jobs in the formal sector under adjustment and this had a twofold affect on self-employed females. The state encouraged retrenched male workers to start their own small and micro-enterprises as a means of earning a livelihood. The advantaged position that these males were in as far as access to loans and other resources were, even compounded the problem and resulted in unfair competition with the existing female small and micro-enterprises.

The most adverse effect of the SAPs on Zimbabwe can be seen in the growing ranks of the poor in that country. In 1991, one year after adjustment, of the 10.3 million residents of Zimbabwe, 6.6 million were estimated to be living in absolute poverty and more than 40000 state employees lost their job under this plan (Osirim 1998, p. 282).

The funds made available by the World Bank for these SAPs are however, subject to certain requirements. One of these includes the liberalization of international trade, which means the decrease or abolishment of protection regulatory requirements like tariffs and quotas.

Many of the recent policy measures taken to remedy the problems of African economies have prescribed market liberalization, which requires resources such as human and physical capital to be allocated by private sector entrepreneurs for tradable goods. Naudé (1998, p. 298–311) discussing policy credibility in South Africa argues that the positive impact of liberalization can be obstructed when investors and entrepreneurs begin to doubt that it can correct economic ills, especially if they do not understand the importance of their own roles in making it work.

Liberalization programs may initially cause increases in unemployment and resource security, as the economy tightens into a more efficient system. Entrepreneurs may interpret this as the failures of liberalization rather than transitory effects that will be corrected and there may be private sector demands to discontinue such programs. These programs may, of course, have the negative effect of creating an over supply of unskilled and to a lesser extent skilled human capital that revert as "forced-entrepreneurs" economic to non-value-adding subsistence small and micro-enterprises.

The ability of developing economies' entrepreneurs to maximise their returns from reforms due to SAPs can be enhanced, according to Naudé (1998) if they develop their technical managerial, accounting, marketing and sales skills in order to respond more effectively to the new incentives and opportunities.

## 8 Conclusion

While the social organization and economic systems resulting from Africa's past contribute to its present dilemma, the future will be constructed from the efforts of its entrepreneurs as they work within the evolving systems. The past policies of most African countries have left it with an inadequate stock of human capital. Moreover, as in the East Block countries, the allocation between entrepreneurial human-capital and professional human-capital was skewed in favour of the latter.

If one recognises, as does Naudé (1999, p. 20) that the stock of human capital is growing on average by 9% per annum in Asian countries then one might conclude that the South African economy will fail to converge to the same per capita income currently enjoyed by Asian economies. This statement can also be applied to the rest of the African continent if we acknowledge the fact that South Africa has one of the highest developed economies on this continent.

Furthermore to think that the encouragement of small businesses may stimulate entrepreneurship and that entrepreneurs can maximise their efforts in isolation, may be flawed. A supportive economic milieu, as well as appropriate government policies will play critical roles in their success or failure. Small and micro-businesses on this continent are often "residual" businesses with a lack of access to credit and financial means whereby risks can be absorbed and managed.

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# The dynamics of the internationalisation process – Interpretation of empirical evidence

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The research on internationalisation of small and medium-sized firms has so far mostly been based on cross sectional data. This has precluded studies of the dynamics of the ensuing dynamics. This paper reports on two longitudinal studies, one with quantitative survey data and one with qualitative case data. Distinctly different modes of development have been found. Almost one half of the exporters had stable incremental growth of their export rates. An equally large group of exporters exhibited strongly fluctuating and even intermittent development patterns of their export rates. These differences had no apparent influence on their performance judged by the growth in the total sales of the firms.

The different patterns of development appear to reflect different approaches to adaptation. The stable and incrementally growing pattern seems to be associated with a strategic planning approach. The irregular development pattern seems to be associated with an entrepreneurial approach.

Explanations for these differences could not be found in generic properties, such as size or industry sector. Nor had environmental factors such as decided by nationality any significant influence. However, the case studies suggested that current market situation and perceived market future gave were decisive stimulating factors. Furthermore, structural elements related to products and managerial specialisation were found to play vital roles.

## Introduction

### *Background*

This paper reflects research over more than one decade. It has been a continuous learning process for the author. One important consequence is that the phenomena, which are discussed here, were not part of the initial research model of the first phases of the research. Examination of the data suggested that the internationalisation process had dynamic characteristics, which were not consistent with current theories and textbooks. The richness of the data allowed analyses and detailed mapping of categories and characteristic properties. However, further and more detailed research was required to confirm our initial assumptions on the mechanisms that lead to different developments of internationalisation in apparently similar firms. Thus, the paper builds on and consolidates insight gained in two independent research projects.

### *Change processes*

Change processes are generic to all firms. Already Schumpeter (1961) at the beginning of the last century and Penrose (1980), about half a century later, pointed out that these processes are not automatic or pre-programmed responses to factors in the environment of the firm. On the contrary, the acumen, volition and capability of persons, individually or in consort, drive these processes. Development processes pertain to all aspects of business activities. In theory it would be desirable to study the development of the firm as the aggregate of all subordinate processes. In reality this is a gargantuan and virtually impossible undertaking due large number of interacting processes and

variables. The complexity would also make it very difficult to distinguish between phenomena, which are specific to a firm or a context, and which are of a general nature.

All business change processes share some general characteristics with all processes. Firstly, processes take time. There is always an incubation period between causes and effects. The length of this period is generally unknown and its length will most often be contextually dependent. Secondly, change processes require input of energy prior to generating any value through the initiated changes. Therefore resources must be allocated to the change process from external sources. Thirdly, the direction of change for one category of process is not *a priori* defined. Fourthly, the process itself cannot be observed. What can be observed are the inputs and the outcomes of the change processes, and these must be observed at specific points in time.

*The relevance of internationalisation*

With the current strong political and economic trends towards globalisation, all firms are facing the effects of increased international competition. However, in parallel opportunities are opened on international venues even for micro firms. Internationalisation is therefore an issue that is becoming relevant to the majority of firms, without respect to their market orientation, industry sector or size. As a consequence internationalisation is also becoming an increasing important policy issue and a topic for support services, particularly for SMEs.

This paper will focus on the internationalisation process, which we will consider to be the process that changes the extent of cross border activities or commitments of the firm (cf. Welch, Loustarinen 1985, Ahokangas 1998, Havnes 1998). This definition encompasses upstream as well as downstream activities and commitments. Furthermore, it is not restricted to the flow of physical goods, but also includes flow of information, exchange of technology and know-how, business commitments, etc. Importantly and in line with the general discussion of change processes, a change may mean extension as well as contraction of cross-border activities and commitments.

## Theoretical background

*Incremental change models*

The models for describing and analysing development of small and medium sized enterprises (SMEs) are dominated by what can be termed "the incremental change paradigm" (Havnes 1998). In these models the change mechanism is depicted as a series of incremental changes, and the accumulated effects of these are observed as the development of the enterprise. The incremental change paradigm is central to such different models as life cycle models (Van de Ven, Poole 1995), the Uppsala model of the internationalisation process of the firm (Johanson, Vahlne 1990, Andersen 1993), and stages models[1] (e.g. Johanson, Wiedersheim-Paul 1975, Dichtel et al. 1984, Miesenbock 1988, Leonidou 1995, Westhead 1995, Gankema et al. 1996).

1 Stages models of internationalisation are invariably presented by the researchers as models of dynamic behaviour of enterprises. The enterprises are assumed to progress sequentially through a predefined set of

Typical for the incremental change models is that the enterprises are assumed to

- Evolve from a low to a high degree or measure of activity, resources or commitment
- In small or large steps
- Which are all assumed to be unidirectional.

In this respect these models are normative. When incremental growth is assumed to be the normal pattern of change, decreasing number of employees, decreasing sale or decreasing exports are, by definition, not normal and are frequently taken as indicators of malfunctioning or failure.

The Uppsala model of the internationalisation process (Johanson, Vahlne 1990), is very illustrative of the implicit assumptions of incremental and continuous growth. The model pictures internationalisation in the context of interaction between state aspects and change aspects. The state aspects are constituted of market knowledge and current commitments, the change aspects of commitment decisions and current activities, see figure 1.

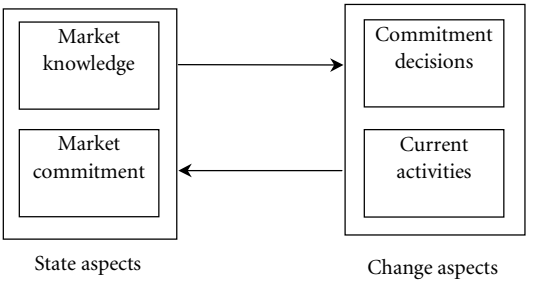


*Figure 1: The Uppsala model of the internationalisation process of the firm (Johanson and Vahlne 1990: p.12)*

The market knowledge is presumed to be the basis for commitment decisions, which in turn lead to changes in current activities. These activities increase market commitment, and also provide opportunity to gain experience and tacit knowledge – which completes the circle. The model is meaningless without the assumed positive correlation between knowledge of internationalisation and propensity to change the activity levels in the direction of (more) internationalisation; and positive correlation between activity level and acquired knowledge. The mechanisms of the model are therefore depicting continuous incremental changes in the direction of more commitment to internationalisation.

*Why challenge the incremental change paradigm?*

In real life one often finds enterprises that do not follow incremental change patterns. Enterprises may export one year, not export the second and come back to exporting the

stages. The rationale for the delimitation between categories is generally not discussed, and the presumed mechanisms governing the progress are generally not disclosed. Finally, the empirical test procedures for stages models of internationalisation usually go no further than categorising enterprises by means of a ordinal scale of increasing internationalisation or commitment to exporting.

third year. Likewise, total turnover or employment may fluctuate – independently or in consort. To some enterprises such fluctuations or irregularities are normal patters of temporal change in activities. To other enterprises or at other times (under other conditions) stability, incremental growth or even (temporary) decline may be normal patterns of change.

A research model that is based upon incremental development may not recognise that there are different patterns of temporal change, and thus loose sight of or neglect information pertaining to other change patterns.

In a review of 39 articles (Havnes 1998) six attempted to analyse dynamic properties of the internationalisation process, invariably by testing a version of a stages model. However, only one study (Christensen, Jacobsen 1996) used genuine longitudinal data in combination with time-series analytical techniques. The remaining five used cross sectional data.

In the field of internationalisation studies the incremental change models survive and continue to dominate not because of empirical support, but possibly due to their conceptual simplicity and appealing logic. It is therefore pertinent to investigate the matter of dynamics of enterprise development and challenge the dominating position of incremental change models.

*Entrepreneurial change paradigm*

An alternative to the incremental change paradigm can be found in the entrepreneurial paradigm (i.a. discussed by Wiklund 1998, Havnes 1998, Havnes, Hauge 2002). The first phase of change models based on the entrepreneurial paradigm is to identify opportunities arising from new combinations or resources in response to external demand. The initial stimulus may be internal to the firm, i.e. more efficient use of its resources, or external, i.e. a demand that is new or not attended to before. The second phase of the entrepreneurial change models will be to reorganise resources to exploit the new opportunity.

Studying mechanisms of the internationalisation process requires that we have in-depth information at the level of individual firms or persons where the element of volition is represented. The volition may, on the one hand, be explicitly expressed in clear, precise and deliberate strategies (Minzberg 1994 & 1998, Bhide 1994, Teece et al. 1999). The volition may, on the other hand, be implicitly represented in the objectives, motives and attitudes of the leading persons in the firm like we find in entrepreneurial models (Johnson 1990, Wiklund 1998), or embedded in the firm by its operational procedures and information systems. In either case, the volition, objectives or strategies induce a bias in the decision stages of the development process that influences the direction of the development (Sharma, Chrisman 1999).

All resources of a firm have multiple characteristics and each resource represents a bundle of possible services (Penrose 1980, p.67). Each resource may therefore be used for a number of alternative purposes. Since full utilisation of all resources at all times is possible only at extremely large scales of operation (ibid, p.70), the bundles of possible services represent an organisational slack, which again can partly explain the flexibility of SMEs. Successful firms frequently supplement their endogenous resources with

resources and information supplied through their external networks (Andersen, Kheam 1998, Welch 1992, Tikkanen 1997). We hold that the alternative use of resources and active networking are important features of entrepreneurial development processes.

The most interesting dynamic property of entrepreneurial change processes is that they will frequently produce changes that to an outside observer may appear to be discontinuities in the direction of development.

In some respects there is a parallel between the incremental and discontinuous innovations on the one hand, and the incremental and entrepreneurial change paradigms on the other hand. The main difference is that the main focus of innovation models is the change as such, while the last two tend to focus on the business activity as the real outcome of the change process.

*Research questions*

These theoretic deliberations point to interesting problems at two levels of aggregation. First of all we need to establish empirically if there are different categories of change patterns or dynamic properties of internationalisation processes. Secondly, we need to explain what may have induced such possible distinguishable dynamic patterns.

