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CONTENT

Introduction..................................................................................................................................................................... i

Brief professional notes of the authors ...................................................................................................................... ii

The manager’s influence on small firm growth
Svante Andersson, Joakim Tell............................................................................................................................... 1

A Born Global Company’s Way to Growth
Ingemar Wictor........................................................................................................................................................... 15

The impact of globalization and trade liberalization on competitiveness of firms in less developed countries
Gabriel Awuah ............................................................................................................................................................. 49

Measuring supply chain performance upstream and downstream the supply chain – two case studies from Swedish heavy vehicle manufacturers
Aron Chibba ................................................................................................................................................................. 65

NPD Collaboration in Medium Sized Firms: a Survey and Best Practice Analysis
Jonas Rundquist ........................................................................................................................................................ 79

Managerial behavior in slow and fast growing small firms
Henrik Florén, Joakim Tell........................................................................................................................................ 109

The influence of environmental scanning on innovation performance
Johan Frishammar, Sven Åke Hörte ........................................................................................................................ 125
INTRODUCTION

Sven Åke Hörte
Editor

Centre for Technology, Innovation and Marketing Management (CTIM) does research on the development of new products and markets. The products can be physical goods, services or combinations of both, an innovation (a new product) or improvements of an already existing product. We focus on innovation processes and new product development (NPD) processes, and technology and innovation management. When studying these processes both ethical and environmental aspects are treated. Market introduction and market expansion are treated in depth. A special research focus is on early internationalizing firms, and international market expansion including supplier—distributor relationships. Most projects in CTIM, however, focus on innovation and growth processes in small and medium sized firms (SMFs).

The activities of CTIM include many scientific disciplines. The group includes researchers with technical, business and economical backgrounds, as well as researchers from work science and sociology. Many of the researchers also have long experiences from developing organisations in private or public sector, or starting their own firms based on their own products.

CTIM consists of 19 researchers, including three professors. CTIM is a part of the larger research group called Centre for research on Innovation, Entrepreneurship and Learning (CIEL) which has approximately 40 active researchers. CIEL also includes the research groups Sustainability, Innovation and Management in Building (SIMB), Regional Learning and Leadership (RELL), and Knowledge Entrepreneurship and Enterprise Research (KEEN).

CTIM publishes articles in scientific journals, conference proceedings and reports and is heavily engaged in supervising and supporting the production of Ph.D. theses of the doctoral students who are members of the group. The present book consists of manuscripts not published before. One book in the series has previously been published: SÅ Hörte (2006), CPDR on Innovation and Product Development, Halmstad University, Sweden (ISBN: 91-975075-0-4).

The research group was previously called Centre for Product Development Research (CPDR), and changed its name to CTIM in 2008 in order to better reflect the expanded research interests of the group members. Among the new areas of interest are international marketing and managing of the development and marketing of eco innovations, or green innovations. The green “2” in CTIM is used because of the research focus of the group on green innovations and development of sustainable products.
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Abstract

The purpose of this article is to improve the understanding of the relationship between the manager and growth in small firms, through a review of earlier research. Three key relationships have been identified: between growth and, respectively, managerial traits and characteristics, managerial intentions, and managerial behavior or roles. The diverse findings in the literature are contradictory and give a paradoxical picture of the impact of the manager. A deeper analysis of the results from the review, supplemented with leadership theory, yields a better understanding of small-firm growth with a special focus on the behavior of the manager. This perspective problematizes the complexity in managing small-firm growth, and can be further empirically validated by using multiple methods including qualitative ones such as observational studies.

Keywords: managers, growth, small firms, behavior

INTRODUCTION

The influential work of Birch (1979) showed that fast-growing small firms are important when it comes to creating new jobs. Since then, there has been an increased interest in the relatively few small firms that grow fast. An interesting finding concerning companies that grow fast is that they not only employ people, but also manage to survive better than companies that do not grow (Davidsson, Delmar & Wiklund, 2001). Later research has found that high-growth firms are a heterogeneous group, and there are a number of factors and definitions that characterize this phenomenon (Delmar, Davidsson, & Gartner, 2003). Yet as Gibb and Davies (1990) had already concluded – and the situation unfortunately has not improved much – the academic findings are full of contradictions and there exists little help in the scholarly literature on specific business practices to guide small firms that want to grow. Why is this so?

The problem one faces when seeking guidance in literature about small-firm growth is that the research area is very fragmented. Some researchers point out the importance of the individual and his/her variables as the manager’s interest: for instance, magnificent obsessions (Noel, 1989), traits (Halikias and Panayotopoulou, 2003) or motivation (Barth, 2004). Others focus on the company and its structure – in terms such as firm age, size, industry sector/markets, legal form, location and ownership (Davidsson, Kirchhoff, Abdulnasser & Gustavsson, 2002) – or networks (Beekman & Robinson, 2004), and some focus on the external
environment of policy, laws, etc. (Henrekson, 2001). A number of academic disciplines have treated the phenomenon of high-growth firms and, as the disciplines differ in focus, the results indicate different factors as important. For example, research with roots in psychology focuses on the individuals within the firms, while research influenced by economics focuses on institutions (Andersson, 2003). Further, the research community has not agreed on a joint definition of growth (for a review of different concepts of how to measure growth, see Delmar, 1996), and thus it is difficult to make comparisons between studies. Delmar et al. (2003) also found that there are many types of growing firms which have distinct characteristics and growth patterns. Fields that are multidisciplinary seem to have an inbuilt problem and, as Gibb and Davies (1990) write, this is by no means unexpected when growth may be affected by many variables and one can find empirical explanations for why companies grow from different perspectives.

All the different perspectives, analytical levels and theories contribute to the understanding of the complexity of small-firm growth, but it is very difficult to get an overview and to compare results. There are authors (for instance Wiklund, 1998) who have tried to connect some of the different theories (the resource-based, the life-cycle, the strategic-adoption and the motivation-perspective) in order to create a framework, but when some theories are difficult to interrelate (such as stage models and motivation theories) no comprehensive theoretical model of business practices or small-firm growth is likely to be developed. From the above discussion, it becomes obvious that we cannot cover all variables and perspectives in a single study concerning small-firm growth, but have to make delimitations and a choice on what to focus. According to many researchers (e.g. Weinzimmer, 2000; Andersson, 2003) there is not much likelihood of finding one theory that can explain the complex phenomenon of growth in small firms. In line with Alvesson & Deetz (2000) we believe that it is more fruitful to study the phenomenon from many perspectives and that the different views together can increase the understanding of the phenomenon.

Following a tradition since the 1980s (Hambrick & Mason, 1984), we will be focusing on the analytical level of the leader. This upper-echelon perspective contends that firm performance is a reflection of its manager, or as Morrison et al. (2003, p. 418) write concerning characteristics associated with growth in small firms: “It would appear that there is a common, dominant thread woven through these characteristics, that is, the human factor of the owner manager”. This perspective is not self-evident and there are other researchers who have found that firms’ outcomes are emergent and often do not correlate with managers’ intentions (Mintzberg, 1978; Jenkin & Johnson, 1997). In accordance with our earlier discussion, the ambition of this article is not to test this perspective against other views, but to further develop one perspective that already has yielded important implications. In small firms there seems to be a general consensus that managers do influence the performance of small firms, but there is a need for systematic treatment of the findings so far. Earlier research contains inconsistencies and contradictions, and further development is necessary to get a more complete picture of how managers influence growth in small firms (Daily, McDougall, Covin & Daltin, 2002). The purpose of this article is consequently to improve the understanding of the relationship between the manager and growth in small firms through a review of small-firm literature. Our purpose is not to make a comprehensive review but to identify the most important journals in which articles concerning the relation between managers and small firm growth are discussed, and to identify relationships among the factors influencing managerial work in growing small firms.
WHAT DO WE KNOW ABOUT THE RELATIONSHIP BETWEEN THE MANAGER AND GROWTH IN SMALL FIRMS?

A review of articles published during the last 25 years was carried out in order to answer the question: How does the manager influence growth in small firms? This review has focused on empirical findings (for a review of theoretical perspectives, see for instance Wiklund (1998) or O'Farrell & Hitchens (1988)). The review was organized through searches in two databases covering a wide spectrum of management research: ABI-Inform (ABI) and Social Science Citation Index (SSCI). These two databases guaranteed both quality (since all five top journals in entrepreneurship were included – Entrepreneurship, Theory and Practice; Journal of Small Business Management; Small Business Economics; Journal of Business Venturing; International Small Business Journal) and quantity, since these databases comprise more than 1 million articles in the area of economics and social science. For SSCI the years 1986-2006 are available to search and have been covered in the analyses; for ABI-Inform, the years that could be searched are 1973-2006, and this period has been covered in the literature review. Searches were conducted on combinations of the following notions: growth, managers, small enterprises, SME and small firm. The selection process was also based upon three major criteria so as to determine the number of articles to be reviewed. The published works had to: (1) be in English, (2) be theoretical and empirical academic papers (double-blind reviewed), and (3) actually discuss the topic, that is, the relationship between the manager and growth in small firms. In order to determine this, the authors read the abstracts, and then took a qualitative decision as to whether the article should be included in the review. A total of 113 articles were found and they were published in more than 64 different journals (54 articles in SSCI and 81 articles in ABI-Inform, with an overlap of 22 articles).

The journals represent a wide array of disciplines and areas of interest. Four journals had eight or more publications and dominate the area with almost 50% of the published articles (these journals are often referred to as the big five, the missing journal here is Entrepreneurship, theory and Practice (ETP), which only had one article). These 53 articles are listed in the appendix. Figure 1, lists all 113 articles found and published during the years 1980 – 2006.

Figure 1. Number of articles per year during 1980 – 2006 in ABI Inform and ISI Web of Science (February 2007) containing the following words and combination: (growth AND manager* AND ("small enterprise*" OR "small firm*"))

![Figure 1](image-url)
In figure 1, two patterns could be distinguished. First, that the interest for studying the influence of the manager concerning growth has steadily increased over the period from 1980 – 2006. Secondly, that this interest varies over the period. The tentative and somewhat obvious conclusions that can be drawn from this is that there is a growing interest to study the relation between managers and small firm growth, but the output in the form of results of articles vary over time.

In reviewing the articles we tried to find patterns and similarities among the factors influencing managerial work in growing small firms. The classifying of articles was done according to the following distinctions of the manager:

1. If it is something the manager has concretized as a personal traits or characteristics. (see for instance Gartner (1988))

2. If it is something the manager wants concretized as a the aspiration or the motivation. (See for instance Davidsson 1989 or Wiklund and Shepherd, 2003)).

3. If it is something the manager does, concretized as a behavior. (See for instance Gartner, et al., 1992; Sarasvathy, 2001 or Sadler-Smith et al., 2003)).

These distinctions of the manager are well established in the academic literature concerning entrepreneurship and small businesses, and therefore chosen as a base for classifying the articles.

The review of articles confirmed the three distinctions specified above and an empirical validated relation between the manager and growth. First, there seems to be something that the manager possesses in terms of traits or characteristics (Richbell et al. 2006; Gray and Mabey 2005; Maes, Sels & Roodhooft, 2005; Kotey and Slade 2005; Roper 1999; Stewart, Watson, Carland and Carland, 1999; Lybaert, 1998; Kotey and Meredith, 1997; Rosa, Hamilton, Carter & Burns, 1996). Secondly, growth seems to be guided by the aspiration (motivation) of the manager (Wiklund and Shepherd, 2003; Gundry and Welsch, 2001; Wasiczuk, 2000; Hutchinson, 1995; Wagner, 1992; Davidsson, 1989; Hornaday & Wheatley, 1986; Dalaba, 1973). Thirdly, it seems to be something that the manager carries out. Different ways of conceptualizing managerial behavior are through activities, actions or roles (Sawyerr, McGee & Peterson, 2003; Woods and Joyce, 2003; Sadler-Smith, Hampson, Chaston & Badger, 2003; Batten and Hettihewa, 1999; Reid, 1995; Smith, Gannon, Grimm & Terence, 1988).

The first view identified was that individual traits and characteristics influenced growth in small firms. Examples are experience and education (Richbell, Watts & Wardle, 2006; Gray & Mabey, 2005; Maes, Sels & Roodhooft, 2005), achievement motivation, risk-taking propensity and preference for innovation (Stewart et al., 1999) and personal values (Kotey and Meredith, 1997). On the individual level, researchers have for decades focused on finding traits that define an entrepreneur. The study of entrepreneurs has not been restricted to small, start-up firms. Entrepreneurs can also be defined as individuals who are managing growing firms (Andersson, 2003), which is the focus in this article. Traits often associated with entrepreneurs are: risk-taking, attitude, need for achievement, activity, tolerance of ambiguity, resistance to change, reflectiveness, impulsiveness, locus of control, and a motivation to create growth (Halikias and Panayotopoulou, 2003). This tradition has a long history, but has also been criticized (Sadler-Smith et al., 2003; Gartner, 1988), when it has not found any special
traits that differentiate entrepreneurs from non-entrepreneurs or, in leadership theory, effective leaders from less effective leaders. Critics also think that this approach may "ignore the capacity of people to change and learn over time" (Gibb and Davies, 1990, p. 18). Wiklund (1998) further brings up an interesting limitation of research focusing on entrepreneurial traits, namely that traits have only an indirect effect on growth. If, instead of focusing on defining the characteristics/traits of the entrepreneur, one follows the ideas of Wiklund (1998), attention to what the managers actually do and how this relates to growth seems a more promising way of reaching an understanding of the relation between managers and growth. It is only when motivation and traits are put into action that they affect growth (Wiklund & Shephard, 2003), or as Denison et al. (1995, p. 524) concluded: "Leadership must inevitably be performed through action, not cognition".

The second view identified in the literature review concerns managerial intentions. Many researchers have found a positive relationship between managers' aspiration to expand their business activities and firms' actual growth (Wiklund & Shephard, 2003). A positive managerial motivation regarding growth, made explicit and put into action, is of key importance. "Managers have a portfolio of issues that they deal with and are accountable for. Growth is one of many issues. Some managers may prioritize issues other than firm growth." (Barringer & Jones, 2004, p.77.) One important variable that almost all articles bring up is the importance of a positive managerial motivation regarding growth. If there is a resistance to growth (according to issues such as a lack of control or of concern for the employees), growth will not take place. On the other hand, if the manager wants the company to grow, this has to be made explicit and appropriate actions must be taken. This perspective has its theoretical roots in Ajzen's theory of planned behavior (Ajzen, 1988, 1991). That there is a positive relationship between motivation and actual growth seems logical and is corroborated in many studies. However, studies have also shown that motivation is not enough. Well-motivated managers do not always succeed with their growth strategies (Andersson, 2003).

Managerial behavior, the third factor we identified as influencing small firm growth, was specified as follows. The work of the manager, according to the reviewed articles, has been characterized by a focus on planning and a view that the manager is good at administrative routines (e.g., Barringer & Greening, 1998; Slevin & Covin, 1990); but as other articles note, the manager can also be creative and innovative (e.g., Feindt & Jeffcoate, 2002). There are also differences found in the articles concerning the orientation of the companies. Some bring up the importance of an external orientation, and some regard the internal orientation as an important factor explaining the successful company. This is operationalized in that some studies suggest an external orientation with strategic alliances and relationships with suppliers (Barringer & Jones, 2004), and some stress the importance of internal activities such as employee empowerment practices (Sadler-Smith et al., 2003). Other examples of behavior identified in the literature are: personal networking (Sawyer et al., 2003), strategic management (Woods and Joyce, 2003), the management of culture and vision (Sadler-Smith et al., 2003) and decision comprehensiveness (Smith et al., 1988). Research in the field of learning shows (e.g., Mainmelis, Boyatziz, and Kolb, 2002) that those who have an integrated learning style, that is, handle multiple types of learning styles and can apply them in different situations, have greater adaptive flexibility, which means that they adapt better to the demands of the environment and are more efficient.
DISCUSSION

By supplementing the review with criticism due to new findings and adding the perspective from diversified leadership theory (Sadler-Smith et al., 2003), an alternative perspective can be applied to the relationship between the manager and small-firm growth. Most theories and empirical findings in the literature concerning small-firm growth try to answer the question “Who is the successful manager?” or find successful behavior that explains effective leadership, through “the notion that leaders can be classified in either one category or the other, or that certain styles and behaviors can be matched with certain situations to produce effective leadership” (Dennison et al., 1995, p. 525). However, the literature review showed that managers in small growing firms could be classified in totally opposite categories. With some exaggeration, the results can almost be interpreted to mean that the effective manager needs to have a split personality like Dr. Jekyll and Mr. Hyde, changing behavior frequently. He/she must have a focus on internal efficiency at one moment and on innovation at the next.