This investigation of internationalisation as a development process will therefore be directed by two research questions:

1. What characteristic development patterns can be discerned for internationalisation of SMEs?
2. What are the factors that influence possible different development patterns?

*Research model*

Although internationalisation potentially may pertain to any or all facets of business activities, the most common measure for the degree of international commitment and activity in previous research has been exporting or the export rate (Miesenbock 1988, Moen 1999). The latter is the quotient of the value of export sales to total sales. The most obvious reason for this is the combination of accessibility of data, its precision, and that the measure is unambiguous.

Although this seems to be a very simplistic measure for a complex phenomenon, there are valid reasons behind such choice. Exporting requires that the firm is able to learn to trade in new business environments. New information and marketing channels must be established. In many cases products must be adapted to new specifications. Increasing rates of exporting will therefore expand the proportion of the firm's activities that needs to be adapted to the requirements of the international environment.

Our performance measure will hence be the export rate in each observation interval plus the dynamic pattern created by the export rates in subsequent observation intervals.

The deliberations above points to the combination of market opportunities and resources as stimulus for changing the rate of exporting. Resources that can be accessed internally and externally is also a prerequisite for sustaining the internationalisation process until sufficient revenue is produced. Finally the manager has to make a choice between the multiple possible combinations of resource and market opportunities.

This choice represents the volition and may, or may not, be consistent with existing strategic plans.

This research model is depicted in figure 2.

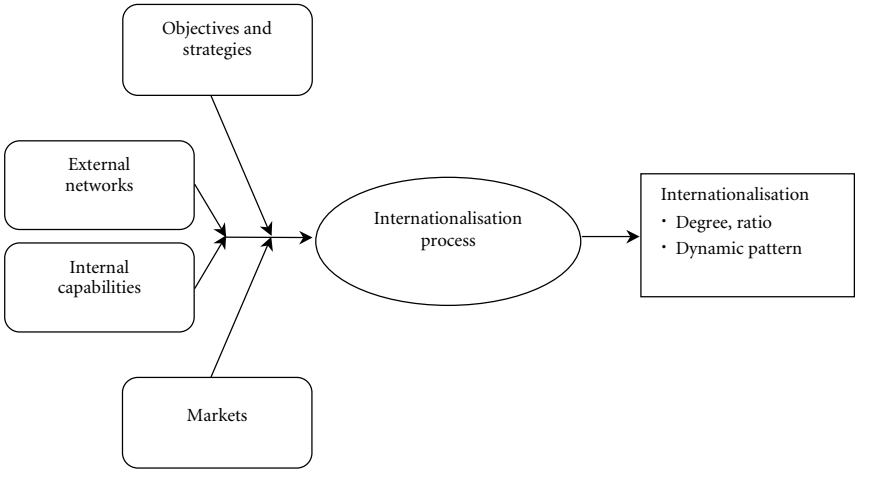


*Figure 2: Research model based on theoretical deliberations*

*Combination of two types of data*

The two research questions call for two types of data. The first question necessitates survey type data from a large number of firms. The second question calls for in-depth information, which is typically acquired through case studies. Common to both questions is that they address development processes. Due to the time lag between cause and effect and the problem of assessing the length of this, the observations of the process should be made at several points in time. Thus, longitudinal data are required for both questions.

Our research objectives are met by combining the results from two different projects, which are briefly described below.

**Interstratos project**

The purpose of the Interstratos project was to study the internationalisation strategies for internationalisation of small and medium-sized European manufacturing enterprises (Haahti 1995, Havnes 1998). The data collection was done by yearly postal surveys over the years 1991–1995, and is the richest available data set on this topic. It was conducted by an international project group[2] from eight European countries. The sam-

2 There have been some alterations in the composition of the Interstratos group since it was founded in 1991. The present composition of the Interstratos group is: Austria: J. Hanns Pichler, Peter Voithofer; Belgium: Rik Donckels, Ria Aerts; Finland: Antti J. Haahti (Chairman), Petri Ahokangas; The Netherlands: Yvonne Prince; Norway: Per-Anders Havnes, Arild Sæther; Sweden: Carin Homquist, Håkan Boter; Switzerland: Hans Jobst Pleitner, Margrit Habersaat. In addition, a number of associated researchers have made valuable contributions by using the Interstratos data set in their research.

ple was drawn from five industry sectors at three digits NACE level, and stratified in five size categories from one to 499 employees. The same questionnaire was used in all countries. The data set represents more than 20000 observations of firms. 1700 of the firms have responded four or five times and represent a true panel where the changes in each firm are identifiable. The panel data represent seven European countries.

The Interstratos data set will provide data on export rates and generic data on the firms, such as their size, industry sector and nationality.

### Maritime supplier project

This project[3] was conducted as a case study over 15 months of two small Norwegian firms. Three interview sessions were held in each firm with six months intervals. The informants were all part of the management teams in the two firms. The interviews were supplemented by quantitative data on sales, exporting and employment. The first observation included three months retrospective quantitative data. Both firms were suppliers to local shipping companies in combination with supplies to the petroleum industry, and both were between 15 and 20 years old.

*Firm A* was a family firm with 19 employees. They provided design and manufacture of pre-manufactured accommodations for new building and retrofits of ships and offshore oil platforms. Their main markets had been domestic. Just previous to the observation period, domestic markets had dwindled. Their exports had started by installations for a domestic customer at a building yard in Asia. Later this lead to a large contract for an Asian customer. Thus the export rate of firm A was high at the outset of the observations. In the final part of the observations, domestic markets picked up. Firm A then chose to return home and their exporting dropped dramatically.

Individual contracts were large in comparison with the total capacity of the firm. This necessitated co-operation in the value chain with other firms. It also led to intermittent periods of focus on manufacturing and sales.

*Firm B* had started out as a partnership with the founders active in the firm. Following long periods of external industrial owners, the firm was bought back by the employees at the final part of the observations. They had 32 employees. Their main products were instrumentation for monitoring and control of machinery and working environment. All products were designed and assembled from standard components. Their three separate markets were municipalities, land-based process industry plus shipping and offshore.

The motive for exporting was that the domestic markets were perceived to be too small for their growth ambitions. The export rate of Firm B started low and had a slow and steady growth during the observations. However, it was stated that the domestic markets had picked up very much and left no capacity to attend to export markets as much as intended.

3 Supported by a grant form Skipskredittforeningens fond for maritim forskning på Sørlandet. Elisabet Hauge, Agder Research, made significant contributions to the project.

Firm B had at any time several parallel contracts at various stages of completion. There was also a designated marketing manager.

## Analyses

### *Typology of change patterns*

A total of 988 firms in the panel data set had reported their export and total sales four or five times. Each of these firms could be assigned to one of four categories of change patterns. The criterion for categorisation was the combination of changes in their export rates in the four yearly intervals of the observation period. (1) The *non-exporters* had no export activity in any period. (2) The *increasing and stable* category held the firms that either exhibited continuous growth or had a stable export rate in all intervals. (3) The *irregular* category consisted of firms with export rates that fluctuated more than 10% from one year to another. Some of these firms also had intermittent exporting characterised by start and stop. (4) The final category held the firms whose export rates *declined* consistently throughout the observations.

The distribution of firms in these categories is set out in table 1.

| | n | % |
|---|---|---|
| Non-exporter | 430 | 44 |
| Increasing and stable exporter | 254 | 26 |
| Irregular exporter | 258 | 26 |
| Declining exporter | 46 | 5 |
| *Total* | 988 | 100 |

*Table 1: Change patterns of export rates. Number and percent of firms, Source: Interstratos*

The stratification of the Interstratos sample gives an over-representation of the large firms. This inflates the proportion of exporters since large firms have higher propensity to export small firms.[4] The percentage of exporters is therefore not essential in table 1. The interesting feature is that the two categories 'increasing and stable' and 'irregular' hold almost identical number of firms.

The increasing and stable category depicts a change pattern, which can be explained by a strategic planning approach to development. The firms can be perceived as planning the future direction of development and consistently working towards that by adapting resources and procedures accordingly.

The irregular change pattern depicts a behaviour that is irrational within a strategic planning paradigm. The volatility of exporting would be interpreted as a failure to proceed in a systematic and planned development. Each change of market would represent additional costs and loss of efficiency. An investigation of the growth in total sales indicated that there was no significant different in the average growth among the

4 A survey in 2001 found 20% of European SMEs to be exporters. The percentage varied from 19% for micro firms (0–9 employees), to 32% for small firms (10–49 employees) and 46% for medium-sized firms (50–249 employees) (European Commission 2002).

firms in these categories, including non-exporters. The only difference could be found when the irregular category was split into 'irregular' and 'intermittent' exporters. The intermittent exporters, the firms that started and stopped exporting activities, had twice the growth rate in total sales as the other sub categories (Havnes 1998).

These results were controlled for possible effects of firm size, industry sector and nationality. Although the higher percentage of irregular exporters increased with decreasing size of the firm, the irregular exporters were significantly represented also among the largest firms in the sample. Likewise, control for the effect of nationality and industry sectors showed variation, but no significant difference (*ibid*). The only possible explanation is that the irregular change pattern of internationalisation cannot be taken as a special approach that can be attributed to a small, limited and special category of firms.

The export performance of the firms in categories was also investigated by two other measures: (a) the average export rates of each of the above categories of change patterns, and (b) the growth in market extension, i.e. an index capturing the number of export markets and their distance. These measures exclude the non-exporters. Among the other change patterns the increasing and stable categories clearly scored highest on both performance measures. The sub-category 'stable exporters' in both cases had yearly results that were almost twice the average for all firms.

Hence, it seems clear that the irregular development pattern of internationalisation is not an indication of a failure mode in the total performance of the firm. This adaptation strategy is equally successful as a conventional strategic planning approach with slow and consistent development when it comes to growth in total sales. However, if the objective of the firm is to develop its exporting, the stable and incrementally growth pattern has the best potential to produce success.

The survey data of the Interstratos project is not sufficiently detailed to provide explanations for the differences that were found in the development patterns of export rates. The maritime supplier project was designed to give the necessary insight in the change mechanisms and the rationales behind these.

In the light of the results from the Interstratos project, reported above, the observed development of export rates and total sales in the two case firms is quite interesting (Havnes, Hauge 2002). The number of observations is lower than for the Interstratos data set, but figure 3 depicts two clearly different development patterns of their export rates. Firm A has is a clearly declining exporter according to the earlier categories, while the change pattern of Firm B belongs to the 'increasing and stable' category. It is not possible to ascertain from three observations if Firm A would return to export markets at a later stage, and thus belong to the irregular category.

The development of total sales gives a very different picture. Using their sales in the initial period as a reference value, we found that the two firms had strikingly similar growth patterns in their total sales as depicted by figure 4. It is quite clear by the examples of these two firms, that export sales alone cannot explain their growth in total sales.

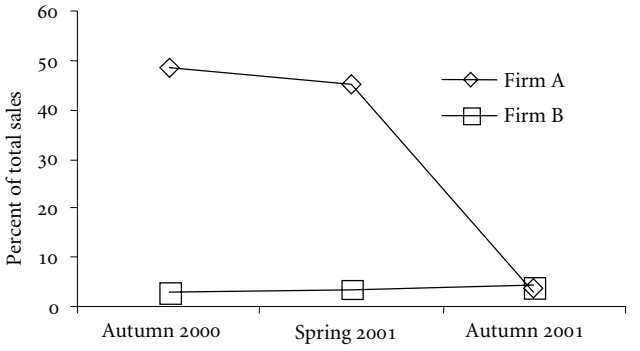


*Figure 3: Development patterns of export rates, two maritime suppliers*

Significantly, the development patterns of the two case firms are consistent with the patterns established by the analyses of the large data set of the Interstratos project.

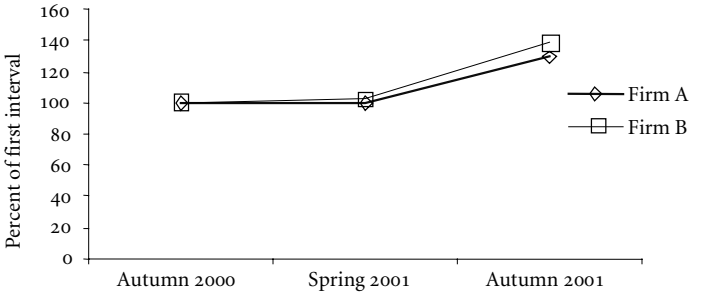


*Figure 4: Development pattern of total sales, maritime suppliers*

*Explanatory factors*

The insight acquired in two case studies can only provide suggestions for explanations, which needs to be verified by further research. However, the responses to our questions as well as unsolicited comments, were nearly 'real time' accounts of the actual decision inputs. This information has only to a small extent been corrupted by time. Neither had its detail been diluted by statistical manipulations. While, on the one hand, caution should be made due to the limited number of cases. On the other hand, boldness is required to take advantage of the rich detail of observation.

In light of these reflections, we propose a few factors, which potentially may be part of the explanation for the different development patterns

*Market influence*

The assessment of markets and the philosophy for adapting to market development were clearly different in the two firms. Firm B assessed domestic markets to be to small to sustain their growth strategy. Their international engagement was therefore based on

a strategic plan. Their shipping products supplied to Norwegian ship owners were already exposed to international competition. It was a rather small step to use their reputable domestic clients as references and open deliveries through foreign shipyards and directly to foreign ship owners. However, during the observation period, the domestic markets picked up so much, that they did not have sufficient resources to follow up their ambitions for growth in their exporting.

The situation for Firm A was quite different. They had experienced that their domestic markets dwindled immediately preceding our observations. This had been compensated by deliveries to a domestic customer at an Asian building yard. With this experience combined with advice and references from the Norwegian client, Firm A was awarded a large contract for an Asian customer. After our observations started, the domestic markets picked up again. Firm A used this opportunity to return home to perceived lower marketing costs and lower market risk. Thus, the exporting was a clear survival strategy for Firm A.

Common to both firms is that irrespective of presence or not presence of strategic plans; the actual market development was the deciding stimulus for their engagements in export markets.

*Product structures*

Firm A had only a few products and their individual contracts were generally very large compared to their total capacity. This meant that only a few orders were simultaneously in production different stages of completion. Completion of each contract could take several months and often required special financing. The intermittent attention to marketing and sales also allowed large fluctuations in the market between each period with high focus on sales.

Firm B had several products and product lines. The individual order was typically small compared to the total capacity of the firm. Several orders were at any time at different stages of completion. There was a steady cash flow from recent deliveries, which was sufficient to finance the orders in production. The high number of orders at any time necessitated continuous attention to marketing and sales. Therefore Firm B to a large extent could make small and gradual adjustments to market development.

*Management structures*

Due to the intermittent functional requirements in the value process of Firm A, the technical manager at different times filled the roles of designer, manufacturing manager and sales manager. This gave little opportunity for functional specialisation and for developing systematic planning and control instruments. The small size of the firm also contributed to a low degree of managerial specialisation.

The continuous sales activities of Firm B were sufficient to warrant a full-time marketing and sales manager. There were, furthermore, specially dedicated managers for design and for support systems. They also had dedicated personnel for different segments of customers. This functional specialisation of the management was also reflected in more explicit awareness of policy and strategic direction. They also had more elaborate managerial control systems than Firm A.

*Networking*

The external networks were used differently by the two case firms. The main purpose of the networks of Firm A had been to increase their capacity and extend the value chain. In spite of former failures, a new partnership was made during the observation period to increase the capacity for one product line. Firm B, on the other hand, used their networks mostly as channels for marketing intelligence and feedback on product performance. They had a policy of independence from individual suppliers of components.

The former and present clients were used actively as informants on market development and future product requirement by both firms. Their clients also agreed to be references to future clients.

There seemed to be a difference between the network relationships that could be activated at need, and the relationships that were in active use. Thus we could distinguish between a 'current operational network', which was smaller than the 'available network'. It was our impression that both firms 'activated' passive relationships or established new relationships as a consequence of their current operational requirements. Thus, changes to the current operational network appeared to be an effect of, more than the cause of, changes in the primary value creation process of the firm.

## Discussion and conclusion

*Validity*

It is always pertinent to assess validity of research results, and especially so when results from two research projects are aggregated. In the present paper several differences in sampling and method needs to be considered.

The two case firms were not included in the Interstratos panel. However, their nationality, size and industry sectors are consistent with the categories that sample. The time lag between the Interstratos observations and the case studies, do influence important sides of the economic, political and technological frameworks for the internationalisation process. However, there were also considerable changes in these factors in the five-year observation period of the Interstratos project. The observation intervals of the case study were half the length of the intervals of the Interstratos project. Shorter observation intervals will generally inflate the effects of random fluctuations. In these analyses, however, the magnitude of fluctuation was not an issue for the case study.

In sum we therefore hold it probable that there have not been sufficient changes in the external factors to invalidate the comparison. Neither will the differences in research method invalidate such use of the results.

*Theoretical implications*

The most striking result for theory development is that we have empirically confirmed two different approaches to firm development. The one is consistent with the traditional strategic planning paradigm; the other is consistent with the entrepreneurial paradigm. The main observable difference lies in the consistent and gradual pattern or

the volatile pattern of change in the observed performance variable, such as export rates. Importantly, the change pattern at a detail level, such as exporting, has no significant on performance on aggregate level, such as total sales. The results from the case study are fully consistent with the results from the panel study.

The current and perceived immediately future market conditions were found to be decisive stimuli for changes in market orientation, such as internationalisation. This factor overrides the effects of strategic plans and possible personal objectives of entrepreneurs. It is one more reminder of the importance of the context for interpreting any business development.

The case study also suggested another factor with important moderating effect on the development of internationalisation. The product and contract structure, i.e. the task structure, could to a large extent explain behavioural differences. The important factor here seemed to be the ratio between the amount of resources required for individual tasks and the total amount of available resources. Few and large tasks are consistent with entrepreneurial management procedures, many and small tasks are consistent with strategic planning procedures.

*Policy relevance*

The ability to reorganise and redirect resources for other purposes contributes strongly to the flexibility of SMEs. This is also widely recognised as important for the competitive strength of SMEs compared with LSEs. So far most of the support services for SMEs, as well as the contents of most training programmes, have been based on a normative interpretation of the strategic planning paradigm. The most important general lesson from this research is that just as many firms find their success by exploiting their flexibility through an entrepreneurial approach. The mechanisms that are typical for the entrepreneurial approach should therefore be included in the support service programmes. There should also be a stronger emphasis on this in all categories of training programmes.

In specific relation to internationalisation, this research also suggests some important issues. First of all the two seemingly similar case firms had very different conditions for their internationalisation. In order to be successful, a support programme for internationalisation must include highly differentiated measures to be able to attend to the real problems of its users.

For some firms external financing of the manufacturing periods for large contracts is required. When this is combined with working for a new and foreign customer, the risk element is often higher than the collateral available to the firm. The only way to overcome this for firms that start up their internationalisation, is to strengthen publicly export guarantee programmes.

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# Strengthening the competitive edge of SMEs through new regional and local measures

Pertti Kettunen

> Productivity and competitiveness are the commanding processes of the informational/global economy. Productivity essentially stems from innovation, competitiveness from flexibility.
> *Manuel Castells*

## Our global and local world

Globalization continues to advance favouring the globally dominant players in every field, in nations, international trade, culture, and even science. The big players set the rules of the game. Even if the peripheral areas might get jobs and employment from tourism or some other industries major development benefits go to the dominant players operating from global centres. Polarization is deepening globally in all aspects of economy and society. There appears to be no end to this development. Gloomy thoughts like these can be found in recent discussion about globalization. Bourdieu states in one of his last speeches (Bourdieu 2001, p.2): "And this politics, like its level that which led to the birth of national markets, has the effect (and perhaps also the goal, at least among the most lucid and cynical of neo-liberalism's defenders) of creating the conditions of domination and brutally confronting the agents and the enterprises previously enclosed in national limits to the competition of the most efficient and powerful productive forces and means of production. Thus, in emerging economies, the disappearance of protections dooms national enterprises to ruin and, for countries like South Korea, Thailand, Indonesia or Brazil, the suppression of all obstacles to foreign investments involves the breaking up of local enterprises, then purchased often at ludicrous prises, by multinationals."

Casells (2000b, p.373) states: "[T]he new system is characterized by a tendency to increased social inequality and polarization, namely the simultaneous growth of both the top and the bottom of the social scale. This results from three features:

a) A fundamental differentiation between self-programmable, highly productive labor.
b) The individualization of labor, which undermines its collective organization, thus abandoning the weakest sections of the workforce to their fate, and
c) under the impact of individualization of labor, globalization of economy, and delegitimation of the state, the gradual demise of the welfare state, so removing the safety net for people who cannot be individually well off."

A few pages later he sums up the process by adding (Castells, 2000b, p.385): "The global economy… will penetrate all countries, all territories, all cultures, all communication flows, and all financial networks, relentlessly scanning the planet for new opportunities for profit making. But it will do so selectively, linking valuable segments and discarding used up, or irrelevant, locales and people."

These are not rare or isolated views. Similar opinions are frequently expressed. The main point is that competition has increased. The global market tests every firm everywhere, each day, for its competitive strength. So what can be done at local and regional levels to sharpen the competitive edge of SME? Are there any other options left other than try to join national or global networks and supply chains as the last small supplier, subcontractor or local service provider? What would be the competitive advantage for the peripheral regions in Europe or in the periphery of a country such as Finland? What would be the chances to succeed as an independent local entrepreneur? Those are some of the questions which have been raised in Central Finland. In this paper I will describe and discuss some of the measures which have been taken, or could be taken, at a regional level to strengthen the competitive edge of SMEs.

**Opportunities on the local level**

The answer to the problem of the competitive strength of firms and regions lies in productivity, which stems from innovation and competitiveness which in turn stems from flexibility as argued by Castells. Other researchers express basically the same idea by talking about continuous change, about learning organizations or even learning towns and regions. (Easterby-Smith, Burgoyne, Araujo 1999). Parallel to globalization there are also other forces working. These are, in terms of Drucker (1993, p. 128–141) and others, regionalism and tribalism. Nation states continue their existence but are losing part of their mandate to both transnational organizations and regional and local actors (Amin, Thrift 1994). The world might well be global and local at the same time. Even Castells (2000a, p. 123) has an optimistic view to offer when he states: „What is fundamental in this web-like industrial structure is that it is territorially spread throughout the world, and its geometry keeps changing, as a whole and for each individual unit. In such a structure, the most important element for a successful managerial strategy is to position a firm (or a given industrial project) in the web in such a way as to gain competitive advantage for its relative position." Amin and Thrift (1994, p. 14–15) use the term 'institutional thickness' to describe the social and cultural factors, which are at the hearth of economic success. These factors are according to them:

a) Institutions locally present, firms, training agencies, local authorities, development agencies, innovation centres, etc.
b) High level of interaction of these institutions
c) Awareness that all are involved in a common enterprise.

Malecki (1994, p. 125–126) argues that what is important for regional development is

a) Good industrial structure and mix
b) Local technological capability, and
c) Entrepreneurial climate.

The importance of entrepreneurial and innovative culture is also the main point in the paper of Camani (1995) when he examines the concept of innovative milieu in weak economic contexts. He can both theoretically and empirically confirm the relevance of the 'innovative milieu' for economic development even in adverse locations.

The global market tests every firm and every region every day. The prior theoretical and empirical research, of which only a few examples have been mentioned here, has proved that the critical survival and development factors for local and regional development are to be found in technology, innovation, knowledge and learning but that at least as important is the local entrepreneurial culture and local, living networks. From this point of view I will evaluate the situation in Central Finland and examine the measures taken there.

**What has been done in Central Finland?**

In Finland municipalities have great autonomy but at the same time responsibility to provide all the basic welfare services from education through to health. On the regional level the organization representing regional interests is the Regional Council. It is an organization of all the municipalities in the region. The regional council is the authority responsible for regional development and land-use planning. It is however a weak organization. It has very limited resources and a limited authority.

Central Finland has a population of 260000 half of which live in the neighbourhood of Jyväskylä, and an area of 19400 km$^2$. The Regional Council of Central Finland comprises all the 30 municipalities of the region. The average size of a municipality is less than 9000 inhabitants and outside Jyväskylä about 6000 inhabitants. The smallest municipalities have less than 1000 inhabitants. In Central Finland only the area of Jyväskylä thrives. It is one of the five rapidly developing centres of Finland. It is also considered to be one of the best cities to live in Finland. Some of the neighbouring municipalities also develop in the wake of Jyväskylä, but more than 20 municipalities have difficulties in their development. Many of the them are losing population, and have high unemployment and too few new enterprises and entrepreneurs. All this creates also problems in financing and organizing the welfare services for the remaining population.

The Regional Council of Central Finland has stated as its vision: *Central Finland is a region of opportunities and quality of life which builds its future on knowledge and skills.*

The vision indicated even in this short formulation is that knowledge i.e. education, research and technology is the driving force of development. The problem of an organization like the Regional Council is that it has very few tools to make its vision true. It has no authority over the players in Central Finland whether these are firms, municipalities, other organizations or individual citizens. It may create opportunities for business and individuals through infrastructure development, and it may organize and acquire financing for development programmes, and even enhance the quality of life by various measures from housing to social services acting on behalf of the member municipalities. The most important way it can have an effect on future development is by pointing the way to the vision, and creating such an enticing strategy that other players accept the challenge as part of their own strategy. In this work more is needed than providing resources and coordinating the work of these regional players. What is needed foremost is the will and motivation to work for regional development and impact on the entrepreneurial culture in the region.

To move from this vision statement to credible strategy there is no easy or short route. Looking at the previous theoretical work and the current situation in Central Finland, I have identified as critical success factors the following.

a) Facing the cruel facts

1. Polarization of Jyväskylä vs. the rest of the region
2. High unemployment
3. Diminishing population in most of the municipalities
4. Ageing of population
5. Problems in financing the welfare services
6. Much too thin network of SMEs.