The search for a profile or category to fit an entrepreneur creates a problem that may be compared with the illustration of the pursuit of the Heffalump in the story of Winnie the Pooh. The Heffalump metaphor has been used by other researchers (such as Kilby, 1971, and Carland et al., 1988) to describe the dilemma thus: “All who claim to have caught sight of him report that he is enormous, but they disagree on his particularities” (Kilby, 1971, p.1). The parallel between the essence of the Heffalump story and the quest for a profile of the entrepreneur and the behavior of the manager is striking. These results also indicate that the manager should have a bit of everything and be able to adapt the work according to whatever situation. The focus of trait-based quantitative research in the field of entrepreneurial and SME research has been on answering the question: Who is the entrepreneur? Gartner (1988, p. 12) argues that “This view alone is inadequate to explain the phenomenon of entrepreneurship” and proposes a behavioral approach to refocus our thoughts on entrepreneurship.

It seems that both the trait-based quantitative research tradition and a behavioral approach can complement each other in order to acquire a better understanding of how the manager affects firm performance in growing small firms. Covin & Slevin (1990) see these phenomena
in terms of opposing categories. They try to explain successful companies as those that manage to alternate between using an entrepreneurial management style in an organic structure and using a conservative management style in an efficient bureaucratic firm. The idea of viewing the phenomena through opposing categories is also present in the leadership literature. One theory that could be applied in order to understand the different empirical findings in the small-firm growth literature is to use the paradoxical perspective of diversified leadership theory, and adopt the taxonomy in Quinn’s (1982) framework of competing values (see also Hooijberg, 1996) and the concept of behavioral complexity. In this framework, leadership behavior is based on two underlying dimensions: stability vs. flexibility and internal vs. external focus. The general implication in this perspective is that effective managers are able both to conceive and to perform eight multiple and conceptually contradictory roles. Depending on the manager’s interpretation of the internal culture of the company, as well as the external environment in which the company operates, a broad behavioral repertoire of leadership roles and the frequent performance of conceptually contradictory roles are correlated with firm growth. “Effective leaders are those who have the cognitive and behavioral complexity to respond appropriately to a wide range of situations that may in fact require contrary or opposing behaviors.” (Hooijberg et al. 2001, p. 526.)

**CONCLUSIONS AND FURTHER RESEARCH**

The purpose of this article is to improve the understanding of the relationship between the manager and growth in small firms through a review of small-firm literature. A main contribution of the article is that it gives a more integrated view of the dispersed research in this area and that the earlier findings are integrated in a conceptual model. In the literature review three different approaches of managers’ influence could be identified, respectively emphasizing (1) managerial traits and characteristics, (2) managerial intentions and (3) managerial behavior or roles.

It was concluded that there are many studies which identify a positive relationship between managerial intention to grow and small business growth. Some researchers have found a direct relationship between managerial traits and firm growth, while others assert a more complex relationship where managerial traits are positioned as an intermediate variable that does not directly influence firm growth – that is, traits and characteristics are not enough to explain small firm growth, but education, for example, can enhance firm growth if the manager has the intention to grow as well as the ability to perform multiple roles. Many researchers have found a positive relationship between managers’ intention to expand their business activities and firms’ actual growth (e.g., Wiklund & Shephard, 2003). The results from the review also gave a paradoxical picture of managerial roles in fast-growing small firms.

A fruitful way to deal with the complexity in managers’ behavior and small-firm growth could be to use the concepts of causation and effectuation in future research. Causation models go from many alternatives to one goal, while effectuation models start with one set of alternatives that can end in many different ways. Sarasvathy (2001) exemplifies a causation process as the one described in mainstream textbooks in strategy and marketing (Kotler, 2003). The logic in this literature is that firms should start with an analysis of the firm and its environment, and then create a plan for the firm that is implemented and controlled. This way of behaving is in line with managers focusing on planning and administrative routines (Slevin & Covin, 1990). Effectuation processes do not go towards one goal, but start from a given set of
means – involving, on the individual level, who someone is (traits, tastes, and abilities), what someone knows (knowledge corridors) and whom someone knows (social networks). This is in line with the view that effective managers should be creative (Feindt & Jeffcoate, 2002).

Causation processes are more effective in static environments where the future is possible to predict, while effectuation processes are regarded as more effective when the future is unpredictable (Sarasvathy, 2001). The delicate problem for the manager is to be able to evaluate which kind of process is most effective in different firm situations. This question is dealt with in Quinn’s (1982) model of leadership roles. According to this model, leadership behavior is based on two underlying dimensions of stability vs. flexibility and internal vs. external focus. The implication for effective managers is that they should be able both to conceive and to perform eight multiple and conceptually contradictory roles. The review and conceptual discussion give rise to a new research question that can be tested in future empirical studies: Is there a positive relationship between managers’ abilities both to conceive and to carry out multiple and conceptually contradictory roles and small-firm growth?

The above-discussed question can be empirically studied by using multiple methods. The focus of “formalistic deductive rather than inductive heuristic approaches” (Gibb & Davies, p. 26) has guided the research field for many years, and a consequence of this is that we have very little deep empirical knowledge, or as Deakins and Freel (1998, p. 145) write: “Longitudinal research inside the organization has been noticeable only by its absence in the small firms sector”. Our literature review shows that the behavior of the managers also seems to influence the growth of small firms. We believe that traditional quantitative and qualitative studies (for example case studies) can be complemented with observation of managers’ work to further enhance the understanding of the relationship between managers and small-firm growth. This opens up a possibility to combine the research tradition of small-firm growth with studies that have focused on the behavior/roles of the entrepreneur/manager by using direct observations (e.g., Choran, 1969 in Mintzberg, 1973; Noel, 1989; Muir and Langford, 1994; O’Gorman and Bourke, 2001; Florén and Tell, 2004).

Earlier research regarding motivation and behavior has focused on the relationship between managers’ motivation and firm behavior (Wiklund et al., 2003). There might also be a connection between managerial intentions and managerial behavior that would be interesting to explore in future research built on direct observations.

Moreover, the focus on behavior has a bearing on education and policy implications. If a behavior can be identified that promotes small firms’ growth, education and policy implications can be developed in line with these results. This could lead to what Gibb and Davies (1990) asked for already in the beginning of the 1990s: business practices to guide small firms that want to grow.

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<td>Small Business Economics</td>
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<td>Ostgaard and Birley</td>
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<td>Journal of Business Venturing</td>
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<td>McGee and Dowlings</td>
<td>Using research-and-development cooperative arrangements to leverage managerial experience</td>
<td>Journal of Business Venturing</td>
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<td>Levy</td>
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<td>Small Business Economics</td>
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<td>Noriyuki</td>
<td>The efficiency of small manufacturing firms in Japan</td>
<td>Small Business Economics</td>
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<td>Hall</td>
<td>Reasons for insolvency amongst small firms – a review and fresh evidence.</td>
<td>Small Business Economics</td>
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<td>Fombrun and Wally</td>
<td>Structuring Small Firms for Rapid Growth</td>
<td>Journal of Business Venturing</td>
<td>1989</td>
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<td>Smith, Gannon, Grimm, and Mitchell</td>
<td>Decision Making Behavior in Smaller Entrepreneurial and Larger Professionally Managed Firms</td>
<td>Journal of Business Venturing</td>
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<td>Journal of Small Business Management</td>
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<td>Dalaba</td>
<td>Lengthening your shadow: The key to small business growth.</td>
<td>Journal of Small Business Management</td>
<td>1973</td>
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A BORN GLOBAL COMPANY’S WAY TO GROWTH

Ingemar Wictor

Acknowledgement

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ABSTRACT

In this paper a Born Global Company has been studied. The aim was to investigate how a Born Global Company has developed from 1990 to 2007. Which growth stages can we identify over time? Which factors influence these stages?

The method, which has been used, is the case study and the information has been gathered through interviews and secondary data.

For the theoretical approach the indicative ‘stages’ of the growth/life-cycle model by Churchill and Lewis (1987) developed by Smallbone and Wyer (2006, in Carter and Jones-Evans, 2006, p.107) I have used a framework focusing the international entrepreneur, the growth, the market strategy, the organisation and the international entrepreneurship and culture.

The Rubber Company has been studied from 1990 to 2007, which means that three CEOs have been in charge of the Company; the founder, external CEO I and CEO II. The Company’s development and expansion over these years are followed and put in relation to stages of growth/life-cycle model and the theoretical framework. The stages analysed are; the entrepreneurial stage (1990-99), the expansion stage (2000-04) and the industrial stage (2005-).

The three CEOs are taking part in different stages, which affect the development. The Rubber Company is still growing. The Company, a very entrepreneurial Company, is over time lifting its development curve to new levels. The market strategy has changed from distributors to building up subsidiaries. Unknown global segments have been developed.

The still ongoing entrepreneurial stage on the business development curve indicates an even faster growth for the Rubber Company. For that situation the entrepreneurship and strategies must be more open, decentralized and team-work organised. Another management style is later required to lead and expand the Company. Since 2005 the Company is working in an industrial stage; i.e. expanding even faster on the global market. A value-added pricing concept has been developed. The Company’s external focus on customers and relations are very important. The CEO II means that traditional multinational companies have too much of an "internal focus”.

The learning process in the Rubber Company has been present from inception in the organisation but has now been more professionalized through international workshops. For the culture and the vision it is important to settle the internal values of the Company all over the
world; the “Company Way” of doing it. The entrepreneurship and the strategies have changed from an entrepreneur deciding in most cases, to a more coaching management. New owners have now invested in the Company and capital for expansion is available.

Still the most interesting question is how the Rubber Company grows over time and how the management all the time manages to shift the life-cycle curve to new levels. The Company is still very entrepreneurial and rapid growing, and has changed from a strong deciding founder to a coaching CEO II, who is implementing a culture where the team is “the competitive edge in expanding” the Company.

**Key words:** Internationalisation, Born Global, Entrepreneurial and Expansion, and Industrial Stages, Market Strategy, Growth, Value-Added pricing.

**INTRODUCTION**

During many years the normal way to internationalise was to do it step by step or gradually according to Johanson and Vahlne (1977). Also, many regulations made it not so easy to internationalise, especially for SMEs companies. In smaller countries like Sweden, many larger companies have been very good at internationalisation due to the fact that the company had to go abroad to find the markets for their expansion. First around 1990, we could see smaller companies with niche-products internationalise. This development increased after 1995, when Sweden joined the European Union.

The last 10 to 15 years, the phenomenon of Born Globals has been highlighted in many studies. These firms adopt a global approach right from the inception or very shortly thereafter. This behaviour challenges the traditional models of internationalisation that suggest that internationalisation is developed in a slow and step by step manner with regard to geographical markets and market entry modes. It has been found in earlier papers that the ongoing globalisation has made it easier to affect Born Global strategies. Still, active entrepreneurs see the global opportunities and were therefore crucial to implement these strategies and their personal networks were used as tools in these situations. An indication of the new times is that currently about 245,000 Indian people are answering phones from all over the world, etc. and working in call centres (Friedman, 2006).

An increasing interest has been shown in the international development of the Born Global firms (Andersson, 2000; Bell, 1995, Homlund & Kock, 1998). The early internationalisation of the companies has shown to be a successful strategy for some SMEs (Madsen & Servais, 1997), but for some researchers the theoretical point of departure is the critique of the Uppsala internationalization model and other stage models (Bilkey & Tesar, 1977; Cavusgil, 1980; Czinkota, 1982; Reid, 1981) for being deterministic (Bell, 1995; Reid, 1981; Turnball, 1987; Melin, 1992). Firms developed in accordance with the models and many individuals have no other strategic choices. Other studies have shown that entrepreneurs choose to internationalise much faster and to be global short after their inception (Rennie, 1993; Knight & Cavusgil, 1996; Madsen & Servais, 1997). For these entrepreneurs a global strategy is the most natural strategy, while most other entrepreneurs should have chosen another strategy.

The Born Global Companies develop very fast on different markets to survive. They must expand on the markets before the competitors understand that they will get competition. Many
companies normally, even the Born Globals, develop first on the domestic market, but most Born Global Companies have a clear intention to growth directly on the global market. The Born Global Companies develop rapidly (Wictor, 2006a). The entrepreneur’s vision to develop the company over time has changed. What happens in the different growth stages? Which factors influencing the growth stages can be identified?

Some Born Global companies have now been in business for many years. What has happened to them? Have they developed as other older companies or have they followed another pattern? Which factors have influenced the Company’s development?

The aim of this paper is to investigate how a Born Global Company has developed from 1990 to 2007. Which growth stages can we identify over time? Which factors influence these stages?

READING INSTRUCTIONS

This is a case story about a Rubber Company started in 1990 and studied to the year 2007. It is for many an interesting Company who have had success in the Company’s internationalisation process during these years. I start with an introduction concerning the start and internationalisation of Born Globals. For these companies it is a question of survival to go international and to expand into many countries over only a few years. This is not in accordance with the stage model developed by Johanson and Vahlne (1977).

In the theoretical framework I use theory to handle the internationalisation process concerning the international entrepreneur, the international growth and growth models, the international organisation and the international entrepreneurship and the company culture. This framework I shall then use in analysing the case story in the analysis.

The method used studying the Company is case study.

In the Case Story I present the Company, its history, and what has happened during these years. Of special interest is its development in stages of growth. The life-cycle model is also of special interest when analysing the company.

In the analysis the Case Story is analysed according to the theoretical framework and in the conclusion I do my best to answer the aim of the study for you as the reader and to focus on the most interesting contributions. For the future research it would be of interest to study the Company after same years again and its development. The practical contribution can be used as information to companies who want to expand to other countries.

THEORETICAL FRAMEWORK

The study in this framework has been structured in a way to more easily be able to follow the development of the Company over the years and to explain the Company’s development according to the aim. The framework starts with discussing theory treating the first research question and then the factors influencing these stages. Earlier research has pointed out these factors, i.e. international entrepreneur, market strategy, organisation and culture as important to understand international growth.
INTERNATIONAL GROWTH

When you study Born Global companies it is also important to study networks and according to Oviatt and McDougall (1994), Bell (1995) and Coviello and Munro (1997) they have the opinion that you have to study networks and networking to understand a company’s speedy internationalisation. Etamad (1999) means that the short product development cycle does it necessarily to expand to as many markets as possible during a short time. Therefore, the situation requires new strategies, alliances and networks to manage. Also, Spence (2003) has found that networks are important when you internationalize.

<table>
<thead>
<tr>
<th>Time</th>
<th>Business Life-cycle</th>
<th>Start-up</th>
<th>Survival/development</th>
<th>Growth</th>
<th>Maturity</th>
<th>Decline</th>
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<tbody>
<tr>
<td>Sales revenue</td>
<td>Owner-manager is the business</td>
<td>Simple structure; pivotal role of owner-manager; informal management process</td>
<td>More formal organisation structure: need to delegate functional activities</td>
<td>Lines of authority consolidated in functional form</td>
<td>Possible retrenchment or replacement of functional line staff</td>
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<tr>
<th>Indicative challenges and hurdles</th>
<th>Need to identify market and attract customers</th>
<th>Need to consolidate customer base</th>
<th>Owner-manager willingness to relinquish areas of control</th>
<th>Investment of time/resources in marketing effort (seeking alternative markets)</th>
<th>Need for extension strategies</th>
</tr>
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<tr>
<td>Cash flow difficulties</td>
<td>Establishing of sound financial foundations</td>
<td>Attracting better quality staff</td>
<td>Assessing and countering of astute competitors</td>
<td>Control of expenditure and costs</td>
<td>Shrinkage of operational activities, possibly with accompanying high overheads</td>
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For Born Global companies working in niche-markets, the internationalisation process earlier than before is due to changes in the environment (Nummela, et al., 2003; Knight, 2001; Fletcher, 2000). Furthermore, they have through reinforced competition received reduced
possibilities to control their own development (Nummela, et al., 2003). For most companies the internationalisation process is a question of rapidity to establish new markets in order to survive.

To understand the Company’s positive growth, Cardoze et al.’s model (1995) can be used to analyze the Company. Another interesting way is to study the decision-making and leadership styles over the different growth stages (Kedia, Nordtvedt and Perez, 2002). According to Shin (1997), the team can be a competitive edge in expanding the business over time.