The cruel facts are well known but not actually faced other than in speeches.

b) Admission tickets for the survival game of global competition involving high quality

1. Base of existing viable companies
2. Transportation and communication network
3. Business services
4. Primary and vocational education
5. Social services
6. Living environment.

The requirements are mainly satisfied although there is still need for improvement at certain points.

c) Critical resources for success

1. Thick institutional resources, technology centres, training centres, development companies, government development agencies, university, polytechnics, specialized vocational schools etc. and cooperation between these
2. Networks of enterprises and entrepreneurs in all industries
3. Networks of regional developers and discussion forums for grassroots level strategic issues.
4. Funds and financing channel for development projects and investments.

Critical resources are not on the level, which would be needed for rapid development. The institutional resources are not as strong as could be hoped for especially outside Jyväskylä and the cooperation between institutions is not well developed.

d) Critical success factors

1. Identity and image as a region of opportunity and quality of life
2. General atmosphere of confidence and trust to the future in spite of the cruelfacts of today
3. Living, discussing and spirited networks of entrepreneurs, developers and general public
4. Innovation nurturing atmosphere

Critical success factors are difficult to pin down exactly and even more difficult to transform into programmes and policies. The core of the problem lies in here, because without these success factors the development will be based on individual entrepreneurs and developers work and will be much slower than it should have been.

SMEs play an important part in the regional development strategy. One of the main points is to enhance the entrepreneurial culture and aid the development of the com-

petitive edge of SMEs. It is represented in every point of the list but especially in a6, b3, b4, c1, c2, d3, d4. It is worth noting, that strengthening any small business is not a separate or isolated programme or project. It is part of the overall development strategy of the region.

Between 1995–2001 the regional development strategy of Central Finland has relied on two basic and pillars. The first one was strengthening the formation of SME networks in selected industries and the second is raising the level of technology and education. Local funds from companies and municipalities plus a considerably amount of EU and national funds have been the resources for financing the projects of the strategy. The most important industries, where there already is a viable base of firms in Central Finland are machinery industry, wood based industries, printing industry and electronics industry. On each of these industries one or a few core firms could be identified. These and in addition craft industry and tourism were selected as the industries where special development programme was organized. For each of these industries a full time developer was appointed. His/her main task was to further the development of regional production networks and clusters within the region and to organize relevant training for the firms. All this was done in a firm driven way so that their needs and requirements were decisive in the programme. The core companies were big firms like the Metso paper machinery plant in Jyväskylä, number 1 in big paper machines in the world, the Valtra tractor plant in Suolahti, Valtra being number 5 in the world market etc. The programme of production network construction was a success. Especially in the machinery industry a strong regional production network was created, even a cluster of the smaller companies located next to the Metso paper machinery plant, the so called Teräs-Sampo cluster. The machinery industry is now the fastest growing industry in Central Finland. Training was partly organized as company-specific but in most cases locally or regionally for several smaller companies at the same time. Training programmes were long ones and they also brought companies and their representatives together and aided in creating company networks within industries.

Technology, knowledge, and skills development was done by financing research and new degree programmes at the University and Polytechic of Jyväskylä. Programmes in entrepreneurship, marketing, information technology and applied science (paper technology, nano technology etc.) received new resources in particular.

What was done in 1995–2001 can be summarised in two ways.

a) Organizing and financing knowledge and skills development at the university and polytechnic
b) Organizing and financing the development of production networks in selected industries.

These belong in the list above as c1 and c2. Both were successful and each promoted the development of SMEs in Central Finland.

In the new strategy for the future from 2002 to 2010 there is one new industry in the list of target industries, namely business based on welfare and health. This has been added due to the fact of the increased importance of that sector in a nation of increasingly aging population. Additional importance for this business gives the fact the University of Jyväskylä is the only university in Finland, which has research and education

on that field in the Faculty of Sports and Health Sciences. In addition there are already in Central Finland a number of institutions providing services in this field. This new industry will be also very interesting for SMEs. They will be able to build networks and clusters with bigger companies in the field.

Another new way of thinking development for the next planning period is specialization of municipalities. Locally municipalities have selected their own specialization strategy according their strengths. This specialization field directs their business development policy and also their application for EU funds if eligible. In the northern part of Central Finland the choices has been based on utilization of natural resources, wood, peat, stone, tourism etc. Closer to Jyväskylä there has been a wide variety of strategies. One community has decided to advance business in the field of health and recreation. They have already an excellent and thriving golf course and a rehabilitation centre. The municipality has as its strategy to build on this and to create a cluster of services linked with this already existing core. Another has a vocational school in the arts and crafts field and this municipality, which is very small, has a strategy to of advancing entrepreneurship among students in order to help them in establish their own firms.

There is also one new line of knowledge and skills development. This is the transformation of vocational education. This involves taking an entirely new look at vocational education. Education will be seen as an continuing activity, which takes place in most cases at the work and in the firms. There will be new type of learning facilitators working at firms. Of course there will be vocational schools, which give the basic skills, but even these will see more cooperation between firms and vocational schools.

My opinion is that so far this is all fine, but by adding two missing parts into the total picture we would have five new lines of action.

a) Transformation of vocational education
b) Organization and financing of programmes to develop business based on health and welfare promotion
c) Specialized and targeted municipal business promotion strategy
d) Creation of an atmosphere of optimism and trust in the future of Central Finland
e) Vitalization all existing networks, creating discussion forums and a special network of developers.

**Have the measures had any effect?**

The first part of the strategic programme from 1995 to 2001 succeeded best in two respects. Network construction in the machinery industry, and promotion of research and teaching in entrepreneurship, marketing, information technology and applied science, were the most successful strategies. The help the small firms had in creating production networks and raising their competence to join the global networks created new firms and helped many grow fast. The funds the University and Polytechnic received were crucial in adding new research units and degree programmes to these institutions thus increasing the knowledge base available for firms. As a result of these programmes a number of new small technology, software and service companies have emerged.

The next phase will add new measures to these already tested methods. The most promising will be the transformation of vocational education which will increase the quality of the working population and especially entrepreneurship as the example of the Team Academy already has proved, and the municipal specialization which will create clusters of small firms around the existing core strength of each respective municipality has.

What I personally would like to be added into the regional strategy is more networking among all entrepreneurs, SME promoters and developers, more discussion and more discussion forums. The problems of entrepreneurship are to great degree problems of culture, problems of climate and problems of interaction.

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# Individual and collective entrepreneurship for SMEs: The case of "French Exception"

Michel Marchesnay

To the community of scholars on SMEs, entrepreneurship, and more generally on capitalism, France appears as almost heterodox, exotic, and impossible to understand. For instance, Fukuyama classifies France as a *no trust society*, hostile both to entrepreneurship (people preferring a riskless job – such as civil servant) and to the *Profit Society* ("*dirty money*", said President Mitterand). As a result, international comparisons on entrepreneurship and SMEs research avoid any reference to the French case – such as, for instance, in Michael Porter's studies on European clusters.

What we name *the French Exception* may be defined by means of the following features:

- State power, implying exceeding bureaucracy, overcentralization, technocracy, economic interventionism, *enarchy* (inspired by ENA: National School of Public Administration – in fact training CEOs. for the main corporations in the private sector)
- Weak legitimity of business activities, compared to the public ones, and, consequently, one of the weakest rates of entrepreneurship in the World, as shown by Thierry Volery (GEM Report 2000)
- Propensity to protect activities and get *situations for life*, which is called *corporatism,* inherited from Middle-Ages.

Fortunately, reality is more complex, as we tried to show during the last conference at Lugano, focusing on the French entrepreneurial profiles, and the figure of the *enterprising entrepreneur*.

In this present contribution, I intend to go further into the key factors of success for collective behaviours of smaller business firms working inside a territory, in spite of the so-called *French Exception*. Namely, besides more classical clusters or districts, I shall mention what are called *produits de terroir* (regional produce).

At a first glance, *terroir* may be defined as a territory benefiting from specific resources, due to a specific combination of nature and people (habits, tradition, abilities). Insiders, as long as they obey legal rules, get an official label, not only guaranteeing consumers both quality and *distinction,* but also a situation for life for producers.

The best-known example of such a *terroir produce* is Champagne. The brand *French Champagne* is allowed only for the harvest made inside a strictly delineated wine yard, around the town of Reims. Champagne is produced partly by small producers *(propriétaires-récoltants)*, with their own brand, and partly by large houses *(maisons)*, owned by big financial concerns, agro-food and luxury industry (for instance, the French conglomerate LVMH: Louis Vuitton-Moët-Hennessy). Enjoying highly profitable brands, such as the well-known *Veuve Clicquot,* joint limitations in space and productive returns create stable monopolies and ricardian rents.

Observing industrial districts, Alfred Marshall also pointed out various local factors contributing to success: space, communications, specific abilities of workers (as in the Sheffield District), and the synergetic effect of *externalities* (including tacit knowledge) for local entrepreneurs. Nowadays, the Italian School re-visited the Marshallian districts, and, more recently, Michael Porter, writing a modern *Inquiry on the Nature and Causes of the Wealth of Nations,* re-discovered the clusters at a world wide level.

What is meant here by the so-called French Exception implies that, besides "objective" factors, such as land, climate, habits and abilities, history and tradition, and so on, public institutions and legal regulations intervene to protect well-defined produce and producers (for instance the *vrai camembert de Normandie,* produced in the *Pays d'Auge*).

For the defenders of free trade, this legal protection appears, not only heterodox, but even paradoxical: if resources are assumed to be idiosyncratic, it would mean that they are, per se, not imitable, not tradable, and valuable. So, consequently, that they would not need any artificial protection. Moreover, such a protection deters entrepreneurship, i.e. new ventures, innovation, risk assumption, new capabilities, and so on.

Unlike this true tradition of corporatism, entailing overprotection of craft and traditional activities, added to multi-secular state interventions, there fortunately exist in France individual and collective entrepreneurship experiences within territories. More precisely, French society not only is faced with world wide competition, but has to adopt the supranational rules edited by Brussels and the World Trade Organization promoting free trade.

The recent debates in strategic management have given us tools for a more accurate explanation of the dynamic relationships between actors, space and history. Namely, we refer jointly to such methodologies as *telling stories, constuctivism,* contextualism, co-evolution, and to the debates between *resource-based-view* and *core-competence-approach* (including intermediate concepts, such as knowledge, capabilities, routines, and so on). Thus it appears to be a good opportunity to apply those emerging (and disputable) theories to both SMEs and entrepreneurial strategies.

First, I shall describe more thoroughly the specific features of the *terroir produce,* in the French context . Then, I shall interpret the *terroir* as a strategic process, requiring, to be successful, the dynamic connection of three components: historical roots, spatial idiosyncrasy, and collective entrepreneurship. I shall take real examples, showing that the *terroir* lies at the heart of the dilemma between *global* and *local* competition, as we shall see with the enlightening *Mondavi case.*

## 1 The terroir produce, a peculiar local productive system

French scholars on regional development have suggested the following definition of the *entreprise de terroir:* "a firm getting its specificity from extremely intensive links within a given territory, identified by physical (geographical and 'agro-climatic'), historical and social, i.e. cultural, characteristics" (Rastoin and Vissac-Charles 1999).

The INAO (National Institute for Control of Origin: *Appellation d'Origine Contrôlé – A.O.C.*) gives a more restrictive definition, focusing on physical specificities (land,

climate), and, so on, on the agro-food activities. Nevertheless, AOC includes some craft manufacturing activities.

Scholars in geography adopt a more extensive definition of terroir, by reference to the famous (and ambiguous) concept of *embeddedness*, due to Granovetter. The *terroir* firm (*entreprise de terroir*) is viewed as embedded in a network of social relationships, offering an outstanding identity of the triad market-product-territory (cf. wine from the Champagne region, camembert from Normandy). It implies the existence of idosyncrasic data (natural resources, distinctive competencies), due to environment or actors.

Then scholars in ethnology introduce a cultural dimension, linked to history, habits and customs, so contributing to a better explanation of the actual building of such a territorial identity.

The *terroir* must be distinguished from other specialized productive areas. For instance, the European Community intends to promote *Local Productive Systems (Systèmes Productifs Locaux – SPL)*, namely, areas, around medium-sized towns, welcoming SMEs specialized in similar activities – a similar concept to that of Porter's cluster one. In my opinion, the results appear almost deceptive: the French *labelled* SPL, for the most part, lack idiosyncrasic resources, high specialization and distinctive competencies.

The County of Vimeux (Pays de Vimeux) offers a more accurate example of *specialized local system*.

The area, near the Channel and a Natural Park, includes small villages, far from highways. During the Sixties, all the local medium-sized family firms competing in the ironwork industry failed. The unemployed workers, benefiting from a high *class consciousness* (they all vote for the communist party) decided to create new activities, based on their knowledge of foundry and ironworking. They built a network of very small family business firms, each one specialized in manufacturing taps.