Another model which can be used to explain a company's development and growth is the so-called “organisational approach” by Gibbs and Davis (1990), which focuses on different development stages in the life-cycle. They meant that since a product faces a life-cycle, the business must do it, too. Churchill and Lewis (1987) developed a five-stage model. In this model each stage connects to enterprise factors and management factors, which change over time as the firm develops. An application developed by Smallbone and Wyer (2006, in Carter and Jones-Evans, 2006, p.107) shows how a Company follows that graph. This model is highlighting the pivotal management roles and activities of the owner-manager at the start-up and survival stages of the company at a time where the simple organisation structure and the informal management process are dominating.

There are different growth models to be used, but I have chosen Smallbone and Wyer’s model (2006) due to the fact that it is a distinct way of discussing how different factors affect the growth in the different stages.

THE INTERNATIONAL ENTREPRENEUR

Entrepreneurs are motivated individuals, but how do they think when they are working in a Born Global Company. In order to stay ahead in the development, strategies and strategic thinking become important parts of the understanding of the internationalisation process. In this it is continuously important to think in terms of building knowledge according to Johanson & Vahlne (1977) and to hereby also create a learning process.

According to Halila and Horte (2006) the entrepreneurs can be seen as individuals who have a strong vision to which they are strongly committed and to carry out its implementation. The entrepreneur is a person who opens new markets and develops new organisational forms. Daily et al., (2002, p. 402) mean that “entrepreneurial firm leaders may operate under less severe constraints enabling them to more directly impact firm outcomes as performance”.

Andersson (1996) holds a discussion concerning the entrepreneur and the entrepreneur’s action which can be seen from the decision process in the company. He means that the entrepreneur has a special capacity to know which possibilities are feasible and how these can be evaluated as information from technical, marketing conditions and institutional characteristics. He further indicates that since many informational sources are widely distributed throughout the world, it results in that the entrepreneurship can also be divided into entrepreneur teams.

The company's internationalisation strategies have earlier focused mostly on the market and increased sales, but as pointed out by McDougall & Oviatt (2000) it is a question of creating higher values. This you also find in the definition of International Entrepreneurship by
McDougall and Oviatt (2000, p. 903) and which incorporate Covin and Slevin's (1989) three dimensions of an entrepreneurial orientation. The definition of International Entrepreneurship by McDougall and Oviatt (2000, p. 903) have been developed and adjusted to a more international business situation;

“International entrepreneurship is a combination of innovative, proactive and risk-seeking behaviour that crosses national borders and is intended to create value in organizations.”

This definition has been developed further. Shane and Venkataraman (2000, p. 218) proposed the following definition; “examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited”. Oviatt and McDougall (2005, p. 540) developed their definition after taking Weick (1995) in consideration and his process of enactment;

"International entrepreneurship is the discovery, enactment, evaluation, and exploitation of opportunities - across national borders – to create future goods and services."

Especially the last part of “creating value” is today very important due to an even stronger global competition. To be able to be profitable, you must focus on the customer’s possibilities to make more money on products and services (Wictor, 2006).

The entrepreneur is important to study when studying Born Global companies’ development. What happens internally in the company’s organisation and what is the entrepreneurial role in the internationalisation process? In this study I have also designated "an external CEO" as an international entrepreneur who most clearly can be considered as the person who has contributed to the shaping of the internationalisation of the company. Andersson (2001) points out several studies, done both in Sweden and abroad, which have shown the importance of the entrepreneur and the private individuals for the emergence of fast growing companies. He further discusses the entrepreneur’s role in the organisation and the entrepreneurship’s importance for growth.

According to Andersson’s model (Andersson, 1996, p. 69) over the company’s internationalisation from an entrepreneurial perspective, we can see that the entrepreneur in the model influences the process and can over time turn the possibilities to acquire impressions from his surroundings in macro, meso and companies in order to thereafter affect the process and the individual in the organisation. Decision-making and transferring of knowledge became an important factor in the strategic process and the learning becomes important for the Born Global companies, which need rapid expansion.

A school, which is very interesting in connection to the entrepreneur and the strategic process, is “The Entrepreneurial School”, which is characterized by “a strategy formation as a visionary process” (Mintzberg et al., p. 5, 1998). The central vision for this school is representative of the mental process as created by the entrepreneur in his head. This vision should be considered both as an inspiration and a reason as to what has to be done, that is in the form of a “red thread” over how one shall reach the goal. The vision is not directly formulated in words, but can be seen as a picture or a map. This can then be adjusted to the entrepreneur’s own experience. His strategies has become both intentional in their entirety in the rough direction and appear in its details in order to adjust to the rough direction. This creates one for the entrepreneur’s strategic thinking, a form of “vision” according to Mintzberg, and others. McClelland considers that the achievement motive is extremely central for the entrepreneur. The personal satisfaction of accomplishing the task is more important than the personal re-
ward; “The motivation was not merely profit, but also the desire to establish a private dynasty, the will to conquer in a competitive battle, and the joy of creating” (McClelland, p.11, 1961).

According to Hoy, McDougall & D'Souza (1992), growth is created by persistent entrepreneurial activity. Kolvereid and Bullvag (1996) have developed a conceptual model of growth for entrepreneurial organizations. This also emphasizes the growth’s relation to the individual’s entrepreneurial action. Klofsten (1992) also boosts the individual’s/ entrepreneur’s significance for the early organizations’ development.

**INTERNATIONAL MARKET STRATEGY**

For the development over the last two decades of the new technology development in communication and logistics, globalization of the market demand and the market strategies has been important (Levitt, 1983). This has also opened new conditions for the smaller companies. However, there are still a lot of problems left such as language, culture and different types of market channels in different countries (Andersson, 2000). For innovative companies, Spender (1989) means there are niches to develop, markets where they can act in their own way.

According to many researchers, it has been natural first to go for the domestic market (Lindmark et al., 1994) and then internationalize gradually to culturally similar nearby countries. The Uppsala school has earlier explained this through the Uppsala model (Johanson and Vahlne, 1977, 1990). Their model starts from the point that the company has no organised export and that the company step-by-step establishes new markets through agents/distributors, to the establishment of subsidiaries and after that to produce in respective country (Johanson and Wiedersheim-Paul, 1975). Due to the decrease of customs and Sweden’s entry to the Common Market, the conditions for many companies, especially the Born Globals, have influenced these companies’ development. Those companies that have unique products which address different niche-markets have been able to use this strategy. For the success of these companies, it is required to establish on different markets (Andersson and Wictor, 2003). The definition used is “A Born Global is a company that has achieved a foreign sales volume of at least 25% within three years of its inception and that seeks to derive significant competitive advantage from the use of resources and the sales of outputs in multiple countries” (Andersson and Wictor, p. 7, 2003) which is influenced by Knight and Cavusgil (1996) and Oviatt and McDougall (1994).

Rennie (1993) has found that the management looked on the world as one market place. The entrepreneurs applied leading-edge technology either in manufacturing or in the way that they were doing business. McDougall et al., (1994) described it as "international new ventures". Madsen and Servais (1997) have studied the same phenomenon.

**INTERNATIONAL ORGANISATION**

According to Smallbone and Wyer (2006), the entrepreneur is the business from the start. He decides. During the Company’s expansion growth stage, the survival is the main goal. The structure in the Company is simple. The entrepreneur has a pivotal role. The management process is very informal. In the growth stage there will be a more formal organisation structure and a need to delegate functional activities. In this stage it is important to improve the knowledge of the staff. At the same time it is important for the entrepreneur to relinquish certain areas to other persons.
Rialp, et al. (2005, p.162) have found in their studies that “the organizational capability perspective could constitute one of the most promising theoretical frameworks from which you may explain and interpret not only the emergence of early internationalizing firms but also its further development in the form of rapid and sustained international growth”.

Fefer and Willard (1990) proposed that larger teams may be better to enable firm growth. Larger teams could provide members with deeper depth of skills and experiences. They have also found a positive relationship between the founding size and performance.

**INTERNATIONAL ENTREPRENEURSHIP AND CULTURE**

In the Born Global Companies a strong founder’s vision generates a strong culture. The culture is used to govern the Company. The entrepreneur’s leadership is therefore very important in developing the Company.

The transformational leadership is known when a leader inspires the staff to share a vision, empowering them to achieve the vision and when the executive is willing to provide the resources needed to develop the staff’s potential. The leader serves as a role model in the organization (Smith, et al., 2004). For a charismatic leader it is important to inspire the staff by building their commitment to the shared vision and values (Conger and Kanungo, 1998). Bass (1996) indicates that transformational leaders are tolerant to an employee’s mistake. The leaders are open for new ideas and involving the staff in finding solutions to different problems. This is important for company growth. Through how the leader works, it also gives the individual the possibility to create new learning situations and to develop. The communication is used as a two way model. Smith, et al., (2004) mean that transformational leadership is suitable for a dynamic environment in which the employees are encouraged to take initiative, responsibility and risk.

Block (2003) has made the following conclusions, such as the leadership creates an environment where organizational changes happen more easily and the organizational culture as a contextual factor forms a specific leadership and the leaders use the organizational culture as a tool to affect change. Furthermore, Block (2003, p. 329) means that “Leadership and organizational culture represent two realities of organizational life that are closely intertwined”.

In the analysis I shall use the structure according to theoretical framework; International Growth, International Market Strategy, International Organisation and International Entrepreneurship & Culture to analyse and understand the Rubber Company. In earlier research these used conceptions have been accepted as important.

**METHOD**

Data has been collected through a case study in a Company during two research projects at Halmstad University from 2001-2007. In the projects I have been working together with Professor Svante Andersson at Halmstad University. He started his research on the Rubber Company in the late nineties. I have had the opportunity to use some of his research information from 1999. That means that his information together with the interviews cover the time from the founding. Please find dates for the interviews in attachment 1. The Company can be used for longitudinal studies over 17 years. The Rubber Company is by definition a Born Global
company. A Born Global Company is still a fairly rare phenomenon. The interviews in the projects have been carried out during the years; 2001, 2003, 2004, 2005 and 2007.

The qualitative method with interviews is therefore interesting to use to be able to pick up details which are important to new phenomenon in the society. To be able to study the Rubber Company over so many years makes it very interesting. According to Rialp et al. (2005, p.163), they suggest that "a more rigorous and insightful application of the case study approach, with primarily explanatory purposes but even in a purely explanatory way, may result in the identification of totally unexpected evidence fostering newer and more sophisticated interpretations of the phenomenon". For the study I have used secondary data and earlier interviews completed with a new one in April 2007. Three different CEOs have been working in the Company during this period. These different entrepreneurial periods I have used as a base to define the different development stages in the Company. What has happened, how have the different entrepreneurs acted over time and have they worked with strategies? Interviews have been carried out with the founder (two interviews), the CEO I (one interview) and the CEO II (three interviews) and completed with secondary data. The goal was to find deep information about the development of the company, its business development and the establishment on the markets. The red thread to focus on has been changes in its development over time. Information, which is difficult to reach through a quantitative questionnaire, could be gathered through the interviews. I have used the different interview persons as references in the empirical data; founder, CEO I and CEO II to reach a deeper understanding for the reader when taking part in this case.

The company used is very interesting; because the Born Global which now has its history after 17 years of development. Diversity in information is then of interest to see the variety of the Company's development and to analyse it according to the aim. Yin (1994) means that the most important part when you are choosing a company is the potential with which that company can contribute. The framework will be used for analysing the Company.

THE CASE STORY

THE RUBBER COMPANY

The Rubber Company is a knowledge-based Company manufacturing Multi diameter based rubber seals for cables and pipes. From the beginning in 1990, it was already decided that the world should be their market. The founder has always worked from a strong vision and a special way of market establishment. Their goal was to work through distributors with very close relations to the Company in Sweden. They have now begun to leave this model for a focus on subsidiaries owned by them and with a stronger demand on profitability. The created culture values are central for the whole Company but they were written in 1994 when the Company had only 15 employees. The formed values, the guiding principles, were based on how the Company worked at a time when the Company started, and stipulated by the founder.

"It is better to own one market than to own a factory". The Rubber Company was to be international already from the first day. The sales turnover in Sweden has never been over 18%, max. 20% at a time.
**BUSINESS CONCEPT**

"The Rubber Company should develop, manufacture and sell Multi diameter based rubber seals for cables and pipes, which pass through clearly-defined constructions, where the importance of the protection towards fire, gas, water and electromagnetic disturbances is focused. The world should be our market" (Andersson, 1999). This has permeated the Company over the years and its values. The Company Way is a result of this.

**THE PRODUCT**

The product is protected by a patent. The manufacturing process is an important part in the process which gives a competitive product. The rubber mixture is strategically important. According to the guiding-stars, the Company only works with the core business. The logistic department has an important role in the Company (Andersson, 1999). The Company chooses their suppliers carefully for their cooperation. The product core competence is to be found at the head-office. The founder says "we do not outsource the core competence we have in-house".

Especially during the stage from 2005, the new CEO II, has settled a new and stronger price-model. It is part of marketing the product to be able to inform the customer that we can help save some money, if they choose our product. Our product can solve problems for the customer. On the other side, purchases must be cut by 25% during three years. This means cutting purchase prices and to be able to increase the selling prices; so-called "Value-based pricing".

**THE COMPANY DEVELOPMENT OVER TIME**

![Graph showing Rubber's Profitable Growth, 1990-2009 according to the CEO II](image)

Figure 2: Rubber’s Profitable Growth, 1990-2009 according to the CEO II
**The Company Way**

The Company Way is an approach which should permeate the whole Company. This is a strong vision that governs. The mission is to sell solutions. The concept is what the customers need. The Employees must understand their role in the Company and their task. They must also understand who they are and live for their own vision in accordance to the Company’s. Furthermore, they must understand each other’s roles and know the Company’s concept. The thinking in growth should permeate the whole organisation. The Rubber Company’s Core Values 2007 are; Market Creators, Satisfaction, Trust, Locally Global, Flexible, Profitable, Simplicity and Rapid Growth. This means a Company Culture with a vision leading the whole Company towards the future according to expansion, growth and profitability.

**The Market Strategy**

Already in the beginning, the Rubber Company saw the world market as their market. The Nordic countries were the important export markets. Especially Norway and the UK were important markets, because of the off-shore market as a customer segment. The Rubber Company found their international distributors in different ways through exhibitions and through the founder’s network. The distributors should concentrate on only a few products. The Rubber Company looked for non-established companies with entrepreneurial thinking. Some agents were enrolled on a provisional basis. The main way for the company is to have distributors, due to the importance of a small stock to be able to support the market with a valid service (Andersson, 1999).

The internationalisation has been done “as ring of the water”. During 1998, the Rubber Company reached 50 representatives on 70 markets. The Company has established 10 new markets a year. In 1999, 85% of the turnover was exported. In general, the market strategy during some years has mostly been to work with distributors. Only if some problems suddenly emerged was the Rubber Company interested in starting a subsidiary. Due to some problems with the distributor in the US, the Rubber Company had to start a subsidiary. The sold volume there was now 25% of the turnover. In Germany they had to take over the distributor due to a change of generations. Still the founder means that “all honour to distributors but they do not have the same drive as our own people”. A salesman from home travelled a year in the Middle East and after that it was natural to establish a subsidiary office there. The same thing happened in China where there was nothing to build on. It was natural to start a subsidiary in Shanghai. China is becoming an important market. Still in 2003, it was not the primary goal to have subsidiaries abroad. All the markets are represented on global market meetings.

![Figure 3: The Establishments of Subsidiaries over time](image)

To start up subsidiaries abroad is a question of financing. In South East Asia it works better with subsidiaries. When they were to start in Singapore they asked the customer to list all possible companies. The Rubber Company chose a small company with two persons driving
their business from a bedroom. Choosing such a Company shocked many down there. A Rubber distributor may have a maximum of five products. Many market establishments were done rapidly and were a central question for the Rubber Company's survival. The founder's network was very important in this process. The first three years were very important in this case.

Today, the Rubber Company controls 80% of sales through their 12 own subsidiaries and a network of more than 40 distributors (sold to 75 markets). Since 2004, the Company is back on the growth track:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>300 MSEK</td>
<td>14%</td>
</tr>
<tr>
<td>2005</td>
<td>378 MSEK</td>
<td>26%</td>
</tr>
<tr>
<td>2006</td>
<td>550 MSEK</td>
<td>46% (Organic 31%)</td>
</tr>
<tr>
<td>2007</td>
<td>735 MSEK</td>
<td>32%</td>
</tr>
</tbody>
</table>

THE MARKET ESTABLISHING IN THE US

From the beginning, the earlier distributor was working for the Rubber Company due to old relations. On the US market, which in 2007 is the Rubber Company's largest market outside Sweden, the sales did not develop according to expectations. During 1997-98 the Rubber Company bought 50% of the shares in the distributor’s company. The rest of the shares were bought in 2001. At that time the company had about 22 employees and a turnover of five million USD. In the last year, the Rubber Company has worked with the company to develop its knowledge level and to develop its customers for a more growth oriented strategy. The growth potential should be developed to the level of Europe. The company is working in areas as Marine, Oil & Gas (Onshore/Offshore), Industry (OEM, Construction) and Telecom. The Rubber Company hopes to develop the US Company's growth potential in the coming years. In 2005, the US and Germany were the largest markets.

THE OWNER STRUCTURE

From the beginning, the founder was the main owner with 70% of the capital stock. There has been no interest for a floating. The founder means that "there could only be one captain on the boat. Furthermore, the Company will be governed by quarterly reports. The long-range planning will partly be lost". When it comes to the work on the board, this has mainly been paper product, but today they are recruiting a professional board and with more external members. Important values for the new board are; external image and industrial knowledge, i.e. as a professional sounding board.

Over time the board has brought many new ideas into the Rubber Company concerning growth, marketing and controlling. It has been important with different knowledge on the board. Not all on the board can be entrepreneurs. The board is important as a sounding board.

During 2006, the Rubber Company was sold to an investment company dominated by a well-known investor in Sweden. He runs the board through: a) asking questions, b) sharing his experiences to the Company and c) he has an extensive network which is important for the Company. The founder is now only working on the board. He plays some role in the forum for development. They meet four times a year.
THE DIFFERENT STAGES IN THE COMPANY'S DEVELOPMENT

Traditional multinational companies are according to CEO II, companies focusing on one market at a time. The Rubber Company is a company seeing the world as their market from the beginning. The Company has a Darwinistic perspective and does not slide into a “fat and happy” syndrome.

STAGE I - the ENTREPRENEURIAL STAGE (1990-99)

The founder has been the driving force. Directly after he completed upper secondary school, he started to work for a company in the neighbourhood. They also manufactured rubber seals. First, he worked with market tasks and after 12 years he asked to take over as CEO of the company. Five years later he asked the owners if he could buy the company. They did not want to sell and a conflict developed. He then quitted. Now he had to decide what he should work with in the future. He wanted to start something of his own and in 1990 together with his sister and two other persons he decides to start the Company. The Company was started in a garage, but he still had the ambition to reach the world market as their market (Andersson, 1999).

<table>
<thead>
<tr>
<th>Entrepreneurial Stage</th>
<th>Expansion Stage</th>
<th>Industrial Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990 - 99</td>
<td>2000 - 04</td>
<td>2005</td>
</tr>
<tr>
<td>Entrepreneurial personnels, Founder and External CEO I</td>
<td>Entrepreneurial Personnel and the new CEO II starts</td>
<td></td>
</tr>
<tr>
<td>Turnover 0 - 22 MEUR</td>
<td>Turnover 26 - 33 MEUR</td>
<td>Turnover 41 MEUR</td>
</tr>
<tr>
<td>Internationalisation Lean development Focus distributors Few subsidiaries</td>
<td>70% turnover in Europe The founder tries to leave the Company Internal focus Each market operate very much its own market Important persons in and out Need for new owners Low times of depression</td>
<td>Professional management hired Professional Board appointed External focus Expansion through subsidiaries No Quick Customers – find loyal Customers – keep them “assurance” to the Customer for secure and good delivery in time Resources for expansion available New global segments Need to recruit new staff for expansion Claims for dividend</td>
</tr>
<tr>
<td>Turnover 61 MEUR</td>
<td>Turnover 41 MEUR</td>
<td>Turnover 71 MEUR</td>
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</table>

Figure 4: The Rubber Company’s different Entrepreneurial Stages

From the beginning, the most important task was never to give up and to work with corrections, but to believe in what you are doing. To stay at the “red thread” and not to question the development was very important. “To give up does not exist in my head and to be motivated is a question of personality and obstinacy. Challenges are like having fun. It is a contest instinct, which I have in myself, but I have never been interested in Sports. This is another form
of contest. My parents were important role models for me. My father did not own anything, but I have grown up in a hard-working environment. This has formed a driving force”.

The CEO II means that the founder was very smart in seeing early situations, i.e. to have intuition for them and to build relations with different persons and to be unafraid.

It was a tough time when the Company started in the garage and when the first fire tests were done on the lawn in the founder’s garden. After one year, they moved to the building of today. The original products are still the core products. During the foundation period they had regular meetings and a production had to be built up. It took nearly two years from the start. Already during the first month, the Rubber Company started with international sales. The first exhibition they took part in was in Stavanger in Norway. “The first order was drawn as a sketch on a table napkin in a restaurant”. The contrast to the later development was great. In 1993, representatives from Germany visited Sweden. The next year representatives from 25 countries participated in a meeting. The Rubber Company employed a Chinese living in Sweden who was educated in Sweden. The same year, a person from Syria was employed who had an education from Turkey. This person was talking Arabic, and another person from Chile had come to Sweden as an immigrant who was unemployed. The person is now plant manager in Dubai. The recruited personnel had different cultural backgrounds. Today, the Rubber Company has four offices in Shanghai. The Rubber Company had, in 2003, subsidiaries in Europe, USA, Australia and in South America.

During the year 1994, the executives for the Rubber Company found that the growth and the profitability were not developing as fast as they wished. At that time the Rubber Company had 15 employees with a turnover of about three MEUR. They found that their estimation of the total market to about 10 MEUR at that time, had limited their thinking and acting. They now found that the product could be used in many different areas. The Rubber Company carried out a new distinct segmentation of the market and new selling arguments were adjusted for the different segments. Seven guiding-stars were defined which should permeate the Rubber Company’s daily and long-run activities; a) It is better to own a market than a factory, b) each customer must feel unique, c) the customer must trust us, d) the world is our market, e) we are alert and flexible, f) we save money for our customer and g) we think, act and answer simply (Andersson, 1999).

This has to permeate the whole organisation and the business. Growth and internationalisation have always been important parts in the Rubber Company’s comprehensive strategies (Andersson, 1999).

For the market it is important to work with good examples. Furthermore, it is financially important to have a healthy base on the domestic market. The Rubber Company has an explicit philosophy to see the mother Company, the distributors, agents and subsidiaries as one organisation. Heavy demands are set up for the distributors and agents to operate the selling on their market. The Swedish organisation should give the different organisations abroad strong support.

According to the founder, the development for the Rubber Company was not satisfying during 1994, so the management decided to improve the market development and to find new areas for the products.

For the first eight years, the Rubber Company used distributors to 80% on the different markets for their selling. The founder opened about 10 markets a year during this period. During
the years 1997–2000, there has been a gradual change to subsidiaries and a new strategy. The Company needs to control and expand the different markets. The use of local distributors as market channels has, in 2007, changed to only 20% and 80% is sold through own subsidiaries.

**THE LEADERSHIP AND THE INTERNAL ORGANISATION**

The organisation is flat and the management struggles to tone down hierarchies and works for emphasizing a team feeling. In the manufacturing department there works only 20% of the staff. Much money is put into personnel promoting activities and education. The Rubber Company has employed several colleagues with foreign backgrounds due to the need for language knowledge fitting different markets. The Company has invested in open spaces as offices, which are simple to reorganise. The CEO and the management are sitting together. In the centre there is a meeting place for changing information (Andersson, 1999).

According to the founder, it is important to arrange a team which burns for its task and works well together. It must be fun to work and to be a good example.

“**Symbolic leadership is important to 90% and the performance should be 10%, so this is a very instructive example. A failure is also something to learn from. Still you must be able to analyse what went wrong and why to avoid it the next time**”.

In teams different types of persons should be representative also with different cultural backgrounds and it increases the dynamics in the organisation. The Rubber Company’s team thinking does not divide the staff into different levels. That would create barriers and an ineffective organisation. In an organisation like the Rubber Company’s, it is important to take decisions on your own without passing through many other persons. In the Company they therefore call, instead of mailing to save time.

Recruiting is done on formal qualifications, but mainly after individual characteristics. If the recruitment is not so successful, one tries to solve it through a dialogue (Andersson, 1999).

The person employed must have the right mindset to manage his task. Knowledge can be built over time, but it is difficult to change how a person is thinking. The one who is employing should hire a person which is even better than them. Recruiting is very personal, and is a question of social competence and being accepted in the team. It is also about personal integrity to say both, yes and no. All leaders must be sensitive. The Rubber Company works with agreements in different countries. It is important to have agreements or local regulations may be used and that could cost a lot of money. If you have problems with employees, you must act in an early stage of the situation.

The organisation abroad is governed by financial goals. Still it is not so easy to motivate all in an organisation. Special meetings are arranged out in the world. These are complemented with daily contacts by mail and phone calls. Central for the founder has been an organisation with different types of persons as monitors, entrepreneurs and others to create dynamics.

**THE IMPORTANCE OF NETWORKING**

The founder thought that he should have more benefit from his old business relations, which he had created in his former job concerning the market. He made some miscalculations, but he managed in spite of that. “I had to buy new glasses, because he had gotten a wrong picture of the market”. Still these networks, both locally and internationally, were good in other ways,
as in banking, manufactures, etc. Many international distributors were found through exhibitions and through the founder’s network. 

CEO I also meant that the management had much use of their networks. Many issues could be solved through the sounding board. In some cases the distance is a problem. The executives in different countries need someone to talk to. In situations concerning recruiting you have to be very careful. Questions about the salary in the unique country have to be solved.

It is in the advanced building constructions where the Rubber Company is strong with its knowledge. Still it is complicated to work internationally with the interaction between different partners. Something always happens, but due to the strong network built by the Rubber Company, most situations can be managed. Here the Rubber Company has an enormous strength. The Company offers local service, local distribution and the Rubber Company hopes to be very effective on the market.

"Once a job in Russia should be done at the communication centre, the customer was in Japan and the main contractor was stationed in Norway. We could handle all three in one day by controlling all three actors on the same day. We were in this situation very effective".

The founder has always been a networking person. Today he works privately with an investing strategy for acquisitions concerning real estate property, work of art, etc.

**STAGE II - THE EXPANSION STAGE, CEO I (2000-04)**

The CEO I was in charge as executive since the autumn of 2000. He started his career at a Swedish company in the tobacco and match industry as business controller and with an academic exam. During his time at that company, he worked for three years in Switzerland. He then joined another big company in the floor manufacturing industry. In the beginning of 1994, he was responsible for a division with a turnover of 2.8 billion SEK and 2000 employees. This business was highly internationalised (85%). For Sweden this is a big company, but fairly small on the world market. They then tried to focus on the business. During his time in the company, he also worked in Germany. In the two companies he worked with international marketing. When the company should be reconstructed, he left for The Rubber Company.

The CEO I means that he has another management style compared to the founder. He is himself used to working with a team which is more qualified. It is a change to go from a larger company to a smaller company. In a smaller and even more international company, it is important to have creativity and to find a connection between the technical product and the market.

He works to govern the business from 4 C: They are: a) Customer in focus; to add values that the customer wants, b) Creativity and innovation; it must be acceptable to have ideas in the organisation, c) Continuous improvements, “kaizen”; to do it a little better next time, d) Clarity and openness, it should be accepted to different views, which must be encouraged by the management, but should be built on the Rubber Company’s vision.

It is important for the management to be role models, the colleagues do not read; they see how we do it. He also finds networking very important for different situations.

Between the years 2000-2004 the Company was affected by the depression in Sweden and the founders had too much internal focus. CEO II means that you can focus on a change in the
market strategy to more subsidiaries around 2000. The change to subsidiaries was continued during the period to be able to expand the company.

THE LEADERSHIP AND THE INTERNAL ORGANISATION

The Company invests a lot in education as basic training for all staff several times a year to create an innovative creative environment. The management must be good examples for the organisation in general; “one does not read what you are writing, but how we do it”.

STAGE III - THE INDUSTRIAL STAGE, CEO II (2005 - )

The CEO II is from the South of Sweden and born in 1971. Earlier his father had a high rank in the Swedish Air Forces and was the son of a farmer. His mother was a housewife. His brother is working for GM in the US. He has a mechanical engineering education from Sweden, completed with studies in business and finance in the US. The education in the US is more related to individual performance, which means more stimulation and involvement. For those who are stimulated and want to invest effort in their studies, this is good. That is also good for the group. He got scholarships in tennis to study. After these exams, he completed an IMD in marketing in Switzerland and other courses abroad.

He has worked internationally since he began to work. The first job was for a Swedish chemistry company in the division Surface Material. He worked as a Business controller with environmental analysis, business intelligence, but also with some controlling for one year. After that he started as a trainee with the possibility to take part in the management team’s work. He had to work about 80 hours a week during two years, but this knowledge was very important. Later on he was stationed in the US for a subsidiary with 100 shops. During 2000, he left the company due to weak management and “no feeling for the earlier passion and vision which had formed the company”. The head-office also moved to London due to the new CEO’s interest to pay low tax. They also missed important acquisitions and alliances, so the company lost 3-4 strategic years of development. Still the main problem was the lack of conformity between the owners, the board and the management. Two years later the company was not any more profitable.

During 2000, the CEO II was contacted by the earlier CEO of the chemistry company in the Surface Material industry. He was working on the board of a company in the south of Sweden owned by the founder of the Rubber Company. The turnover at that time was 18 million SEK and the company was working within the radio frequency technique. It was a development company. The CEO II was asked to work as CEO for this company. He developed it and the turnover developed to 100 million SEK. In the year 2003, the company was sold to a bigger company. The CEO II was asked to stay for 24 months, but left after 12 months. He then took half a year vacation. During that time, he was a member of the Rubber Company’s board.

“To build the company during four years was heavy work, and to change it from an introverted to an extroverted concept. In the end the company was selling to 45 markets, a tough task. The company had 97% of its turnover outside Scandinavia”. This was a challenge.

During the autumn of 2004, he then accepted to test the Rubber Company after some persuasion by the founder. He got the responsibility for all subsidiaries, all free distributors, segments, marketing and “the communications”, which means 70% of the employees in the group. The CEO II notes that the Rubber Company is a market driven Company.
The time in the radio frequency technique company was a very interesting and useful time with building a trademark and positioning on the market, exhibitions, different contacts and building the sales organisation. From this company he has recruited two persons; one for the market side and one as plant manager. During his vacation time, they worked for another big company.

**NEW MARKET STRATEGIES ACCORDING TO GROWTH**

During the last years, the Rubber Company has changed more and more to work with subsidiaries. They started the conversion when the distributors became “fat and happy” and were not interested to work for an expansion. Some distributors were not ready to invest in a way that satisfied the founder. This created a weak changing situation. The Rubber Company is a company which has a possibility to reach a margin of 20-30%, but this would cost 7-8% of the margin in a short run. From 1997/98, the Rubber Company started to take over some distributors and started the China market, Middle East and Dubai. The greatest change in the market strategy was in about 2000, when the Company converted two area managers to local managers for subsidiaries. They also had 5-10 years of culture and language knowledge from Sweden. These managers knew the Rubber concept from Sweden.

The strategy is now to work with subsidiaries to be able to trigger the growth harder and to work with how they do it. The new concept includes “where and who” they sell to. Where do the industrial structure, customer structure, customer needs and requirements stand? Which means what product they are selling, its special characteristics and how they sell it? The Rubber Company invests in education serving this. The selling efforts must be more strictly arranged. The way of selling was launched in Shanghai in June 2005. The Company chose to invest in the market with the best possibilities for profit. Still today the Company is a European focused company, but the management is today more and more interested in China, the markets in America and in other markets in Asia. On minor markets the Rubber Company still intends to work with distributors. The Company will develop more subsidiary solutions and choose segments and customers. It is more difficult to generate high growth.

The CEO II uses his and the chairman’s networks to find the most important core recruitments which are needed in the organisation and on the market. For the CEO II different networks have to be useful, otherwise he does not participate in them. The new owner and the new board are used very much by the Rubber Company.

**CHANGES SINCE 2005**

From the year 2005, when CEO II began, until today, the goal has been to expand, but select and create loyal customers. Therefore, a new person with high industrial knowledge was chosen as chairman of the board. The Rubber Company of today has regional resources. It is important to develop new market segments in sectors such as energy, oil/ gas and other industrial segments. For this purpose it is important to choose the right customers for a long relationship. The Multi Diameter is still the core product. A goal is also to double the profitability. The investors want to see the Rubber Company grow so that the value of the Company can increase. However, a problem today is that the employees are highly occupied. “The Rubber Company has an extreme external focus compared with traditional multinational companies which have an internal focus”.