Nowadays, the County of Vimeux has got leadership in France (90% of the national output) and exports taps of all sorts world wide. This case is enlightening, because there was, a priori, no *rational logic* to develop here a local productive system: lack of natural resources, of *capitalist mentality*, of financial supports, of externalities, etc. Nevertheless, they possessed a core-competence (a craft skill – *tour de main* – in foundry and ironwork), and, above all, high socialization.

In other words, the process of individual entrepreneurship was induced by a collective spirit of enterprise: everybody, specialized in the manufacturing of one piece of tap, appeared dependent on the other ones, and willing to transmit his tacit knowledge to parents and employees.

## 2 The terroir produce: a specific strategic group

The interest for *produits de terroir* is increasing in the agro-food industry and retailing, for some prominent reasons. Indeed, this industry may be classified into three major strategic groups:

- Convenience goods, highly standardized, with economies of scale, focused on lower costs and prices, implying a *strategy of volume* .
- Branded goods, highly differentiated, focused on increasing marketing costs (advertising, supply chain, retailing, etc.), implying a *strategy of differentiation*.
- Targeted products, highly standardized, focused on targeted customers, requiring high costs of innovation and services, implying a *strategy*, either of *fragmentation*, or of *specialization.*

Those activities remain in the realm of agro-food big concerns (including integrated SMEs). For the most part, their average profitability has steadily declining in advanced countries.

Consequently, big corporations are searching for new businesses, nearer the expectations of *modernist consumers*, and implying a *strategy of distinction*. They try to invade three new highly profitable and innovative *competitive arenas:* the need to protect the environment (green market, *produits bio* in French), the need for care and health (care-food products – *alicaments* in French), and, ultimately, the need for *authenticity*, i.e. for tradition, enjoyment, nature, craft, (*produits de terroir*, used here as a generic word).

But craft reminds us of *crafty*…: the use of the word *terroir*, above all by big industrial and retailing firms, reveals ambiguous. Then, consumers have no guarantee that the product was actually made by individual firms, using idiosyncrasic resources and craft competencies within a given territory. The trouble is compounded by the fact that more than half of the SMEs in the French agro-food industry are owned by the biggest corporations (Danone, Nestlé, Besnier, etc.), and that most of them are highly dependent on the big retailers (Carrefour, Casino, etc.).

In such a context, the official label AOC appears as a way to protect both the individual SBF and the consumer. To get it, the producers have to accept strict conditions, implying a two-stage process. The first one is collective, meaning that the label is given for one territory, resulting from a complex bargaining process between the *experts* and the *actors*. The second one is individual: each applicant has to adapt his business to the *AOC rules*.

In other words, we are faced with a strategic process. As mentioned above, strategic research has integrated, besides modelization, *the art of muddling through*, introducing, besides the *strategic content* (what is strategy ?), the *strategic process* (how is strategy built?). The *process paradigm* may be divided in three approaches:

- *Cognitive approach* intends to explore the strategic decision making process. It may be divided into individual *rationality* and collective rationality. It implies different methodologies, according to the *schools*, such as cognitive maps, *telling stories*, action or participative research, in-depth interviews, and so on. SMEs and entrepreneurs appear to be very accurate research fields for such studies.
- *Network approach* is centred on various levels: individual network, built around either one actor, or interindividual relationships, and the network itself, designed as a *system*. Networking may be restricted to the competitive arena, or may be extended to societal institutions and actors intervening in strategic choices.
- *Entrepreneurial approach* investigates such processes as new venturing, innovating, risk-taking, new organizing ways, training and enhancing entrepreneurship, and so

on. Entrepreneurship is first observed at an individual level (what an entrepreneur *is* and *does*), but also at a collective one (to what extent is a given society, or community entrepreneurial?). Here again, SMEs and individual entrepreneurs are shown to be an outstanding field of research.

Then, using real cases, we shall apply, one by one, those process approaches to the enterprises of *terroir*. We assume that successful strategies *de terroir* are the result of a combination of cognitive, networking and entrepreneurial processes, linking time (local history), *milieu* (local environment) and *habitus* (local tradition). The failure is a result of a lack of one of those components.

## 3 The produit de terroir, as a success history

Unlike the dominant positivist view of strategic content, the emergent cognitive school has centred attention, not on the *objective facts*, but on their *subjective perception* (representation) by decision makers, and, more generally, by local stakeholders. Following Hayek, it is assumed that "what is important, is not what 'are' the facts, but what people 'think' they are".

For instance, the *success story* appears as a tale (often, a fairy tale…)aiming to reveal the unusual, original, idiosyncrasic process, starting from the origins of the product, in ancient (historical) times, to the present situation. The discourse is built to enhance the *distinctive character* of the produce, according to the Italian saying: *Se non è vero, è ben trovato* (if untrue, it's well found). This distinctive character is based on three historical arguments:

- Existence of idiosyncrasic natural resources, entailing entry barriers and ricardian rent.
  - For instance, near Montpellier, since the Middle-Ages, a *pottery center* in a small village, Saint Jean de Fos, benefited from the high quality of clay. The cheese of Roquefort is said to be produced only in local caves of Roquefort, assuming that they benefit from a local "micro-climate" to produce *fleurine* (fungus). Around the small village of Camembert, the grass would have special features, and so on. We shall further observe the same argument for the peppers from Espelette.
  - Most often, the birth of the produce is told with picturesque details, such as the story of a shepherd forgetting a cheese in the cave of Roquefort (mentioned by Tite-Live, a Roman historian). More picturesque is the story of the *Camembert*: dur-ing the French Revolution, a royalist priest is said to have got the "secret" from a "grateful" (?) woman farmer, Marie Harel. The "secret" of Champagne would have been discovered by a monk, etc.
- Existence of distinctive competencies, resulting from long-term training, and transmission of tacit knowledge (the so-called *secrets de fabrication*, or *tours de main*).
  - For instance, potters in Saint Jean de Fos acquired a craft skill and a regional reputation in the work of specific products, such as varnished tiles, until the end of the nineteenth century. Nowadays, the handmade work needed to nature champagne wine appears as a way to increase the "distinctive competence" of French producers.

· Existence of a distinctive competitive positioning, implying it fits well with assumed competitive advantage. In other words, the *produit de terroir* is located in a niche (more than an interstice, according Penrose, or a market segment), responding to tacit or explicit needs of some consumers .
  - For instance, it will be different to buy, in place of a standardized fromage de Brie (so-called declared "king of cheeses" by the King of France François the First), a *Brie fermier* (produced in a farm), rare and expensive, sold in luxury or specialized grocer's shops (such as Fauchon, Hédiard).

The mix between these three components of competitivity may be sized by way of *discours*, made up of tales, stories, articles, specialized reviews, books, movies, etc., to celebrate the *terroir* produce. As in corporate culture, myths, heroes, sagas, etc., are present (remember the "secret" of camembert).

But the local products may be highly vulnerable, and even disappear. The prominent risks are the following ones:

· Technological obsolescence: the handmade tiles were replaced, at the beginning of the twentieth century, by mechanic tiles, less expensive, manufactured in Northern France.
· Changes in consumers' tastes or habits: for instance, French consumers drink less cognac, or they prefer increasingly standardized and cheaper cheeses.
· Uncertainty concerning quantity (linked to harvest) and/or quality. For instance some cheeses of *Terroir* (such as Reblochon) were declared riskier, due to fungus diseases (*listeriose).* Moreover, the expertise needed to be a *connaisseur* (for instance in oenology), increases the transaction cost, entailing limits to market expansion.
· Climate of *hypercompetition* induces an improvement in quality/price ratio for highly standardized food products (for the most part, produced by integrated SMEs). Moreover, as mentioned above, many brands and logos evoke the *terroir*, inducing confusion in consumers' eyes.
· But the main danger lies at the heart of the *terroir* itself. According to the "I care paradox" described by Dan Miller, producers may be reluctant to adapt their strategy to changing events, viewing themselves as *worker elites.*

The best (worst) example is given by the case of *glove district*, in Millau, near Montpellier. Until the Sixties, gloves from Millau were among the most famous in the world, according to the French *haute couture* prestige. But both entrepreneurs and highly skilled workers were unable to react to the decline in demand. Today, only a few smaller firms remain, specialized in costly products, such as gloves for golfers. In other words, the *district of glove* has disappeared, at the time where Spanish and Italian firms developed successfully the manufacture of leather clothes.

The last example illustrates the ambiguous impact of embeddedness. The entrepreneurs in Millau may be classified as *notables*, influent, notorious people, well integrated in their social network. They benefited from a situation rent, due to idiosyncrasic resources (leather from local sheep, skilled workers), but spent profits outside their factories (the great Jean-Baptiste Say himself complained about the French propensity of entrepreneurs to build "too magnificent *batiments (*buildings*)*" – which we called "the French disease of stone and land").

## 4 The produit de terroir as an embedded networking

As we said during the last *Rencontres* in Lugano, entrepreneurs behave differently, according to their expectations relative to their trade-off between *territorial* and *competitive* legitimity (according to Max Weber's meaning). Those we named *nomad* and *isolated* are poorly embedded in their local environment; on the contrary, *notable* (locally well-known people) and *enterprising* entrepreneurs are clearly well-embedded Moreover, the so-called *enterprising* actively searches for a highly competitive position on free-entry markets, using as a competitive lever local resources, in order to get distinctive competencies and schumpeterian innovative rents.

Embeddedness refers to stickiness and positive relationships with various *clusters*. *Notables* focus their local strategy on social and institutional responsibilities (for instance representative, president of a sport association, member of Rotary or Lions, of Chamber of Commerce, etc.), besides more professional relationships (remember the famous passage in *The Wealth of Nations*, where Adam Smith notes that, most often, meetings between entrepreneurs, even for entertainment, result in "a conspiracy against the Public").

Enterprising entrepreneurs are more willing to benefit from local potential resources: natural resources, knowledge of economic and institutional actors.

On a report for OECD relative to the French technology transfer system, we suggested the following typology:

- *Tutelar* actors, in charge of public regulations, potentially or willingly offering various resources, as: financial supports, technology transfer, market studies, public education and learning, etc.
- *Partnership* actors, working with the firm, such as: materials, equipment and operational services suppliers, subcontractors, retailers, big clients or customers, etc.
- *Expert* actors: advisers, counsellors, research laboratories, etc.

Empirical studies on innovative (enterprising) entrepreneurs confirm higher density of both their environmental scanning and local networking, in spite of the fact that their market extends out of region, until even at a world wide level, concerning *nanomarkets* (very small markets). Unlike to other ideal types of entrepreneur. They *build* their own environment with economic actors, recoursing to outsourcing practices:

- First, to avoid growth (and, consequently, loss of autonomy)
- Second, to benefit from skilled supplier abilities
- Third, to avoid wasting resources and energy in unprofitable operational activities.

But a such innovative and embedded strategy implies that there exist, on the territory, a set of entrepreneurial actors, and, ultimately, collective entrepreneurship. This is the result of a *mix* between *social* and *economic* networks, implying a *common knowledge* and *collective routines and visions*.

The following case of the *Pepper from Espelette* gives an accurate illustration of such a successful process, contributing to build jointly collective and individual entrepreneurship.

Espelette is a small village located in the French Basque County *(Pays Basque)* near the Spanish border, and Spanish Basque county. The valley is separated from the At-

lantic Ocean by hills, leading both to a warm and humid climate, year round. It comprises around ten villages.

Since the early times of the discovery of the Americas, the Basque people migrated to Mexico. When they returned home, they brought back the culture of maize (corn in U.S.) and peppers. Until the Sixties, peppers were the prerogative of wives in the valley: they sold their produce to earn a *discretionary* revenue. During the harvest, the whole village was involved, there were traditional festivities. Red peppers dried along the white walls of Basque houses, enhancing the traditional (and touristic) image of the produce.

After the Sixties, dominant activities (maize culture, sheep rearing, tuna fishing, craft industries) declined sharply, at a time when the tourism industry on Basque Coast was expanding .

Enhanced by the rise of Basque regionalism, around language, habits, old traditions, some social and economic actors intended to promote the *famous* Piment of Espelette, and to strictly limit the brand to those locally produced inside the valley.

The project was primarily supported by *non economic* and public actors. The mayor of Espelette, representatives, executives of the Chamber of Agriculture, etc., sold the project to the inhabitants. They developed a communication strategy around the *Pepper*, including festivities during summer holidays, an *Order of Pepper of Espelette* welcoming local and national personalities of sport, politics, entertainment. Besides this *public entrepreneurship* (may be, illustrative of *French Exception*), public researchers on agronomy improved the distinctive features of the local pepper, resting on the idiosyncrasic climate, warm and rainy, declared unique in France.