The leader style has changed over time. The founder was an entrepreneur but he had to do much by himself and was the one deciding mostly. The new CEO II tries to use the strength of
the colleagues. He lets them try different tasks and wants them to grow from his vision perspective. Still the founder is unique in his way of implementing new markets, as the one in Dubai, which has been very successful.

During the period 2005-2007, the founder and the ownership were successively bought out, which has been very important to the Rubber Company. Another important event was the acquisition of the German company and the increased level of profitability and the balance between growth and profitability.

The internal organisation has been changed from a local Swedish one to a global organisation. Today the colleagues must act globally in their way of thinking - rule of the game. The turnover today is to 80% through own subsidiaries. The Company has now 13 subsidiaries. The last company was started in February 2007 in Japan. Due to the high occupancy of the colleagues in the organisation, the CEO II works to decentralise the decisions so that he should not be a bottleneck himself. “The organisation should not only be executing tasks, but also developing. It must all the time be questioning its way of working and decentralise more”.

To be effective on the market, the Company has organised a Global Sales Team which meets four times a year and is organised in different workshops so that the colleagues can learn from each other (knowledge transfer) and to tie the business together (team-building). It is also important to build trust through decentralization, which is important for the organisation and affects the whole development.

WHERE ON THE GRAPH OF MATURITY CAN THE RUBBER COMPANY BE FOUND?

The Rubber Company acts in the left part of the graph, i.e. the entrepreneurial part.

Figure 5: The Rubber Company’s development during 1990 – 2007 according to CEO II.

The progressive part of the graph shifts over time. The company is in a market creating process. That also creates new possibilities for the staff.

GROWTH OF THE RUBBER COMPANY

The Rubber Company's growth rate of today is 100% per year in Asia. The organisation will, in the near future, have a responsible person in North and South America, one for Europe and one for Asia. To develop this is a journey over 18-36 months. The Rubber Company is on its
way to matrix in the regions with segments. The Asia executive is recruited and the US executive has taken over South America, too. The executive for Europe still has to be recruited.

What is unique for The Rubber Company of today? The entrepreneurial way of thinking is still very strong. The Rubber Way of thinking, a visionary way of thinking, is the headline for the development. The Company lives and dies with the customers – therefore, it is important to decrease the “friction” to the customer and to have close and good relations. The CEO II means that there is a difference compared to traditional multinational companies, which are bigger, less dynamic and have a more unwritten “internal focus” according to the policies for governance.

CEO II also means that the personality dominated way of developing the Company and growth has been practised by the founder; the entrepreneur. The development has also been led by the market situation. Since 2005 to 2007, the organisation has begun to play a more important role and to transfer their knowledge through for example workshops. The founder’s characteristics have earlier influenced the Company’s development and the environmental factors have always been of importance to its development.

The Corporate guidance – execution is very local and not “governed from the top level” as many multinational companies. The communication in the organisation is done through the Global Sales Team and the rest of the organisation once a year. Over the year very open communication is used. The same subjects are used continuously so no misunderstandings should arise.

THE LEADERSHIP AND THE INTERNAL ORGANISATION

The Company today is described as a very market driven company. Then you must have an extensive environmental analysing activity. During 2005, they formulated a revised “The Rubber Way” of how to do it and how to behave in different situations. The goal for the staff is to be able to handle coaching and the one managing should be able to coach. The latter calls for the right leader conditions.

Today (2007) the chairman of the board has an important role. For CEO II this is also a main task and he is responsible for the management education. The Company has no HR-function. These tasks are decentralised. The education level of today is varying, but more employees with higher educational level are recruited. Still they must be a driven person.

The CEO II means that there has been a plain personnel policy, but it has not been well documented. For the managing persons, the fundamental understanding must be there to operate a coaching, tactic and strategic development. The recruiting questions are highly interesting for the CEO.

“In the management team we have developed a model for persons who fit in the different teams. Many times you emphasize an old CV, he may have improved in his way of working. It is the same situation with a football team; you must choose those players who can develop the team. That gives performance. In connection to performance, you have to point out the process goals which result in exaggerated performance claims. They press the staff too and make them feel insecure on how they reach the goal. We break them down to understandable goals. When we do it, we also will reach the Company goals”.

The activities will lead to growth which is the owner’s ultimate goal. Therefore, it is important to define what actions and executions stand for.
In 2005, the new CEO II meant that the subsidiaries have been optimally governed. They have not been mentally led. He has therefore developed a Global Sales Team which is characterized by, i.e. which belong to the team, which is each person’s vision, which is the participants’ mission to understand each other’s role and the Rubber Company’s concept. The image for the Rubber Company in China must be the same as in other countries like Germany, for example. This message is conveyed at meetings and in educations. For the Company this is “the Rubber Way” and is characterized by the strong vision, to work internationally, the mission to sell “solutions” and to understand the customers’ need is the concept. To fulfil the Rubber Way we must be able to trust our staff. It is important that proposals come from the organisation and that they execute them.

The bridge for the Rubber Company to handle is; the idea – the concept – the human resources. This leads to growth and must permeate the whole organisation. It is a challenge to have the staff believe in the goals. Therefore, it is important to work with informal agreements with a focus on the tasks and life style analysis in present times and in the future when developing the teams. For CEO II not only the career is important. It is also a question of life planning. A well paid job is not enough. His family is very important. He has only worked in rapid growing companies. It is tough to work in them. He has a strong incentive for freedom. It’s a part of the family’s situation to be independent.

ANALYSIS

In the analysis I will use the structure of the framework as an analysing tool in this paper and the different stages of development. The information is gathered in the attachment 2.


It starts with the foundation period, 1990–1994. From the very beginning the Company is working with internationalisation. The founder is the entrepreneur and he is working a lot with networking. This is in accordance to Oviatt and McDougall (1994), Bell (1995) and Coviello and Munro (1997) to be able to develop the Company’s internationalisation rapidly.

INTERNATIONAL GROWTH

The Company is improving its sales growth but it is still not good enough.

During this stage of development the Company expands to a lot of new markets still through self-financing. According to Smallbone and Wyer (2006) this is in accordance with the survival/ development stage and to “establish a sound financial foundation”. The founder is working on the market according to his strategy. His vision is very strong and is a “red thread” over how he will reach his goal according to Mintzberg (1998). He is using distributors, in some cases immigrants, to build new markets. Due to the self-financing concept, the expansion had to be controlled. In 1994, the founder noticed that they had seen the market potential in a much too narrow way. Now they began to explore other market segments and the sales began to improve.
Figure 6: Net Turnover and Operating Result (MSEK) according to Andersson, (2001) and adjusted for 1999.

In this stage of development it is much more like a Born Global Company (Andersson and Wictor, 2003; Madsen and Servais, 1997) then compared to Johanson and Vahlne (1997). They expand through mostly distributors and not subsidiaries to many far markets. According to the stages of growth/ life-cycle model (Smallbone and Wyer, 2006) the Rubber Company is in the stages of start-up and survival/ development.

**INTERNATIONAL MARKET STRATEGY**

The entrepreneur has a special market strategy. He works, as Rennie (1993) had found in his studies, which means that the world is one market place. The Company has to develop rapid to survive. The Rubber Company is working on the niche-market and according to Nummela, et al. (2003); Knight (2001); Fletcher (2000) the internationalisation process is due to changes in the environment and has to be earlier focused for Born Global companies. The internationalisation process is important to survive (Nummela, et al., 2003). During this period and to 1999, the Company is using mainly distributors on the market. Some of them are immigrants which return to their home countries or are used as executives on different markets. During 1997 to 1998, the Rubber Company starts to take over some distributors to more easily develop the markets (CEO II). The strategy is to use distributors and not subsidiaries if the distributor is doing his job properly. This is in accordance with the Smallbone and Wyer (2006) model for the stages start-ups and survival/ development. According to Etamad (1999), you need to expand to as many markets as possible during a short time. According to Johanson and Vahlne (1997) this is not the situation for companies developing gradually. For the Rubber Company it is done by some loans in the beginning and later on by self financing.
**INTERNATIONAL ORGANISATION**

The organisation is centralized and flat. The founder is deciding much. The entrepreneur develops new organisational forms (Halila and Horte, 2006). The organisation has to be developed over time in accordance when the Company grows. He has also an important role in the knowledge transfer. The management process is informal according to Smallbone and Wyer (2006).

**INTERNATIONAL ENTREPRENEURSHIP AND CULTURE**

The Entrepreneur is a visionary person with a global business concept. He is doing the job himself and is deciding. This is in accordance to what Halila and Horte (2006) had found in their study. For them the entrepreneur also is a person who opens new markets. Networking is important in this stage. A special culture is built, the Company. Immigrants may be used in different countries. Strategic recruiting is used in some cases. The entrepreneur is an entrepreneurial decision maker. In accordance to Kolvereid and Bullvag (1996), the leadership and culture has been a very personality dominated way of leading the Company.


The Company develops and expands during the period 2000-2004 but the expansion is slowing down. It is times of depression especially in the computer industry in Sweden. Over 70% of the turnover is in Europe. During this period the external CEO I is recruited from a big company in south of Sweden. The external CEO I leaves the Company and at the end of 2004 the external CEO II joins the Company. He has built up another small company also owned by the founder.

**INTERNATIONAL GROWTH**

At the beginning the growth level is still very good, but in 2003 there is a stagnation and drop in sales. The Company needs to find a new way. In this stage we can see both the survival/development stage, but also the growth period to some part in accordance to the Smallbone and Wyer (2006) model. All the parts of the survival characteristics are still there but the Company grows.

The distributors have a situation of “fat and happy” and are not interested in expansion. The process of establishing subsidiaries starts. During this stage we have a hybrid situation with a Born Global Company developing with still a strongly involved founder but a Company which needs to work with subsidiaries to develop the market in accordance with Johanson and Vahlne (1997).

The founder wants to leave. There is a need for new owners. The Company has an internal focus. Each market is very much operating on its own. Important persons in the organisation are coming and leaving.

**INTERNATIONAL MARKET STRATEGY**

From 2000, the market strategy is finally established to work and to expand as much as possible through subsidiaries. There is a need for new owners. Still self-financing is used. This is much like Johanson and Vahlne (1977) and their view of establishing a Company over the time.
**INTERNATIONAL ORGANISATION**

The organisation is still centralised. We can also see from the growth stage in the Smallbone and Wyer’s (2006) model that it is time for the founder to step aside for a more decentralized organisation.

**INTERNATIONAL ENTREPRENEURSHIP AND CULTURE**

Still the founder is deciding. The CEO I is used to another management style from a bigger company and is used to a more qualified Middle Management. For the recruiting situation, the management is doing this together with an external recruiting team. According to Smallbone and Wyer’s (2006) and their survival/ development stage the management process is still very informal but CEO I is used to work in a well functioning organisation with structure therefore he does not fit in. The development of the Company may therefore be affected by his thinking of structure and is not very good for the entrepreneurial culture in the Company. He has not the entrepreneurial thinking in connection with a strong vision if we connect this with Mintzberg (1998).

**THE INDUSTRIAL STAGE, (2005-)**

During the last period 2005 to 2007, the founder leaves more and more of the governance to the new CEO II, the organisation is more formalized and the Company tries to attract better qualified staff (Smallbone and Wyer, 2006). The Rubber Company is partly sold to an investor. In the year 2006, the rest of the shares are sold to the investor’s investment company. Professional management is hired with an external perspective. A new period of expansion starts and the turnover increases and investments in new markets are done. The Rubber Way as a culture is more formally addressed and a Global Sales Team is organized. According to Shin (1997) the team should be seen as a competitive edge for expanding the business. The image, for example, of the Rubber Company in China must be the same as in other countries like Germany (CEO II). The Corporate guidance – execution should be very local and not “governed from the top level” as many other companies. This is in accordance with the stage growth in Smallbone and Wyer’s model (2006) to delegate functional activities. The customers are set in focus and long-term relations are given priority. New global segments are developed. Resources for expansion are available. The organisation is even more organized for expansion. The chairman of the Board and the CEO II are working intensively with the strategic recruitment. The new investors claim for dividends. Now we can see a clear situation. According to the Smallbone and Wyer’s (2006), model; the Company is still consolidating the customer base and is building a more formal but more creative and knowledge-based organisation. The leadership works to delegate tasks and responsibility to other persons in the organisation. The possibilities are now also better to attract new investment capital, which is in line with the growth stage in accordance to Smallbone and Wyer (2006).

According to the CEO II, he means that there is a difference compared to traditional multinational companies, which are bigger, less dynamic and have a more unwritten “internal focus” according to the policies for governance. The situation is still very entrepreneurial.

**INTERNATIONAL GROWTH**

The Company now expands their growth rate to a much higher level. External financing is no problem through the new investor. The market expansion is more and more global. Professional management is hired and a professional board is appointed. The Company goes from
an internal focus to an external focus. Expansion is now done through subsidiaries on the
global market. A new concept is defined; “No Quick Customers – find loyal Customers – keep
them”. Secure the customer that there will be deliveries on time. This is in accordance to sur‐
vival/ development stage in the Smallbone and Wyer (2006) to consolidate the customer
base. Through the new owner, resources for expansion are available. New global segments
are developed. The expansion can be industrialised. There is a need to recruit new staff for
the expansion. They must fit in new roles with higher demands. For the growth stage better
qualified staff is needed (Smallbone and Wyer, 2006).

Compared with the Smallbone and Wyer’s model (2006) the Rubber Company is over the
time lifting its growth curve to new levels.

**INTERNATIONAL MARKET STRATEGY**

Subsidiaries are now used as the main stream for expansion and distributors are used for
smaller markets. External financing is now more available. The Company is more like a mul‐
tinational Company and more in line with a Company according to the last stages of Johanson
and Vahlne's (1977) Uppsala model. Still the Company has not lost its entrepreneurial behav‐

**INTERNATIONAL ORGANISATION**

The new ownership from 2006 is important for the development. Then it is to 100% owned
by a Swedish investment company. A professional organisation and Middle Management is
now developed and is in process. The organisation is decentralised. This is in accordance with
the growth stage in Smallbone and Wyer (2006). Workshops and the Global Sales Team are
important parts in developing the organisation world-wide. Rialp, et al., (2005) have found
that the organisational capability perspective can explain not only the early internationaliza‐
tion but rapid growth. Freeser and Willard (1990) had found that larger teams could provide
members with deeper depth of skills and experiences. According to Bass (1996) transformal
leaders are tolerant to employee’s mistake, which is important in situations of decentraliza‐
tion and for the staff finding solutions to different problems. It also gives possibilities to cre‐
ate new learning situations. According to Smith et al. (2004) the leader serves as role model
in the organisation.

**INTERNATIONAL ENTREPRENEURSHIP AND CULTURE**

In the Company it has now changed to an “organisationally” led development according to the
CEO II. From the beginning, the characteristics of the entrepreneur were strongly influencing
the organisation. According to Shin (1997), a team can be “a competitive edge in expanding”
the company. The leadership is now even more visionary and global. The CEO II is coaching
and is a team-builder with open communication. A charismatic leader should inspire the staff
by building their commitment to the shared vision and values in accordance to Conger and
Kanungo (1998) and Smith, et al. (2004) mean that for dynamic environment transformal
leadership is suitable to encourage the staff to take own initiatives. The organisation has de‐
veloped to a more professional level, so networking is not so important for the CEO II any‐
more. The Rubber Way of doing it is the important part of the Rubber Company’s culture. Ac‐
cording to Block (2003) leadership creates an environment where changes happen more eas‐
ily and the organisational culture can be used as a tool to affect change. The Rubber Way of
doing it is republished as a new document in 2005. The subsidiaries are driven by local exe-
CUTIONA in the different countries. The CEO is working through the organisation. The chairman of the board and the CEO handle the important recruitments, which is accordance to attract better qualified staff in Smallbone and Wyer’s (2006) growth stage.

CONCLUSIONS AND FUTURE RESEARCH

The aim of this paper was to investigate how a Born Global Company has developed from 1990 to 2007. Which growth stages can we identify over time? Which factors influence these stages?

The Rubber Company has developed over these years according to different entrepreneurship, strategies and growth stages. Due to high entrepreneurial capabilities in the Company, it is still growing rapidly. The curve in figure 5 shifts higher according to the improvement in the segmentation of the market, changes in organisation and management, new market pricing models such as the value-added price model, and the new financial strength, which also means better possibilities for investment in new markets and subsidiaries. There is still an ongoing entrepreneurial stage in the business development curve, which indicates an even faster growth for the Rubber Company in the future. For that situation the entrepreneurship and strategies must be more open, decentralized and team-work oriented according to the CEO II and in accordance to the growth stage (Smallbone and Wyer, 2006).

In the three different stages we can see the Company’s development clear and which factors influencing the stages. The Smallbone and Wyer’s model (2006) describes the Rubber Company’s development to some extent.

Stage I; we have a visionary entrepreneur and founder with a clear international market strategy opening new markets through distributors. For him it is important with networking (Oviatt and McDougall (1994), Bell (1995) and Coviello and Munro (1997)) and is forming a Company culture in accordance with his vision (Mintzberg, 1998). Over the years he is expanding through self-financing. The organisation is centralized. In this stage the Rubber Company is more like a Born Global Company than in accordance to the Uppsala model by Johanson and Vahlne (1977, 90).

Stage II; the distributors start to be “fat and happy” so the founder and the recruited CEO I focus more and more on subsidiaries. Still the organisation is very centralized. The founder wants to leave the Company. The CEO I does not fit in so well and leaves for another job. In this stage we have a “hybrid” situation expanding as a Born Global Company but in the organisation more as a Company according to Johanson and Vahlne (1977,90) with a structure and learning from different markets.

Stage III; expansion will now be industrialized with global subsidiaries and the external focus for the Company is sharpened. We are now getting closer to the Uppsala model (Johanson and Vahlne, 1977,90) with the developed multinational Company. A value-added pricing model is implemented to create value in the organisation (McDougall and Oviatt, 2000).

The team is now “the competitive edge in expanding” according to Shin (1997) with coaching from the CEO II and organisational led development as part of the new management culture and the Company culture is organized to be even stronger. The organisation is decentralised. The subsidiaries are driven by the local management. This is in accordance to the growth stage in Smallbone and Wyer’s model (2006).
The managing of the Company is now professionalized in many ways; the board, the management, the staff and the strategic recruiting is in focus by the chairman of the board and the management when expanding the Company. In the growth stage there is a need to delegate and to attract qualified staff, which is accordance to the Smallbone and Wyer's model (2006). For the first time there are external claims for dividend that has to be in focus for the board and the management.

Under the different stages of development the entrepreneurs’ management style has changed, which is required to lead and to expand the Company. When you change the leadership's style from a more deciding to a coaching, it is necessary to have a charismatic leader who inspires the staff by building their commitment to the shared vision and values (Conger and Kanungo, 1998). The Company’s external focus on customers and relations are very important. The CEO II means that traditional multinational companies have too much “internal focus” compared to the Rubber Company's “external focus”, i.e. that the Rubber Company focuses more on the market situation and developing new segments and pricing models. The entrepreneurs have changed over time; the founder had to decide in most situations, the CEO I had another background from a bigger company and was used to a strong internal back-up and he was not in a position to act in his own way. The founder was still deciding. After some development problems in 2002-03, the new CEO II came into a new situation to develop the Company. He also has had the founder’s reliance because of his former job as CEO in another company owned by the founder.

The market strategy has changed from using distributors to building subsidiaries. New global segments have been focused over time. In the industrial stage the Company is established on many markets for many years. The organisation is trained to handle the global situation and an increased expansion. This makes it possible for the CEO II to expand and penetrate the markets and to develop new concepts like the value-added pricing concept and the organisation has changed from a centralised to a decentralised organisation and the leadership from a founder, who was deciding very much, to a coaching CEO II. This is in accordance to Smallbone and Wyer (2006) and their growth stage. The process of changing CEOs from an inception stage to a new situation with external investors and an external CEO is complex, but an important change over time. This change is well-known in many expanding family owned companies. Still the entrepreneur needs to control the organisation.

In the Company there has been a learning process over time. The organisation has had to learn to be able to support the executive management in their aim to expand and develop the Company in establishing many new markets. For the entrepreneur it is constantly important to learn, adopt and adjust for new information in a changing global environment. Block (2003) means that leadership creates an environment where changes happen more easily and the organisational culture can be used as a tool to affect change. This is important for the Born Global Company. For the Rubber Company, the learning process, has been present from inception in the organisation but has during the last years been more professionalized through international workshops. Here we can find connections to Johanson and Vahlne (1977,90) and their interest for learning as an important part of the internationalisation process but still the Born Global Company does it in another way due to changes in the environment such as globalisation and communication (Andersson and Wictor, 2003). Today it is very natural to use global sales teams and workshops and to work according to the Company culture then it was earlier.
In the Company, from the beginning, there has been a special culture called “Company7” connected to the entrepreneurial vision. In 2005, the Rubber Way of doing it has been improved as a “red thread” for everybody in the Company. This means that the vision of the Company is influencing the culture very strongly and is affecting every person in the whole organisation. This is in accordance to Mintzberg (1998) and his entrepreneurial thinking in connection with a strong vision.

The Smallbone and Wyer model (2006) describes a company’s development well at an aggregated level but for the Rubber Company there is mixture between especially to stages; survival/development and the growth stage. One reason is that the Company is very much in the beginning of the growth stage and is very entrepreneurial in its behaviour. The Company has found a level of its structure to fit in the entrepreneurial culture which is so important for the development of the Company. That is the reason why the life-cycle curve shifts to new levels. The model is good to use in order to explain a Company's development but has to be used with care. A combination of factors can explain the development.

The contribution in this paper is mainly; it is an interesting study over 17 years of a Born Global Company and the Rubber Company’s development has been discussed in accordance to the Smallbone and Wyer model (2006) which indicates distinct stages and where we can find the differences in factors influencing between this Company and their curve not always fitting for the individual Company. Through the still entrepreneurial behaviour of the Company, it manages to shift the curve to new levels and keeps the Company in the early stage of growing according to Smallbone and Wyer (2006). According to the CEO II we have today a more external focus which is more like the strategies like Born Globals Companies and is not so much in accordance with the Uppsala model (Johanson and Vahlne, 1990, 90).

For future research it would be very interesting to study the Company after five to ten years and also to interview the founder about his expectations. The practical contribution can be used as information to companies who want to expand their market into other countries.
REFERENCES


Bass, B.M. (1996). *New paradigm of leadership: an inquiry into transformational leadership*


Attachment 1

Specification over the interviews done during the years:

Founder 2003-11-04
        2004-06-22
CEO I   2001-04-03
CEO II  2005-07-11
        2007-04-12
## Attachment 2

<table>
<thead>
<tr>
<th>International Growth</th>
<th>International Market Strategy</th>
<th>International Organisation</th>
<th>International Entrepreneurship and Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage I - the Entrepreneurial Stage (1990-1999)</strong></td>
<td>Improved growth 1996-99 Self-financing</td>
<td>Founders strategy for the market Distributors and immigrants</td>
<td>Centralized and flat The founder decides Transfer of knowledge</td>
</tr>
<tr>
<td></td>
<td>opening new markets</td>
<td></td>
<td>A visionary Entrepreneur Networking is important The Company culture is built – a personality dominated way of leading the Company Strategic recruiting in some cases</td>
</tr>
<tr>
<td><strong>Stage II – the Expansion Stage (2000-2004)</strong></td>
<td>Improved growth 2003 sales drops Distributers “fat and happy”</td>
<td>Implementing the strategy with subsidiaries Need for new owners</td>
<td>The founder wants to leave Internal focus Important persons are coming and leaving Still centralized organisation Founder deciding The CEO I used to another management style and a more qualified Middle Management Recruiting through external team</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Organisational led development The team is “the competitive edge in expanding” the company The CEO II is coaching the company The Rubber Way of doing it is even more important – new document 2005 Team-building The Management is even more working with a global vision</td>
</tr>
<tr>
<td><strong>Stage III – the Industrial Stage (2005- )</strong></td>
<td>Expanding turnover Investors claim for dividend Professional board External focus Expansion through global subsidiaries – the main stream External financing available</td>
<td>Focus on the customer increased Resources for expansion No Quick Customers to loyal customers Value-added pricing model on the market Expansion industrialised New global segments are developed</td>
<td>Partly sold to an investor – the founder is leaving gradually Professional management hired External perspective Decentralization – not governed from the top Organized for expansion Strategic recruitment in focus – the chairman and CEO II operate Recruiting new staff for expansion and higher demands 2006 the company 100% owned by a Swedish investment company The subsidiaries are driven by local execution</td>
</tr>
</tbody>
</table>
THE IMPACT OF GLOBALIZATION AND TRADE LIBERALIZATION ON COMPETITIVENESS OF FIRMS IN LESS DEVELOPED COUNTRIES

Gabriel Awuah

Abstract

Much is written these days about the extent to which almost all nations, firms, and private individuals are being affected by the forces of globalization, with trade liberalization as the necessary condition for the realization of the full impact of globalization. However, a closer analysis of the forces of globalization and, for that matter, trade liberalization among nations presents a very dismal development for most countries, particularly less developed countries (LDCs). This dismal development has not been adequately addressed in the extant literature. The purpose of this paper is, therefore, analyze the extent to which the forces of globalization and trade liberalization are having some impact on the competitiveness of firms, the hope of economic development, in LDCs. Hence, an in-depth study of a nail producing firm in Ghana is used to shed lights on the phenomenon. One important finding of the study is the likelihood that the firm in this study will soon close down, as many firms in the nail industry in Ghana have already done, because they are not able to meet the challenges of globalization and trade liberalization.

Keywords: Globalization, trade liberalization, competitiveness, and LDCs’ firms

INTRODUCTION

One important effect of globalization is the increased realization that countries of the world are more linked to each other than the world has ever seen before; there is an interdependence among nations, since technological, economic, political, and cultural exchanges between nations have increased tremendously (Curry, 2000; Peter and Pierre, 2006). With increased interdependence among nations, globalization has demanded increased liberalization of markets, the dismantling of almost all trade barriers (Lee, 2005; Czinkota and Ronkainen, 2007). Evidently, almost all nations, firms, and private individuals are being affected by the forces of globalization, with trade liberalization as the necessary condition for the realization of the full impact of globalization (Martin, 1993; World Development Report, 1990; Human Development Report, 2004).

However, a closer analysis of the forces of globalization and, for that matter, trade liberalization among nations presents a very dismal development for most countries, particularly LDCs. This dismal development has not been adequately addressed in the extant literature. In Africa today, especially those at the south of Sahara, for example, foreign goods/services, from foreign producers dominate in the markets. These goods and services may range from agriculturally processed goods (e.g. tin tomatoes from Europe) to sophisticated high-tech ones (e.g. computers, medical equipment, electronic equipment, mobile phones, cable T.V sets, and broad band services). The research and development and production centres of these goods and services are outside Africa. Africa is just a consuming market, where finished
goods are brought and sold. The worst thing is that most countries that were self-sufficient, as far as satisfying their basic needs from agricultural products were concerned, are now very much reliant on what comes from abroad (Spiegel Special, 2007; Human Development Report, 2004; World Development Report, 1994).

Indigenous firms in many African countries have been driven away from their markets because they could not match the competition from goods and services imported from abroad (Spiegel Special, 2007; Human Development Report, 2004). The forces of globalization and liberalization have made it possible for many firms to serve several countries from their home markets (Czinkota and Ronkainen, 2007; Lee, 2005). The danger, which this development poses to many African countries and other less developed countries (LDCs), is the destruction of the industrial capacities of their countries (Spiegel Special, 2007; Human Development Report, 2004, 2002). As competition intensifies, due to the impact of globalization and trade liberalization, many indigenous firms are out-competed. Is active participation in the globalize world and, for that matter, the adoption of trade liberalization a bad thing then, someone will ask? The answer is simply no. This is because there are positive things that emanate from globalization and trade liberalization also.

In his discussion of the impact of globalization, Lee (2005) asserts that the global integration has some positive effects. Thus, it has enabled the entire world’s productivity to grow rapidly. It is also making it possible for our tastes, needs, and wants to converge, a trend now termed as the emerging “Global Consumers” (Lee 2005). The forces of globalization and trade liberalization have enabled countries, firms, and private individuals to have a greater access to products and services, and technologies and practices, which may be modern, effective, and superior to some existing ones (Cox and Enis, 1988; Doole and Lowe, 2004; Czinkota and Ronkainen, 2007).

All in all, the above discussions reveal that the positive impacts of globalization and trade liberalization can only be enjoyed, on a full-scale by many poor people in the poorest countries in the world (Human Development Report, 2002, pp. 31-33), if indigenous firms in LDCs stay competitive and are able to compete with imported goods and services, which come to drive them away from the markets. Indigenous firms’ ability to compete, grow and expand will translate into increased job opportunities, incomes, and forward and backward linkages in the economy, which will boost economic growth in the economy (Caves, 1982). A market being served by only imported goods and services, thanks to, for example, trade liberalization, will have less linkage effect.

In view of the above, the purpose of this paper is to, therefore, analyze the extent to which the forces of globalization and trade liberalization are having some impact on the competitiveness of firms, the hope of economic development, in LDCs.

Hence, the question, which we seek to address are why and how is a firm affected by the forces of globalization and trade liberalization?

Our setting for this study is Ghana because that will provide us with rich insights into the phenomenon being studied here. Ghana is a less developed country. The country has, since the 1980s yielded to the full dictates of globalization and has, therefore, been much involved in the adoption and practice of trade liberalization policies (Panford, 1994; Tangari, 1992; World Development Report, 1994, 1990), with much painful impact on most indigenous firms. Ghana’s involvement in the globalize world trade dates back to its pre-colonial history.
However, globalization in modern times has taken a different proportion, where countries are virtually being pressurized or are willingly taking active part in the ‘game’ of globalization. Thus, deregulation, liberalization of trade, and/or dismantling of trade barriers are common rather than exception (Human Development Report, 2004; Peters and Pierre, 2006). Ghana is actively involved in this modern practice of globalization (Appia-Kubi, 2001).

The rest of the paper is structured as follows. In the next section we briefly review the literature about the relative impact of globalization and trade liberalization, followed by the theoretical framework (s). Then, the methodology will be presented, followed by the presentation of the case study. The next section is devoted to the analysis of the case study.

The final section is the conclusion of this study, followed by some managerial and policy-making implications.

A BRIEF REVIEW OF THE LITERATURE

During the time when many markets were regulated and/or controlled, exporting goods and services into other markets was seemingly restricted (Hymer, 1970; Dunning, 1981; Teece, 1985). This was because many countries were opposed to free trade (Timmermann, 1982, Södersten, 1970, Killick, 1982, Unger, 1989; Todaro, 1989) as that might, among other things, lead to a potential loss of domestic production, jobs, income, and adverse balance of payment. This stance adopted by some countries restricted the impact of globalization and, for that matter, also the impact of trade liberalization. Instead of allowing firms to export to most LDCs, governments restricted that act and encouraged manufacturers to come into a host country to do local production (Todaro, 1989; Killick, 1982; Fieldhouse, 1978; Hennart, 1982). Having foreign firms to come and do local production in a host country would, for example, increase job opportunities, income, the transfer of skills and knowledge for the indigenous people.

The stance to restrict trade among nations could not be tenable over the years. Opening up the world economies for free trade, ever since the General Agreement for Tariffs and Trade (GATT) was established in 1947 and even during the discussion of Ricardo's 19th century trade relations, has been advanced as essential for all nations (Czinkota and Ronkainen, 1998, 2007; Harford, 2007; Todaro, 1989, 1994). This is because an opened market or economy may gain from the efficiency and the growth benefits of free trade. An opened economy may also be able to substitute large world markets for its narrow domestic market. The following quote is worth reading in this context.

"David Ricardo, for example, was an early campaigner for free trade. He was encouraged by his friend, James Mill, to run for parliament; he won a seat in 1819 when he campaigned for repeal of the Corn Laws, which severely restricted the import of grain. Ricardo’s theories had demonstrated clearly that the Corn Laws were shovelling money into the pockets of landlords at the expense of everyone else in the country. Ricardo was not content simply to observe the effects of the Corn Laws, he wanted to abolish them” (Harford, 2007, p. 30).