The process was more complex than expected. According to a French tradition, named *parochial spirit (esprit de clocher)* rivalry between the ten villages prevented cooperation around a common project. Fortunately, the entrepreneurial spirit of public stakeholders (and, may be, linked with a common rivalry against the neighbourhood…) facilitated an emerging conscientiousness that *gardening for women* appeared as a profitable opportunity in a renewed economic context. Moreover, the Basques benefited from an old tradition of cooperative organizations and of self management in each village, linked to anarchism (remember Spanish Civil War).

By means of councils and meetings, a building process of *terroirisation* was conducted until obtention of the AOC (official registering of controlled origin). But, at the same time, a building process of individual entrepreneurship emerged. Each producer realized his self interest to adhere to the rules needed to get, for his own production, the label AOC.

In other words, he became an entrepreneur. Each one decided, inside those compelling rules (no greenhouse production, no fertilizer, no machine, limited areas, etc.) to market his own production, under his own brand. Each one chose his own retailing channel and delivery system: some preferred direct sales, on site or by mailing; others preferred to sell by the means of big retailing, or of specialised stores.

But the collective entrepreneurial strategy remains inescapable, implying collective actions aimed to promote the *piment d'Espelette*. For instance, tour operators propose a

*circuit du Piment d'Espelette*, including a visit to the *Museum of Pepper*, folklore attractions, and so on.

Individual entrepreneurship now appears embedded in the collective one. But this *intertwining* was achieved according to the following features:

- The decrease of traditional activities, compelling actors to find new opportunities. The entrepreneurial process appears a more reactive than a proactive one.
- A predominant feeling of territorial identity, increased both by geographical peculiarities (climate) and historical ones (high sense of community).
- A "tacit entrepreneurial spirit", including a traditional "risk-taker mentality", due to the Basque propensity to migrate to all parts in the World, but nevertheless maintaining deep roots with their native county.
- A dynamic public network, including skilled State executives and searchers, working with local representatives, willing to seize new economic opportunities, supported at national (Paris) and European (Brussels) levels.

On the other hand, we shall describe an *unsuccessful case*, illustrating the underlying conflict between local and global levels, but also between individual and foreign entrepreneurship, on the one hand, and collective and local *non entrepreneurship*, on the other hand.

## 5 The unsuccessful link between individual and collective goals: the Mondavi Case

Languedoc-Roussillon, a southern region in France, located between Spanish border (Catalonia) and French Riviera, is comprised of *départements* (France is made of around one hundred *départements*). Two of them, Hérault and Aude, may be considered as the widest wine yard in the world . It dates from Roman Empire, when veterans settled in *Gaule Narbonnaise* and produced wine and corn for Roma.

Wine production was replaced by corn and sheep (including wool manufacturing), until the second half of the nineteenth century. Benefiting both from well-suited climate and land, and from industrial urbanization (opening a new market), peasants and local urban bourgeoisie undertook the production of low quality/price wines, resulting in a high regional prosperity, grounded on ricardian rents.

Nevertheless, decline started at the early years of the twentieth century, due to crises in production (phylloxera), in overproduction (due to overexpansion of areas during the First World War), and to the increasing competition of French (claret, burgundy) and foreign wines, at the time where consumers changed their tastes (requiring more quality, and drinking less quantity).

Small wine producers in Languedoc reacted, all along the last century, by defensive ways: violence (riots, attempts), cooperation (*coopératives* manage the harvest of *coopérateurs*), political lobbying (local representatives asking for regulatory decisions, to distil *structural excedents*).

But, since the early Eighties, new trends contributed to a rise of competitivity:

- First, new enterprising owners-producers, not necessarily originating from territory, improved quality, applied a distinctive strategy (specially on oenology and marketing), and sold at a higher and profitable price their own production.

- Second, State authorities (French and European ) induced coopératives and craft producers to apply new technologies (machines to harvest grapes, new seedlings, new methods for wine preservation, quality management, and so on) and managerial tools (control management, marketing, etc.).
- Third, Mondavi, a big family business located in the Wine District of Nappa Valley (California) seized opportunity to enter the European market by means of agreements with coopératives of Corbières County (Hérault), to resell their wine production under the brand. "Mediterranean wine" (sic), adding, on the label, "produce of France". As a result, Mondavi induced small producers, as members of cooperatives, to improve quality for an unchanged (and low) market price, in accordance with world wide "hypercompetition". Mondavi intended to further invest on wineries, i.e. stores selling various goods and services around wine and local craft activities.

Those emerging strategies (respectively entrepreneurial, public and managerial) have contributed to deeply modify the regional structure of the wine industry at all levels (production, manufacturing and trade).

In other words, on the same territory, various *strategic groups* coexist. Inspired by the Miles and Snow's typology, we have identified:

- Defenders: traditional coopératives sell at a low quality/price *en vrac* (not bottled), or as *European Community Wine*, to big retailers; they require from European and National Offices *special decisions of distillation* for unsold stock. It includes, who are also cooperators, small traditional (craft) wine producers.
- Reactors: modernist coopératives adapt their production to the new consumers' tastes, and select more precisely both members and clients. Most of it is sold as a *county wine* (*vin de pays*), or a *vinestock wine* (*vin de cépage:* Cabernet, Sauvignon, Merlot), in order to compete at a world wide level.
- Adaptors: owner-managers aim to enter in new markets (with the help national and foreign traders, big and specialized retailers, export), to sell a *medium wine*, at a medium price, benefiting from an AOC label .
- Prospectors: *new entrepreneurs* take advantage of idiosyncratic resources (land, climate, knowledge in oenology and management, etc.) and/or distinctive competences. They market vintage wines with their own brand. Their distinctive competence is enhanced by expert advice (specialized journalists, prizes won in agricultural shows, etc.). They use mainly direct marketing.

As a result, such a restructuration involves open or tacit conflictual situations. Conflicts become explicit, when, more or less surprisingly, an event happens, mainly new ventures. The arrival of Mondavi in Aniane, a typical Languedocian village, is a precise example of such an event. In such a case, conflictual attitudes towards individual and collective entrepreneurship revealed the crucial dividing features.

The Abbey of Aniane was founded at the end of the eigth century, by the son of a captain of the Emperor Charlemagne (Carolus Magnus), Saint Benoit (Benedict) d'Aniane, who reformed Benedictin rules, more precisely, the *management* of Benedictin abbeys, introducing the division of labor and new productions, such as wine yards (and the first roses in Western Europe, brought back by crusaders). Aniane is located at about thirty kilometres from Montpellier, in a *garrigue* landscape, made of

stony ground and holm oaks – a paradise for walkers, hunters, and wine culture, named *Massif de l'Arboussas* (Hills of Arbutus).

So, craft wine growers appear well-embedded in their territory, according to both historical and geographical points of view.

Since the end of the ninetieth century, that tradition was enhanced by collective institutions, such as cooperatives (theorized by one famous regional economist, Charles Gide, who was declared as *the father of cooperativism* and labour-managed firms), professional associations, and politically left-wing representatives (the mayor is traditionally either socialist, or communist).

Those ones proved increasingly aggressive and defensive, as and when the crisis became more acute, due to overproduction. In this typical village, wine production is seen as a *lifestyle*, implying, besides intensive periods of harvest and craft works (such as trimming), leisure periods propitious to hunting (inducing conflicts with walkers coming from Montpellier) in a wild, preserved landscape.

Nevertheless, the *strangers* who set up during the Eighties, namely, Aimé Guibert, originated from the *glove district* of Millau, wanting to invest funds outside the leather industry. As an *enterprising* entrepreneur, free from local tradition, he decided to produce and sell for his own account a vintage wine He took advantage of some peculiarities of soil, together with *microclimate* – which constitutes a *terroir*, according to agronomic definition. His wine, labelled as *Daumas Gassac* was appraised by Parker, an influential American expert, as *exceptional*, on the same level as the most prestigious clarets (Chateau-Laffite, Mouton-Rothschild, etc.). The production area is thus supposed to be strictly limited by the peculiarities of soil and climate, in a small valley, so enhancing the impact of *distinctive* and idiosyncrasic features.

On the same *terroir*, the Vaillé family (father and son), managing a small wine yard (12 hectares), and benefiting from those peculiar features, produced a prestigious wine, named *La Grange-des-pères*, served in the most prestigious Three Stars restaurants (around twenty restaurants in France).

From a social and economic point of view, these two producers may be considered as *weakly-embedded* on their territory. They have woven no stable links with their neighbourhood. Thus, we note, in this present case, That individual entrepreneurship enters in conflict with a collective reluctance to undertake the drastic reforms required to adapt wine production to a changing environment. Consequently, their prestigious wine is officially registered as a *county wine*, because the local production is not labelled AOC!

But latent conflict erupted with the proposal by Mondavi to *break stony grounds* and woods in order to bring them into cultivation. According to its world wide strategic intent, Mondavi designed the development, within its business portfolio, of outstanding wines (premiums and ultra-premiums) in order to upgrade its image. Consequently, Mondavi wished to benefit from the idiosyncrasic features of the *terroir*, to imitate both Daumas Gassac and La Grange-des-pères. But agreement of the Mayor was required: so, it was offered that Mondavi would purchase and sell the whole production of cooperative, guaranteeing a stable revenue for small wine growers.

- At a first stage, the socialist mayor, André Ruiz, declared "he was bought", and convinced the managers of the cooperative .The Vaillé Family said they were "enthousiastic", hoping to get both an official recognition, and an enhanced world wide image. On the opposite side, Aimé Guibert was reluctant, and thus an opponent, fearing that intrusion by a big American concern would weaken his own image, based on scarcity of local resources, and, consequently, his ricardian rent. Political representatives and professional unions appeared almost divided and hesitating.
- At a second stage, opponents emerged:
  - First, cooperators, encouraged by Manuel Diaz, a local member of Communist Party, declared he was hostile to the project. They put forward their fear to become sub-contractors, to be dependant on a powerful multinational corporation, thus "to look like 'Latinos', employed in the Nappa Valley" – in other words, to be proletarianized.
  - Second, other stakeholders appeared, namely, ecologists. Marcel Pouget, president of the "Association de Défense du Massif de l'Arboussas", feared future and unavoidable extensions of the wine yard "to get critical mass and profitability." On the opposite side, hunting associations protested, wanting to preserve game reserves. Jean-Pierre Van Ruyskensvelde, the president of the *union of Aniane wine producers (co-operative),* at the same time a general manager of Agriculture at the Regional Council *(Conseil Régional* at the level of Région Languedoc-Roussillon), asserted: "If Mondavi buy the best grapes of the county, the cave is condemned to close. We live here on a family-based system, incompatible with the New World visions. We will to stay numerous on our lands, such as free and responsable a peasants, independent from imported models."
  - At a third stage, a bargaining process started, between Mondavi, cooperators, the Town Council, the associations (non-profit organizations), and so on. The *General Council* (*Conseil Général* at the level of Hérault Département, mainly socialist) supported the Mondavi project, whereas the Regional Council (mainly conservative), declared to be an opponent … and so *an objective ally* of Communist Party!

Thus, Mondavi not only renounced to the Aniane project, but retired from the French market, reselling its trading company to a French cooperative. The communist opponent was elected as the new Mayor of Aniane.

## 6 Concluding remarks

This case is enlightening to better understand, not only what is called French Exception (including *exceptions* to the traditional model) but also the complexity of relations between individual and collective entrepreneurship.

- The French model is made of strong interactions between various levels: economic, social and political goals and actors; private and public sectors (see for instance the duality of role for Van Ruyskensvelde). So, final decision results from a *garbage can decision model*, according to March and Olsen.

· The French model appears more as risk-avoiding than the entrepreneurial one. Nevertheless, we have to be less caricatural than the French people as shown in Hollywood movies.

The two cases exemplify the existence of collective entrepreneurial incentives (as in the Pepper case) and individual entrepreneurship (as in the Mondavi case).

In the last one, individual *enterprising entrepreneurs* (Guibert and Vaillé) had no interest, and were unable, to develop, in the *terroir*, a collective entrepreneurship.

Regarding cooperators, most of them are close to retirement, thus they saw no interest to be engaged in being engaged in a risky business, and preferred to wait for subsidies from Brussels and Paris.

Moreover, the sense of community among the small wine growers appears as strictly limited to *defender* strategies, each one willing to preserve his *pré carré* ("to keep his turf"), to maintain opportunism, according to a French tradition of individualism.

Nevertheless, world wide trends deeply affect this French Exception, on the following ways:

· Free trade enhances competitive pressures. Wine industry is expanding in Southern America, in Australia, in Eastern Europe. French Agro-Food corporations, such as Pernod-Ricard, invest in Australia, in Argentina. French wine producers and traders react by higher quality for medium wines.
· The economic power of the French State is weakening. The major part of the public industrial sector has been privatized (mainly by the social-democrat Government). The financial support by public authorities of non competitive sectors is increasingly challenged. European authorities are willing to promote free competition, to rule out unfair practices, such as unfair protections.
· Rural areas are deeply evolving. *New entrepreneurs* increasingly install new activities in quiet, no crowded places. At a higher level, entrepreneurship, made of very small business firms, is expanding in France, contributing to widen the rift between the *Civil Society* and the *Political* one.