In recent times, the appeal for free trade among all nations has been very much strengthened. Institutions such as the World Trade Organization (the successor of GATT), the International Monetary Fund (IMF), the World Bank, and regional economic blocs such as the European Union (EU), and the North American Free Trade Association (NAFTA) are all agitating for free
trade among nations. However, unlike what Ricardo was agitating for, total and genuine free trade, our markets today are still not wholly liberalized. Almost all industrial countries still have some trade barriers and subsidies, which protect their domestic firms from competition from abroad; or have subsidies which help them enter foreign markets (Sakar, 1991; Roe, 1991; Harford, 2007; Spiegel Special, 2007; Human Development Report, 2004).

Submitting to the dictates of globalization and trade liberalization, “to the letter”, indigenous firms in many LDCs should have equal chance in competing with their rivals from the developed world. But, as has been shown above, there is no fair play. Most firms in LDCs have difficulties in bringing their goods and services into many industrial countries because of some trade barriers and subsidies (Killick, 1982; Unger, 1988; Human Development Report, 2004, 2002; Spiegel Special, 2007). However, almost all firms from the developed world can enter and compete in almost all LDCs. Consequently, many indigenous firms have been driven away from their markets because they could not match the competition from abroad. The forces of globalization and trade liberalization or market economies, have made it possible for many firms, some with subsidies or having protection of some kind, to serve several countries from their home markets (Czinkota and Ronkainen, 2007; Spiegel Special, 2007). The danger, which this development poses to many LDCs, is the destruction of the industrial capacities of many LDCs (Spiegel Special, 2007; Human Development Report, 2004). The gap, which we seek to fill, is, therefore, to bring to the fore the inadequate address of the impact of globalization and trade liberalization. Hence, the purpose of our study and the research questions (see above) are legitimate.

**THEORETICAL FRAMEWORK (S)**

Globalization, the definition of which is not coherent in the literature (Curry, 2000; Czinkota and Ronkainen, 2007; Peters and Pierre, 2006; Cox and Enis, 1988), is a process which should enable nations that are interdependent to increasingly open their economies to facilitate the technological, economic, political, and cultural changes among nations (Curry, 2000; Human Development Report, 2004). Contacts between people and their values, ideas, and ways of life have all increased in an unprecedented way (Human Development Report, 2004, p. 85).

In business terms, globalization is regarded as a business orientation based on the belief that the world is becoming more homogenous. This is a trend or a process, which according to Czinkota and Ronkainen (2007), is not only causing the distinctions between national markets to fade away, but for some products, will eventually disappear. Logically, integrated and/or interdependent markets should virtually be free from all forms of trade barriers. Trade liberalization therefore assumes importance, whenever globalization of markets comes into play (World Development Report, 1994; Human Development Report, 2004; Czinkota and Ronkainen, 2007; Peters and Pierre, 2006).
Figure 1: A model of the impact of globalization and trade liberalization

The dismantling of most trade barriers (e.g. physical, fiscal, monetary, and technical), thanks to the processes of globalization, enables many firms to enter and operate in almost any market of their choice. As Czinkota and Ronkainen (2007) maintain, the presence of global industries (e.g. cars, banking, consumer electronics, entertainment, pharmaceuticals, travel services and home appliances) in many markets of the world is crucial for their survival. Since, for example, the research and development of some products/services may cost billions for a manufacturer (p. 190), a firm's presence in many markets will enable the firm to cover costs and reap some 'satisfying' returns on investment. Trade liberalization is therefore very important for firms and for governments.

Trade liberalization has been an important phenomenon, which many actors (institutions, firms, and private individuals) have over the years been agitating for (Czinkota and Ronkainen, 2007; Spiegel Special, 2007; Human Development report, 2004). The fundamental premise for trade liberalization is that all markets will benefit from deregulations and/or removal of all forms of control mechanisms, which summarily limit firms' and individuals' exchange relationships in an economy (World Development Report, 1990, 1994; Todaro, 1994; Human Development Report, 2004). In less developed countries all forms of import and export controls and the running of most public enterprises, for example, will not be in concession with the process of globalization and, for that matter, in line with the liberalization of markets, which globalize markets demand (Human Development Report, 2002, 2004; World Development Report, 1994; Doole and Lowe, 2004). One important effect of this trade liberalization is that many firms (e.g. "Mininationals" or "Born Globals") are able to serve many markets from a handful of manufacturing bases (Czinkota and Ronkainen, 2007, p. 191). Thus, many firms are now, in the era of increased globalization and trade liberalization, not compared to build a plant in every country as some established multinational corporations (MNCs) once had to do (Czinkota and Ronkainen; Doole and Lowe, 2004).

What the forces of globalization and trade liberalization have also produced is, for example, the intense competition among firms in all countries (Ito and Rose, 2004; Beamish and Lu, 2004; Czinkota and Ronkainen, 2007). In LDCs, especially, imported goods and services pre-

**IMPACT OF GLOBALIZATION AND TRADE LIBERALIZATION ON COMPETITIVENESS OF FIRMS**

As foreign manufacturers need not undertake local production in many LDCs nowadays, if they choose to, they can still serve those markets with goods and services exported into them, thanks to virtually no trade restrictions imposed on them. Chinese firms, for example, are said to have entered main markets of the world such as Europe and North America with products ranging from auto parts and appliances to telecommunications (Czinkota and Ronkainen, 2007, p. 189). Also Chinese firms are said to have invaded Africa with their products (Spiegel Special, 2007, pp. 113-115). If indigenous firms in Africa, for example, do not go abroad to pre-empt competition there, their competitors will come into their domestic markets to compete with them or even pre-empt them. The forces of globalization and trade liberalization leave no firm in LDCs safe from foreign competition.

Positive with the forces of globalization and trade liberalization is that firms do not only have access to a larger number of markets, also goods and services, they are expected to operate in favourable environment where controls of all kinds are eliminated or minimized (Spiegel Special, 2007; Human Development Report, 2002; World Development Report, 1994). But, in spite of the advantages of globalization and trade liberalization, most firms in the less developed countries face enormous problems, which negatively affect their competitiveness. Example of such negative factors are the unfair trade among nations (Killick, 1982; Unger, 1988; Human Development Report, 2002, 2004; Spiegel Special; 2007), where in the spirit to influence competitiveness of firms, most industrial countries, for example, erect trade barriers and give subsidies to their firms in entering and operating in foreign markets (Beamish and Lu, 2004; Human Development Report, 2004, 2002; Spiegel Special, 2007, pp. 113-115).

As established elsewhere, the full-scale advantages of the globalization and trade liberalization cannot have some recognizable impact on many poor people in the poorest countries of the world (Human Development Report (2002, pp. 31-33), as the poor countries ‘over-liberalized’ their economies, whilst the industrial countries erect trade barriers and offer subsidies to their firms (Spiegel Special, 2007 pp. 113-115; Human Development Report, 2002). Countries of the poor world who have liberalized their economies without favourable systems, enabling environment, in place to foster the emergence and growth of its entrepreneurs have all, especially in our study setting of Ghana, witnessed the elimination of most indigenous firms from the local market as competition intensified, mostly through massive imports of goods and services (Panford, 1994; Tangari, 1992; Awuah, 1997; FIAS, 2003; Spiegel Special, 2007).

Caves (1982) sees most LDCs’ input and output tables to be empty. Hence, Caves propagates for a viable economic activities, which foster entrepreneurs (here, he means firms) that will operate to create both forward and backward linkages in the economy so that economic growth will be promoted, dwelling mostly on the internal capacity. The firm, the entrepreneur, might be a supplier of some inputs to other firms, creating in that act forward linkages in the economy. The firm can also buy some other firms’ output, to be used in its production processes or other transformation activities, thereby creating, with that act backward linkages in an economy (Caves, 1982). But, this potentiality in most LDCs are being stifled due to
the negative impacts of globalization and trade liberalization, which most of the countries have not been able to manage, creating the enabling environments for indigenous firms.

An enabling environment will translate into firms getting, for example, easy access to (1) most critical production inputs, from within or outside, at competitive prices, (2) bank loans at competitive prices, (3) efficient communication and transportation systems, and (4) regular supply of electricity and water. And above all, there should be effective fiscal and monetary policies, which are conducive to, among other things, the conduct of business in an environment that is deeply involved in the processes of globalization and trade liberalization. Where the above conditions are lacking, as in the case of many LDCs, Ghana being no exception, the environment will be termed as being not ‘enabling’ (Kauda and Sörensen, 2001; FIAS, 2003).

The above theoretical framework serves as our analytical tool in describing and analyzing the extent to which the forces of globalization and trade liberalization are having some impact on the competitiveness of firms in LDCs.

**METHODOLOGY**

In the existing literature, one can read about the negative impact of the way most LDCs have adopted globalization and, hence, over-liberalized their economies to the detriment of, for example, most of their indigenous firms (Spiegel Special, 2007; Panford, 1994; World Development Report, 1990, 1994; Martin, 1993; Awuah, 1997). But, there has not been any systematic study of the extent to which a particular firm in an LDC has been negatively affected by the forces of globalization and trade liberalization. Therefore, as the plight of the nail industry in Ghana came to the notice of the researcher of this study, through information from the managing director of one of the nail producing firms in Ghana (Sasha Groups of Companies), interest was created for this study, which shares insights on the impact of globalization and trade liberalization on the nail industry, in general, and the Sasha Groups of Companies, in particular, all in Ghana.

Since no systematic attempt has been made to study the relative impact of the forces of globalization and trade liberalization of the competitiveness of firms in LDCs, we have conducted this exploratory type of research, which will enable researchers and policy-makers, it is hoped, to understand the phenomenon under study. Exploratory research is well suited to this type of objective (Bryman, 2001). We are dealing with a phenomenon, which is under-researched, so a qualitative case study method (Yin, 1998, 1994) has been an appropriate approach utilized. Specifically, on September 30, 2007, we engaged the managing director of the Sasha Company (later to be addressed as only “Sasha”) in a two and a half hours telephone interview at his home in New Jersey, USA. He is both the sole owner and also a managing director of the Sasha. This manager is therefore knowledgeable about the topic at hand, the extent to which globalization and trade liberalization affect the competitiveness of his business.

The interview enabled the respondent and the interviewer to discuss at length about, among other things, condition of his businesses, particularly the nail business, the level and sources of competition, the general socio-economic infrastructures’ impact on the conduct of business, and future plans. Questions to the respondent and/or discussions with him followed a loosely-structured pattern (Yin, 1994; Bryman, 1989), which allowed the interviewee to freely talk, describe and interpret the situations facing all nail producers and, particularly, Sasha.
In the course of the telephone interview, notes were simultaneously taken by the researcher. The notes were transcribed later and a copy of the draft was sent to the respondent, by e-mail, for his comments and/or feedback.

The sample of one case has made it possible to shed in-depth lights on the under-researched area. It must be asserted that small sample sizes have their merits, even if insights from them cannot be generalized. The relevance of small sample has been emphasized in the literature (Mintzberg, 1979; Yin, 1994; Hyde, 2000; Gummesson, 2003). None the less, to secure the validity and genuineness of the study (Bryman, 2001), the respondent was asked to comment or give some feedback on the draft copy of the interview result sent to him per the e-mail. In response, the respondent gave some feedback, which was very useful. In the next section we present the case study.

THE CASE OF THE SASHA GROUPS OF COMPANIES (REFERRED TO AS SASHA ONWARDS)

BACKGROUND INFORMATION

Sasha is owned wholly by a Ghanaian entrepreneur, resident in the USA. The owner is also the managing director of Sasha. During his absence in Ghana, the company is run by the deputy managing director, permanently resident in Ghana. Sasha's portfolio of businesses is as follows. (1) A nail producing factory, (2) Motor tyre repair services, helping drivers to fix their 'flat' tyres in no time, for example, (3) Retailing of fashionable clothes, (4) A Photo Studio, where people can be photographed at the studio or at whatever venue chosen by the customer, and (5) The buying and selling of hardwares (here, building materials). In terms of Ghanaian standards, the managing director has invested millions of Ghanaian cedis in the above businesses. According to the managing director, he has chosen not to take bank loans to run his business mostly because of the higher cost of borrowing from Ghanaian banks.

SASHA’S CORE BUSINESS AREA

Among the Sasha businesses (see above), the managing director considers the manufacturing of nails to be the core business area of Sasha. This business area has been in existence since seven years ago, reckoned from the time of interview, September 30, 2007. During the periods of 2001 to 2003, for example, the nail factory of Sasha was producing well over 90% of its capacity. In products terms, Sasha produced finished nails well over 90 tons a month. The market could absorb all the products, which were sold at about 110 Ghanaian cedis per a carton, weighing about 12.5 kilogram. During such times too Sasha engaged the services of six permanent employees plus a number of part-time workers, who were hired every day and then to help meet some delivery deadlines. For the managing director, none of the businesses of Sasha matches the nail business in terms of revenue and employment generation. For example, the rest of the businesses employ, at most, a single person each to man the business at all times. Hence, we focus on the nail business in the rest of this paper.
SOURCES OF PRODUCTION INPUTS AND MARKETS FOR SASHA’S NAILS

Critical production inputs such as heavy machines to produce nails were all imported from India; these machines are not available in the Ghanaian market. Spare parts to service the machines, in case of some break downs, are also imported. Lubricants to grease the machines, whilst in operation are bought locally, but they are also imported, from some retailers. Packaging materials, cartons, to package finished nails, ready for sale, are bought from the local market. Critical nail wires to produce the nails are all imported by some distributors and thereafter sold to producers of nails such as Sasha. As Sasha was producing at about 90% capacity and its nails were demanded in the marketplace, the company, at the beginning of 2005, decided to expand the production capacity by buying additional nail producing machine from India, the source of supply of machines to the company.

All finished nails from Sasha are sold in the Ghanaian market, mostly to retailers. The retailers will, in turn, re-sell the nails to final users of nails (e.g. building contractors, carpenters, and even single households). Some buyers might drive in to take their purchases from the Sasha’s factory door, whilst many other retailers would get their purchases delivered to them with the manufacturer’s own vehicle. In spite of the intense competition facing all nail producers in Ghana, about twenty of them, Sasha and the competitors all seem to have been successful in selling nails. Thus, the manager maintained that all were satisfied with the kind of market shares they enjoyed. Although exactly what Sasha’s market share was could not be estimated, Sasha had plans to expand by buying additional nail producing machine anyway.

LIBERALIZATION OF THE GHANAIAN MARKET HAS GONE FAR

Around the end of the year 2005 Sasha started to face a tremendous problem, according to the managing director. One of the two nail-producing machines was almost out of service; it needed to be serviced, which would demand the buying of some spare parts. Since these parts are all imported by some distributors or retailers, the prices, at which they are sold to users that need them, are very high. Sasha had very little money to buy spare parts, pay the workers, and cover some other important costs (raw materials and overhead costs). All these problems were attributed to the influx of Chinese and Indian exporters of nails into Ghana, which has almost caused buyers of locally made nails to switch to their nails, the exported ones. The question is why are the local manufacturers of nails, especially Sasha, not able to compete with the influx of foreign competitors that now sell nails in Ghana? The answer(s) to this was provided by the managing director as follows.

“This is because of the conditions under which we operate. If the business conditions facing us, all nail producing companies in Ghana, continue as they are now, I will have to close my nail business next year”, said by the managing director at the time of the interview.

According to the managing director, even some big competitors, such as Sahara, also a local producer has already closed down. The problems facing all local manufacturers of nails were narrated as follows by the managing director of Sasha.

In Kumasi, where the managing director has his nail factory, there are about 6 other big local manufacturers of nails. The number of local producers can be about 20, spread throughout Ghana. Therefore there is an intense competition between the local producers of nails in the country already. What all the local producers have in common, according to the managing director, is summarized as follows:
They are all dependent on the importation of essential production inputs. Examples are heavy machines for producing nails, spare parts and lubricants to maintain the machines, and raw materials (nail wires). The Sasha Company and other nail producers, in Ghana, the managing director continued his story, will pay higher prices for the imported items (e.g. nail wires and spare parts) because (1) the original producers of the items will, obviously, set prices that will cover the various costs associated with, for example, the production and delivery of the items plus some reasonable profit margins, before their Ghanaian distributors or agents assume ownership of them. (2) The distributors or importers of the production inputs will, certainly, also have to set some reasonable prices to cover their various costs (e.g. import duties, storage, and delivery) plus some ‘satisfying’ profit margins. Before the nail producers get the production inputs, the prices would be well over the factory prices. Even where the nail producers import the production materials by themselves, they will have to pay import duties plus the costs of the materials. But, the managing director also added that the imported production inputs, in combination with other materials, will be used in producing nails for the local market. Consequently, raw material costs, production costs, some overhead costs, packaging costs (purchase local cartons), and marketing costs (e.g. sales tax), will have to be taken into consideration when setting prices on the finished nails in Ghana.