In other words, the renewal of the so-called *French Exception* implies that the State system, exceedingly bureaucratic, encourages, not only the individual, but also the collective entrepreneurship, including its own sphere. Unfortunately, just like in the famous song: it's a long way to a full entrepreneurship recognition in this country!

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# Hi-tech small firms in developing countries: An exploratory analysis

Mario Raffa, Gianluca Esposito, Luca Iandoli and Giuseppe Bruno

Globalization is a central driving force behind the rapid social, political and economic changes that are reshaping modern society and world order. One of the key elements of globalization is Information Technology (IT). IT plays a central role in helping developing countries (DCs) participate in the global economy. This paper investigates the factors that are essential for the growth of IT in DCs and focuses in particular on the role of local ICT small and medium enterprises. Through internationalization, indigenous entrepreneurs get around domestic market inefficiencies. Moreover, the increasing relevance of their activities is fostering Foreign Direct Investments (FDIs) and forcing local governments to deal effectively with obstacles hindering the growth of IT. In order to highlight theses aspects, the paper presents some early results derived from a large research project carried out by the authors and aimed at analyzing the level of ICT diffusion in the North African region. On the basis of some case studies, in this paper we try to draw some implications for further research on hi-tech entrepreneurs in developing countries.

## 1 Introduction

On the social ground, IT may play a remarkable role for the social development of DC (World Bank 1999, OECD 2001). The modernization of local public administrations through the adoption of the ICT and e-government practices (G2G, G2C, G2E) can remarkably increase both their efficiency and their effectiveness. ICT can also offer a fundamental contribution to the improvement of basic public services such as education and healthcare. Ultimately, ICT capabilities to virtually eliminate distance can help reduce imbalances between local and urban areas.

With regards to economic aspects, globalization is fostering competition and firms operating in DCs can no longer rely on low costs to gain competitive advantages, both domestically and internationally. IT allows these firms to increase their competitiveness, and eventually move up the value added ladder. Furthermore, the adoption of IT is beneficial to traditional manufacturing sectors (e.g. textile, mechanical, oil) and services (tourism), on which developing countries heavily rely on (UNCTAD 2001). Moreover, the growth of the IT in DCs creates value added sectors that eventually attract foreign direct investments (FDIs). Ultimately, it fosters the modernization of DCs, and originates a spill-over effect which is beneficial to traditional sectors.

This paper first focuses on factors essential to foster the growth of ICT in less industrialized countries (§2), stressing the importance of both ICT users and ICT providers (indigenous entrepreneurs, multinational ICT companies). Then, an analysis of those factors through a study carried out by the authors in the North Africa region is presented (§4,5) to describe important characteristics of the local ICT entrepreneurs and companies on the basis of some case studies.

## 2 Factors influencing IT adoption and development in developing countries

There is a vast literature examining factors that play a key role in the development of IT in DCs. These factors influence structures, strategies and performances of local ICT companies in a remarkable way. Thus, in order to analyze the role of local ICT companies, in particular of small businesses, it is necessary to investigate and describe thoroughly the main factors either hindering or fostering the development of the ICT in DCs.

On the basis of the review of the literature, we classify factors in the following clusters: infrastructure, technology and education, finance, social, market, administrative systems (figure 1).

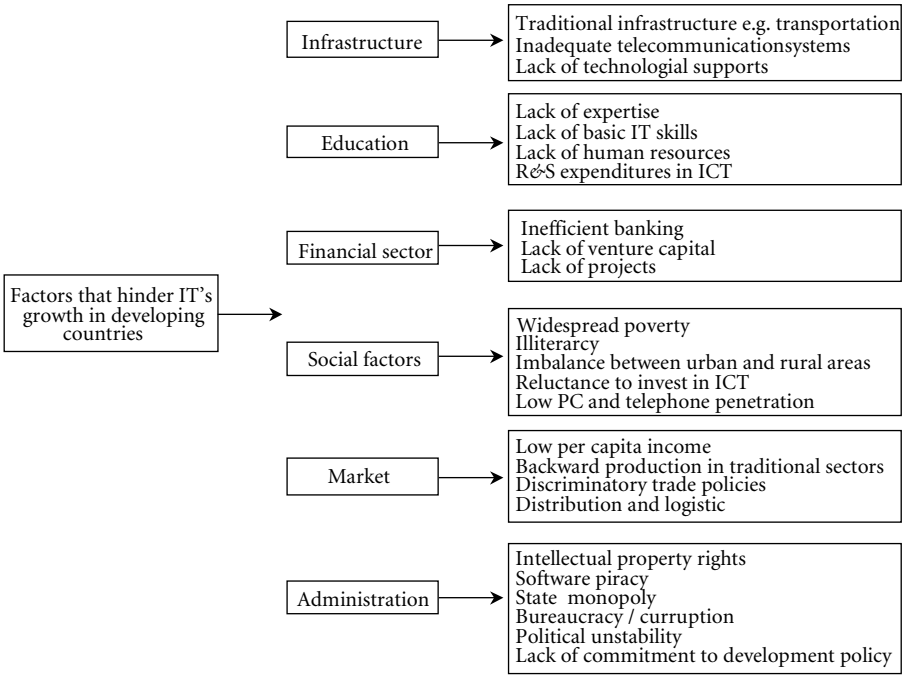


*Figure 1: Taxonomy of the factors influencing ICT growth in developing countries*

The *communication infrastructure* is crucial for the growth of IT (Davis, Bagozzi, Warshaw 1989), in particular for value added services such as IT outsourcing and electronic commerce (Mann, Eckert, Knight 2000). Instead, as most of IT products are non-tangible and easily transportable, improvements of the infrastructure of distribution and delivery (including the transport and postal infrastructure) are not necessarily related with productivity gains in some IT industries, such as software and IT training. On the contrary, the development of e-commerce requires excellent logistic and distribution capabilities and efficient traditional infrastructures.

*Education and technological factors* concern essentially the availability of adequate ICT-know-how in the local context. R&S expenditures in the ICT sector are a fundamental indicator of ICT industry capability in a given country (OECD 1998); it goes

without saying that such expenditures are nearly non-existent in many developing and emerging economies, with some exceptions (India, Korea, Malaysia). The availability of sufficient human resources will continue to be an overriding issue in the development of IT. The lack of expertise directly affects the growth of firms operating in this sector. Furthermore, the shortage of both basic IT skills and managerial figures limit the demand of indigenous firms for information systems' implementation (Abdul-Gader, Alangari 1994). It is not accidental that the most successful DCs in the ICT industry, such as India, the Philippines, Malaysia, and China (Harindranath, Dhillon 1994), have become increasingly able to provide a sufficient number of IT technicians. This is due to both demographical reasons and the presence of a good and high selective ICT national educational system.

An efficient and sound *financial structure* is critical for the growth and development of the IT sector in less industrialized countries (Abdul-Gader, Alangari 1996, Hassan, 1998, Lederer, Mendelow 1990). Inadequate regulation framework and the lack of competition among financial institutions, originate shortage of financial resources for IT firms. In the majority of developing countries, the inefficiency of traditional financial institutions is coupled with the absence of alternative resources, such as those provided by private equity funds (Frankel 1998). Furthermore, traditional funding institutions are reluctant in investing in high-tech high-risk activity.

As many research-studies have pointed out, ICT industry could grow and produce benefits in DCs by taking into account *social development* (Burn, Jordan 1997, Janczewski 1992, Hassan 1998, Kahen, Sayers 1994, Lehmann 1994, Lopez, Vilaseca 1996, Mundy 1996, Palvia 1998, Splettstoesser, Towry-Coker 1999). Most of these studies show that a fundamental aspect for creating positive opportunities is represented by the capability to integrate information and communication technologies with general development policies.

*Cultural environment* is another important element promoting sustainable development of such technologies. Low literacy rates and lack of appropriate skills or managerial abilities determine high failure risks of IT implementation. Language may represent a barrier, especially for the Internet (Fagan 2001, OECD 1998b). Differences among culture play a key role in the development and transfer of IT (Barry, Venkatachalam 1994, Day 1996). They can prevent indigenous population from taking full advantage of IT products (Janczewski 1992) and influence the way local firms design and develop applications. Low participation indicate that there may be cultural resistance to IT (Goodman, Green 1992, Hasan, Hall 1990, Kamel 1996). For example, reluctance in spending money on ICT is due to the incapability to perceive the real benefits of ICT technologies by potential consumers. Furthermore, entrepreneurs operating in traditional sector show diffidence as regards to investing on intangible assets such as software licenses, consultancy and training.

*Administrative and legal systems* are crucial for market development (Olsen 2000). Besides the negative effects of inefficient public administration (bureaucracy, corruption) and political instability, a critical factor for IT development is the availability of adequate normative IT-specific framework (Damsgaard, Lyytinhen 1999). Inefficient commercial law can seriously affect IT activities, such as IT outsourcing, whose imple-

mentation relies on legal contracts. Moreover, restrictions on foreign exchange transactions could limit the possibility for small and medium-sized enterprises (SMEs) to import products such as hardware and software or services such as IT consultancy, which are crucial for start-up firms.

As intangible IT products are expensive to produce but easy to replicate, inefficient intellectual property protection laws can discourage both indigenous and foreign firms from investing in IT activities in developing countries. However, for countries in their early stages of IT dissemination, weak Intellectual Property Rights (IPRs) may represent an advantageous infant industry-strategic-policy (Krugman, Obstfleld 2000). In particular, limiting IPRs may provide inexpensive technological transfer, to the extent that imitative and adaptive capabilities are effective (Maskus 2000). Such policy can also foster the network effect, which is beneficial to the development of the IT sector. But in the long term it can become a major disincentives for foreign investments.

With regards to the Internet, e-commerce requires adequate legal framework for online economic transactions and customers protection against electronic frauds. Furthermore, ISPs activities should be regulated through unambiguous laws aimed at encouraging competition and regulating revenues sharing among ISPs and network operators.

In general, deregulation and privatization of telecommunication services is a major issue in fostering ICT growth. Empirical and anecdotal research by the World Bank (Wallsten 1999, Dasgupta, Lall, Wheeler 2001) demonstrates that developing countries' policies are very often inadequate as regards to privatization of telecommunications, introduction of fixed lines as well as wireless competition, and creation of independent telecommunication bodies that significantly improve the telecommunication sector.

The negative interactions among all the considered factors (infrastructure, education, financial, social, administration) can, in the worst cases, prevent any form of ICT development in DCs. Therefore, such interaction could hinder the positive impact of ICT industry on indigenous social and economic development.

## 3 Sustainable development of IT in developing countries

Notwithstanding these limitations, in many DCs the growth of a local IT industry is a well acknowledged fact. By exploiting opportunities offered by the market globalization, many countries such as India, China, and Malaysia are becoming important ICT producers, especially in the software sector. In this respect, a key role is played by SMEs operating in the IT sector. The positioning of such firms in the global market is helping these countries promote a sustainable development of their own ICT industry.

Most of the researches in this field outline the importance of *sustainability* in order to avoid further external economic "colonization" and assure long term positive effects on general social and economic development (Aladwani 1998, Hassan 1998, Mejias et al. 1999, Mursu et al. 1999, Splettsstoer, Coker 1999). On the basis of the analysis presented in the previous section, it is plausible to state that sustainable local IT development is hindered by two main factors: the scarce inner IT demand and the lack of adequate local technological competencies. More specifically, all factors hindering the IT

development outlined in the previous section affect in a negative way both the capability of producing and using ICT products and services.

Therefore, starting from a structural factor analysis this paper focuses on the key role played by domestic markets and indigenous entrepreneurs in fostering IT growth in developing countries.

In many IT activities, such as IT outsourcing, co-connection (Kapur, Ramamurti 2001) is a good enough alternative to co-location (Porter 1990, 1998). More specifically, co-connection turns out to be the main bridging mechanism that links supply and demand. Nevertheless, domestic markets are crucial at least in the early stages of IT development. According to Hassan (1998), for obtaining export business, the firms need to establish credibility, demonstrate a solid track record of product development, and demonstrate access to financial and managerial resources. But low margins in the local market, the type of work available, and the client's orientation towards investment in IT, makes a software firm's job quite difficult in DCs.

In this respect, the capability of domestic markets to attract Foreign Direct Investments (FDIs) plays a key role in getting around structural obstacles. The benefit related to foreign firms entering domestic markets of developing economies is difficult to be quantified (Manral 2001). Technological transfer and spill-over effects should not be assumed to be an automatic consequence of foreign firms' presence in developing economies (Kathuria 2000). Nevertheless, the presence of such firms is crucial for creating networks ("Keiretsus") which could eventually help indigenous entrepreneurs overcome domestic markets' inefficiencies. According to Lehmann (1994) such Keiretsus (Dunning 1993, Johanson, Vahine 1990) have to be centered around a "hub" from an information technology intensive industry. In DCs, often foreign ICT multinational companies play the role of the hub.

Firms being part of the Keiretsu would perform highly differentiated IT tasks (supply and distribution of software; technical support; supply of hardware and technical supply; development of software; education and training, including management training). For indigenous firms, the Keiretsu turns into a micro market substituting the domestic market. In such a market, actors find their customers across different non-competing industries. The intensive exposure to all aspects of information technology originates a spillover-effect among firms participating in the Keiretsus. However, the fragmentation of local competencies over many business segments could hinder the possibility of know-how sedimentation at the local level.

An alternative model for the development of local IT industries is the so-called "Industrial District" (ID). Some studies focusing on Italian SMEs (Mussati 1990, Marchini 1995), demonstrates that one of the advantages of ID is the availability of companies well established in a network within the same territory. As a consequence, small local companies should aim, at least partially, to a territorial specialization through the identification of specialized areas of know-how. This would eventually create territorial competence centers.

Thus, a possible solution to overcome limitations due to the absence of a solid internal market can be the internationalization of local IT companies through strategic partnership with foreign IT firms. Partnerships can bring mutual advantages to both

local and foreign companies. Local companies can enlarge their market and enjoy considerable increase of their technological competence due to technology transfer. Foreign company can obtain two advantages: a) to have access to local qualified and low wage workforce; b) to enter into strategic and developing markets. If local qualified workforce is available and the local market has good potentialities, DCs can become significant contributors to the outsourcing of IT products and services.

This strategy could be in the short to medium term a way to overcome some structural fragility and can contribute to the consolidation of the fragile local ICT companies. In the long run, the presence of a consolidated local ICT industry can become an important driving force for the development of the local ICT market in three ways:

a) By providing solutions for local SMEs, local public administration and consumers well suited to their high context-specific needs
b) By putting pressure through lobbying on local government to invest in IT
c) By developing local know-how and competencies that contribute to increase indigenous overall degree of competitiveness and foster (indirectly) the number of educated users.

It goes without saying that the success of such strategy rely on the increase in the level of competitiveness of local ICT suppliers and on the presence of some minimal structural requisites. Minimal structural requisites concerns sufficiently efficient TL infrastructures, liberalization of TLC sector, an initial kernel of local entrepreneurial ICT firms and inner country political stability (Aberdeen Group 2001, World Bank 1999).

In the following sections we show the first results obtained through a field research carried out by the Department of Business and Management Engineering of the University of Naples "Federico II". The aim of the research was to investigate the factors influencing the development and the diffusion of IT within some developing countries located in North Africa. Within this research project we focused our attention on the issue of local ICT entrepreneurship. In this paper we present some case studies. Our aim is to verify, on an empirical basis, which are the characteristics of local ICT entrepreneurs and which role these characteristics may play in fostering the growth of IT within the analyzed DCs.

## 4 The research methodology

The results presented in this paper were obtained from a field analysis carried out by the authors in three North African countries (Egypt, Morocco, Tunisia) in the middle half of 2001 within a large research project. The research was aimed at drawing an updated picture of the local IT industry in the following respects: size, major trends, local policies, infrastructures, impact of IT development on social and economic growth. The analysis has been implemented at an exploratory level for three main reasons: a) lack of updated data; b) few previous studies available in the literature; c) extremely rapid changes in the sector at the local level due to recent liberalization policies. The research methodology was articulated as follows:

a) *Field analysis:* after analyzing the literature and secondary sources, a structured questionnaire was implemented and distributed to a large sample of 152 small and me-

dium-sized IT local enterprises based in Egypt, Morocco, Tunisia. However, the answer rate was rather low (15%). In order to collect more data, a sample of firms was contacted for an on-site meeting and an interview. In the end, more than 50 local IT experts have been interviewed in three different countries.

b) *Data analysis:* On the basis of collected data, the research group decided to focus on the analysis of local IT firms, as explained in §2. The aim of this phase was to investigate more deeply the factors influencing local ICT SMEs' growth.

c) *Case-studies:* most interesting local companies have been the object of a more detailed analysis through a multiple case-study methodology. The aim of the study was explorative and descriptive.

## 5 Research results: the IT sector in North Africa

In this section we present a brief overview of the ICT industry in North Africa with respect to the structural factors presented in section 2.

The total population of Algeria, Egypt, Morocco and Tunisia is around 130 million. The inner stability of some countries of the region coupled with their proximity to Europe could play a key role when it comes to compete with firms operating in other developing countries. Moreover, as language skills are crucial in this industry, that French (Morocco, Algeria and Tunisia) and English (Egypt) are spoken in North-Africa represents a further advantage for those countries.

Notwithstanding geographical proximity and basic common aspects, countries involved in the study present sensitive differences as regards to technological, cultural and political factors influencing the diffusion of IT technologies.

Despite good basic TLC infrastructures, access to computers and telecommunication systems is still very scarce and most services are concentrated in the urban areas. The average density of household phones, public telephones, computers and Internet subscribers is much lower than in high-income countries. Very encouraging trends have emerged over the last few years especially in Egypt and Morocco. These is primarily due to the privatization of telecommunications implemented in such countries, that has given rise to an unexpected boom of the mobile communication.

Software development has made relative progress over time. There are many "best practices" cases in various sectors. In general, the average size of companies is very small. The great majority has between five and ten employees and is concentrated in urban areas. As regards to the software development segment, in Egypt and Morocco operate competitive SMEs. As a consequence, high quality of some software packages are produced locally and exported to foreign market, primarily the Gulf States and Europe.

Unfortunately, the growth of this sector suffers from shaky legal foundations. Computer piracy is still a deeply rooted practice. However, governments are stepping up their own efforts to prevent and combat piracy with strict measures. As a result, computer piracy has been reduced over the last few years.

The local electronics industry is still underdeveloped and hardware production is assembly oriented. Computer components and accessories are imported from the US

and the Far East. In Egypt and Morocco, Multinationals Companies (MNCs) are in contact with local distributors across a two-level structure made up of several distributors and retailers. These relationships are often not purely commercial links. In fact, they also involve exchange of know-how and development of solutions compatible with products distributed by leading companies. This phenomenon is generally considered positive and it may lead to outsourcing of high-level services in the middle-long term. Both Morocco and Egypt are candidates to become regional hubs for large MNCs operating in the IT sector, respectively in North West Africa and in the Middle East. In this scenario, indigenous small firms play a crucial role. In fact, not only does the efficiency of a Keiretsu rely on MNCs. Instead, that networks described in § 3 become competitive on a global scale is strongly related to the presence of innovative SMEs. Despite structural factors inadequacy, the attractiveness of such firms could encourage Foreign Direct Investment. India is a case in point.

The total number of Internet subscribers in MENA countries in 2000 was estimated around 300000. However, according to the UN Economic Commission for Africa, each PC with Internet or e-mail connection supports an average of three users. In general, access to the Internet remains limited to only a few privileged. Affordability barriers, PC costs and education levels have kept the Internet beyond the reach of most people. As a result, the level of e-commerce is currently very limited. Forecasts predict that in 2002, e-commerce business in the region should reach only 6500 billion US$.

Besides common characteristics, there are significant differences in the level of IT development among MENA countries. The results presented in this paragraph are related to four countries: Egypt, Morocco, Algeria and Tunisia. In every country, the IT industry is at different stages of development. In Egypt, Tunisia and Morocco IT has made significant progresses overtime. However, Tunisia still suffers from a strong delay in the privatization of the TLC sector. Moreover, it represents a very small market for IT multinationals. In Algeria, the development of Information Technology is still at an embryonic stage.

Privatization of the Telecommunication sector is almost complete in Morocco, partial in Algeria and Egypt and practically absent in Tunisia. Not only do these countries differ as regards to the velocity of such process. Each country, in fact, has adopted its own procedures. In this respect, Morocco represents a "best practice" example in the region. However, privatization has been on the top of the agenda of every local government as a major tool to promote IT development. Therefore, the common denominator of such policies is the strong commitment of these countries to the growth of IT.

| | Case 1 | Case 2 | Case 3 | Case 4 | Case 5 | Case 6 | Case 7 |
|---|---|---|---|---|---|---|---|
| *Firm's core business* | Telecommunication equipment, software for telecommunication management and maintenance | CAD, Information systems for stock and inventory management, GPS systems for cars | ERP, software package integration and customization, software development, e-business, consulting | ERP, DSS, E-business (internet/intranet solutions), software package integration, consulting | Software distribution of important foreign brands | Software package integration and software development for finance assurance, building industry | Software development and integration for Geomatics and GIS |
| *Other activities* | Product distribution on local market, subcontracting to local firms | Consulting | Software Distribution | Training center | Marketing and sale services | Software distribution | Software distribution |
| *Number of employees* | 240 (120 software developers) | 60 | 180 | 83 | 33 | 22 | 20 |
| *Sales in 2001 (year sales growth rate)* | 15 M$ (NA) | 3M$ (50%) | 8 M$ (30%) | 7 M$ (25%) | 15 M$ (100%) | 0.5 M$ (NA) | 0.5 M$ (80%) |
| *Export as % of sale* | NA | 50% | 8-10% | NA | 0% | 10% | 10% |
| *Organizational structure* | Divisional | Based on business area, Marketing department | Structured on business Areas and competence centers | Based on products, HR department | Informal | Based on projects, marketing department | Functional with a R&D team |
| *Merging* | | Yes | Yes | Yes | No | No | No |
| *Current market scope* | Regional and International | Local and international | Local and regional | Local | Local | Local | Regional and International |
| *Availability of quality certification* | Yes | Yes | Yes | Yes | In progress | Yes | Yes |
| *Target country for partnership (or country of origin in case of direct ownership)* | France | France, Canada | France | France | Partners as distributors in other countries of the area | France | France, Canada, India |
| *Adopted partnership model* | Direct ownership | On-site/off-shore | On-site/off-shore | On-site/off-shore | Commercial partnership | Commercial partnership, looking for partners willing to outsource software development | On-site / Off-shore |
| *Main advantages deriving from partnerships / outsourcing as perceived by the entrepreneurs* | Low labor costs, language, availability of good skills, presence on local and regional market | Market enlargement, know-how acquisition | Market enlargement, know-how transfer, HR retention | Market enlargement | Revenues, a certain amount of know-how transfer | Revenues, knowledge transfer, market enlargement | Market enlargement, know-how transfer |
| *Main barriers hindering partnerships as perceived by entrepreneurs* | HR turnover, lack of a sufficient number of qualified human resources, scarce incentives to foreign investments | Lack of critical size, lack of adequate know-how, lack of quality certification | ITM Concerns for quality, lack of human resources, scarce incentives to foreign investments | Lack of adequate country image promotion, lack of qualified human resources | Lack of trust by ITM, scarce incentives to foreign investments | ITM concerns for quality and know-how protection, lack of adequate country image promotion | ITM concerns for quality, lack of human resources, inadequate promotion of country image (in any case too focused toward Europe) |

*Table 1: Case-study description*

Needless to say, in many cases goals are not turned into actual policies. Lags are a common feature of policies aimed at promoting e-commerce and intellectual property rights protection as well. As regards to the Internet, the growth of the sector is hindered by firms that benefit from dominant positions, if not monopolies, in the ISP services and fixed telephony.

On the *social side*, all countries suffer from a widespread poverty and high illiteracy rate (except from Tunisia that benefits from a slightly higher GDP per capita and rate of literacy). With regards to the financial sector, all countries present a quite traditional banking sector, scarcity of funding sources for IT start-up and absence of venture capital initiatives. This despite the fact that banks and insurance companies, together with the public administration, are among the largest IT consumers in North African countries.

Seven case-studies were analyzed with respect to the following factors (table 1): entrepreneurs' characteristics, companies core business, other activities, company size, current market scope, export as a percentage of sale, target country for partnership, organizational structure, merging, adopted partnership model, availability of quality certification, main advantages deriving from partnerships as perceived by the entrepreneurs, main barriers hindering partnerships as perceived by entrepreneurs. Table 1 contains a short description of the case studies with respect to these factors.

## 6 Conclusions

Indigenous entrepreneurs are a driving force behind the development of IT in North Africa. Domestically, the emergence of IT networks (Keiretsus) and Industrial Districts, represents a self-made alternative to inefficient local markets. Moreover, the internationalization of indigenous IT companies through strategic partnerships is helping local actors increase their technological competencies. Such activities are also fostering FDIs, that are beneficial to the balance of payment of the recipient state. Moreover, FDIs play a key role in disseminating IT in developing countries. However, the research's results confirm that the growth of local IT firms is hindered by structural factors. In this respect, local governments are still far from providing indigenous firms with safe and sound pre-conditions for IT development. The call for action involves also local entrepreneurial associations, that should be more active in promoting national industries in foreign markets. On the basis of the first results discussed in this paper we feel that relevant topics for further researches should involve the following issues: a) more detailed studies aimed at describing the characteristics of partnership models; b) which are the most important channels for technology transfer between the supplier and the customer; c) which are the interface competencies that allow supplier and customer managers to effectively build and manage the partnership; d) on which base the customer can evaluate potential suppliers in order to choose those with the best characteristics.

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