Faced with the above cost structures and/or market conditions, the Ghanaian nail producing companies all seem to have been setting similar prices on their nails, taking their costs and the competitor prices into consideration. According to the managing director of the Sasha, it was almost a norm in the market regarding the setting of prices on nails. For instance, he contended that, a 12.5 kilogram of nails was sold for 110 Ghanaian cedis by Sasha. And everywhere in the nail market, a 12.5 kilogram of nails, at 110 Ghanaian cedis, was what all nail producers sold their nails for; there was virtually price transparency in the market. At this price, 110 Ghanaian cedis per 12.5 kilogram, all the local competitors seemed to have been getting some satisfying returns.

THE NATURE OF COMPETITION COMING FROM ABROAD

According to the managing director, the local nail market has been ‘invaded’ by the Chinese and Indian nails, which are exported into Ghana, since two years now. The imported nails from China or India are finished products, already packaged and shipped to Ghana. Whether the tax structure for such imported goods is effective or not, the managing director, suspects that the foreign nails are being dumped into the Ghanaian market. This is because the managing director sees no reason why the sales agents of the Chinese and/or Indian nails can under price their nails, in comparison with what the local competitors charge for their nails. For example, 12.5 kilograms of Chinese or Indian nails are sold for 105 or 108 Ghanaian cedis well below the 110 Ghanaian cedis, which all local competitors charge for a similar quantity of nails. According to the managing director, the local producers of nails, due to their cost structures, cannot compete with the imported nails, which are suspected to be subject to lower import taxes. The effects of this development are reported as follows.

Some Ghanaian nail producing companies have already closed down (e.g. Sahara, a big competitor). Many will have to follow soon, if the situation is not addressed. Sasha is now producing 10 tons of nails a month instead of the 20 tons a month it used to do in the past, a 50 % below capacity. Its number of employees has now been reduced to four instead of the usual six and a number of part time workers; this time no part time worker is needed. The same can be said about the other Ghanaian nail producing companies; they are also facing reduced
market shares and are producing far below capacity. As said before, the managing director of Sasha is considering closing down his nail company next year, if the suspected 'dumping' strategies of the Chinese and Indian nail producers are not addressed in Ghana. When asked why can't Sasha Company and other nail producers in Ghana offer high quality nails and effective service so as to be highly competitive in the market, the managing director of Sasha had the following answer.

“This is because the strategy of the Chinese, for example, is to finance their Ghanaian agents to do personal selling, knocking at retailers’ doors to offer cheap nails. Since most final users of nails have low purchasing power, they switch to the buying of Chinese nails, which are relatively cheaper than the locally produced nails. In spite of the fact that the Chinese nails are of inferior quality, compared with the locally produced nails, the lower price alone becomes a major competitive weapon for the Chinese. We cannot match them in terms of price, for our costs are very high. But, the Chinese are dumping their goods here just to wipe away the local nails manufacturing capacity, which generate, for example, more employment. By just exporting finished products into Ghana, the Chinese are building their nail manufacturing capacity, in China, at our cost. I would prefer that instead of exporting finished nails to Ghana, they must come to produce nails in Ghana”, said by the managing director.

We now turn to the analysis of the case.

**ANALYSIS**

One important condition underlying globalization of markets is the possibility for firms, for example, to conduct businesses in integrated and/or interdependent markets, without any hindrance whatsoever (Curry, 2000; Czinkota and Ronkainen, 2007; Peters and Pierre, 2006; Human Development Report, 2002). Evidence produced in this case study has shown the importance of this possibility. Sasha and its competitors have all established exchange relationships with some other firms in some foreign markets and in Ghana, thereby each getting its needs satisfied. However, operating in an enabling environment, which will consists of, for example, availability of reliable industrial infrastructure, high proportion of local content instead of high proportion of imported goods/service in business activities, and easy access to affordable bank loans, will go a long way to reduce high cost structures, which most firms in LDCs face. The opposite developments of these features will be a lack of enabling environment, as has been pointed out elsewhere also (Awuah, 1994; Asante et al, 2000; Kuada and Sorensen, 2001; FIAS, 2003).

Sasha has expressed its unwillingness to take bank loans in Ghana because of the high cost of borrowing. Almost all its critical production inputs (e.g. machines, spare parts, nail wires and lubricants) are all imported. This is a situation, which makes Sasha and other indigenous producers of nails vulnerable to high costs of imports, which put them at a cost disadvantage position. Since foreign competitors are not restricted, at all, due to trade liberalization, the Ghanaian market is now flooded with all kinds of goods, especially nails as this study has revealed; this has resulted in intense competition among nail producers. Trade liberalization, allowing foreign firms to serve the Ghanaian market from their home markets, instead of coming to do some local production is consistent with assertions made elsewhere about globalization and trade liberalization (Czinkota and Ronkainen, 2007; Doole and Lowe, 2004). But, this study has shown that indigenous firms, faced with ill-prepared industrial infrastructures (e.g., lack of critical production inputs, high cost structures, and lack of investment funds) would not be able to match the competition from imported goods and services. All this
contributes to their weakened competitiveness; as the case story has shown. Producing at a cost disadvantage, all the nail producers in Ghana tend to have expensive nails, compared to imported nails. This has made the buyers and/or users of nails switch to imported nails.

In the globalize markets, with huge amount of varieties of any good, customers will prefer buying goods and services, which give them value for the money (Czinkota and Ronkainen, 2007; Cox and Enis, 1988). However, what is not obvious about the advantages of foreign firms’ dominance of the Ghana nail market is the source of the competitiveness of the foreign firms. This is because, as evident in the case, they are being suspected of dumping their goods in Ghana. Sasha and its local rivals can hardly understand how the imported nails can be sold cheaply than the locally produced nails. Dumping is a serious issue, which concerns all countries. In the United States, dumping is said to be defined by the State as (1) an exporter selling below cost abroad and (2) planning to raise prices after eliminating local rivals (Peng, M.W, et al, 2008, P. 925). It is, therefore, not uncommon in the U.S or even Europe for a local firm to initiate a lawsuit against a foreign firm that is suspected of engaging in dumping of goods or services in a host country (p. 925).

Yielding to Caves’ advice (1982), LDCs will need to encourage and support entrepreneurs within their countries that will help fill the countries’ cells in the input-output table, which is very empty. The linkages from the input-output relationships will, among other things, reduce many sectors’ reliance on foreign inputs, which are also a major drain on the country's balance of trade or balance of payment (World development Report, 1990, 1994).

Subscribing to Caves (1982, pp. 270-271), the nails companies create backward linkages in as much as they purchase their production inputs from other firms or suppliers. They create forward linkages by supplying their outputs, which become inputs to other processes and activities. In concrete terms, the nail producers’ backward linkages bring about businesses to, for example, suppliers of nail wires, cartons, lubricants, petroleum, and services such as transportation of production inputs.

The forward linkages, which they generate has to do with final users of nails buying nails from retailers. The retailers buy their nails from distributors, who in turn, buy nails from the producers of nails. Each and every one of the inter-connected actors involved in the nail business might have one or more employees, permanent or part-time. Sasha alone, a relatively small nail company had been employing six permanent and some part-time workers in good times. Apparently, the about 20 Ghanaian nail producing companies may generate employment for some people in Ghana. The employees will certainly spend their earned incomes on some goods and services produced in the country. The end effect of the linkages is a major contribution to economic growth.

CONCLUSION

The purpose of this study has been to systematically describe and analyze the extent to which the forces of globalization and trade liberalization are having some impact on the competitiveness of firms, particularly in LDCs. As evident in this study, the case company and its indigenous rivals, about 20 of them, are operating in an LDC, Ghana, which has wholly embraced globalization and has massively adopted trade liberalization. What counts, therefore, is the ability for Ghanaian firms to compete with any firm (from abroad and from within), an important feature of globalize and liberalized markets. However, an important finding of the study
is the likelihood that the firm in this study will soon close down, as many firms in the nail industry in Ghana have already done, because they are not able to meet the challenges of globalization and trade liberalization. This study has revealed that Sasha, the case company, and its indigenous rivals have become less competitive, since foreign competitors entered the Ghanaian nail market in 2005.

The Ghanaian nail producers are less competitive because the nails imported from China and India are taking market shares from the indigenous nail producers, all to the effect that some Ghanaian producers of nails have already closed down their businesses. Sasha, the case company, now produces nails at half its normal capacity because some of the firm’s customers have switched to buying Chinese and India nails. The foreign nails are considered to be relatively cheap, compared to the locally produced nails. The Chinese and Indian nail producers are serving the Ghanaian market from their respective manufacturing bases in their countries, something in line with the dictates of globalization and trade liberalization of markets. However, the suspicion that such foreign producers of nails are dumping their nails in Ghana raises a matter of serious concern. This is because the literature also has it that some countries subsidize their firms so that they will be able to enter and compete in foreign markets (Spiegel Special, 2007; Beamish and Lu, 2004; Human Report Development, 2002). If the Ghanaian nail producers’ suspicion of the dumping of foreign nails in Ghana is true, something that merits further investigation, then certainly the foreigners will be able to out-compete the Ghanaian producers of nails.

Another finding relates to other factors that have contributed to make the Ghanaian producers of nails less competitive. These factors have to do with the lack of enabling environment, in which they operate. The lack of enabling environment, as the study has revealed, consist in, for example, indigenous firms’ heavy reliance on imports of all their critical production inputs, high cost of banks loans, and tax structures (e.g. import and sales). All this contributes to make their cost structures very high, a situation which makes it impossible for them to compete with imported nails, which are relatively cheap. Although the forces of globalization and trade liberalization enable the indigenous firms to get access to critical production inputs from overseas markets, the acquisition costs, transformation costs of the inputs, and marketing costs of the final nails render them less competitive vis-à-vis their foreign competitors that bring in only finished nails.

Finally, as the indigenous firms lose market shares to foreign competitors, who just export nails to Ghana, the linkage effects associated with their activities in the society are being decreased drastically. For example, Sasha is now doing less business with suppliers of some materials; it is doing less business with retailers buying Sasha’s nails, and above all, Sasha’s permanent employees has reduced from six to four. No part-time workers are hired these days. For the nail producers that have closed down completely, due to stiff competition from imported nails, all linkage effects are also gone for ever. Recall that Sasha is also considering closing down its factory, if the situation of the nail industry in Ghana is not addressed. A number of implications can be drawn from this study. Below, we present some of them.
IMPLICATIONS FOR MANAGERS AND POLICY MAKERS

An important lesson, which managers may learn from this study will be, for example, the fact that, in the era of globalization and liberalization of markets, they are bound to face stiff competition from abroad and from within their own domestic markets, as this study has shown. All firms, for example, have a greater access (Lee, 2005; Doole and Lowe, 2004; Human Development report, 2004) to the integrated markets of the world, products and services, technologies and practices, and to a greater extent, free market economies, which enable them to source production inputs and to sell their outputs (goods and services). All this suggests that a firm will need to have a foresight, which will enable it to innovate in new products, new ways of interacting with suppliers, customers, competitors, and other important stakeholders, that will enable the firm draw on their complementary resources and activities, when meeting the challenges posed by the forces of globalization and liberalization.

In business, innovative solutions, no matter where they come from, that are perceived by customers to be new and superior to some existing alternative solutions, will be preferred by customers (Doyle and Stern, 2006). In this study, the sellers of Chinese nails are doing personal selling, door by door, and other stuffs, which might be valuable to customers; the Ghanaian producers of nails might not have the resources to do such a marketing work. Evidently, the provision of some innovative solutions can be beyond the ability of a single firm. But, forging collaborative arrangements (joint product development, joint production input sourcing, and joint marketing) with other stakeholders (e.g. with competitors, suppliers, customers, government, places of higher learning) might help increase a firm’s access to complementary resources and activities. This will certainly help increase a firm’s competitiveness in any market.

For policy makers, the present study provides insights regarding areas, which need be improved upon. For years Ghana has suffered a negative balance of payments because many sectors, namely manufacturing, agriculture, health and education (Roe, 1991; World Development Report, 1990, 1994) rely heavily on foreign production inputs. The nail market discussed above is a case in point in modern times. Once Ghana subscribes to the principles of market economy because the country cannot afford to isolate itself from the global community, efforts must be made to create the enabling environment, which will permit entrepreneurs to emerge and grow. The entrepreneurs must be able to compete with any competitor that enters the Ghanaian market, be it a Chinese, Indian, German or Brazilian firm. In Ghana it appears that the few entrepreneurs or firms that risk investing in the country soon fade out, when some foreign competitors enter the Ghanaian market (Roe, 1991; Asante et al., 2000; Panford, 1994; Awuah, 1997).

The 1980s and most part of the 1990s witnessed a mass closure of Ghanaian firms as the market was first liberalized and foreign goods were imported into the country. Notably, textile, pharmaceutical, and food processing Ghanaian industries have all closed down due to increased competition from exports of finished goods to cater for similar needs, which the Ghanaian firms sought to satisfy. And now we see that the nail industry is the next on line to be kicked away by exports of finished nails. To this end, Ghana government, for example, should encourage and support collaboration between universities, other areas of higher learning and industries, which will help boost the competitiveness of indigenous firms.
However, the suspicion that foreign producers of nails are dumping their nails in Ghana, the aim being to drive away local producers, needs be investigated at the highest level. This is because the literature points to some unfair trade practices, although we all preach the ’good’ in globalization and free trade (Human development, 2004, 2002; Spiegel Special, 2007) and this study also reveals a similar claim.

LIMITATION AND SUGGESTION FOR FURTHER RESEARCH

Although the study sheds light on the extent to which the forces of globalization and liberalization are having impact on the competiveness of firms in LDC, particularly Ghana, only an in-depth case study is a stark limitation. Examining the same phenomenon by studying similar firms, competing firms, all in Ghana, and in other settings (i.e. other LDCs) is needed. By using the same interview process or other methods to study the same phenomenon, over time, would provide comparative, qualitative data. It will also help produce useful understanding and knowledge of the phenomenon beyond Ghana and that of the context of the nail producing industry.

LITERATURE


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ABSTRACT
The purpose of this study is to outline different measures that manufacturers of Heavy vehicles use in various situations in the supply chain, e.g. upstream or downstream. The method used in this research is based on a case study with two large multinational manufacturers of Heavy Vehicles: Firm A and Firm B. In order to gather empirical evidence, interviews were conducted with top managers of different functions e.g. Purchasing, Production, Quality. The empirical work consists of in depth interviews with 7 managers. The findings reveal that these two manufacturers operate in the same part of the supply chain. Their supply chain can be presented as a hybrid supply chain. They only integrate with their 1st tier supplier and work close to the end customer. They focus on measuring the quality of their own products, cost related to suppliers and delivery reliability to the customer.

Keywords: supply chain, performance, measure and metrics

INTRODUCTION
Several studies have highlighted the need for vital performance measures in the supply chain, e.g. Lai & Ngai et al (2001); Petroni & Pandirlo (2002); Holmberg (2000); Tracey & Tan (2001), and attempted to outline and describe different performance measures across and between organizations, upstream and downstream the supply chain. The importance of measuring the correct metric of performance within an organisation is vital, due to the fact that it may affect the decision process. For example, if the measure fails to provide correct facts about the process being measured, it could lead to poor decisions followed resulting in catastrophic actions. The car industry is one example, where on occasions the OEM (Overall Equipment Manufacturer) is obliged to recall cars from the market because they are faulty. All the actors within the car industry manufacturing supply chain can be responsible for corrective actions. The supply chain of Heavy Vehicle manufactures is similar to the car industry i.e. OEM and vehicles. However, there are some differences: 1) the weight: the products of Heavy Vehicle manufacturers, e.g. fork lifts, container handlers, rollers, pavers, planners etc, are designed to be heavy, in contrast to car manufactures, where lighter cars are considered better; 2) the number of suppliers: the parts, e.g. engine, transmission. There are few large manufactures of e.g. engines, supply many competitors in the market, unlike the car industry, where several manufacturers offer a variety of models, thus providing a range of engine options. These are just two examples of differences between the supply chains of Heavy Vehicle and car manufactures. In contrast to other branches, the car industry is often mentioned as a good example of how to measure the performance of their
supply chain. The primary aim is twofold, first, to present and describe the type of supply chain, the supply chain performance measures and its metrics focused on by two Heavy Vehicle manufacturers, Firm A and Firm B. Second, to present theory about measuring supply chain performance measures i.e. quality, delivery, cost/price and flexibility. Also to present different types of supply chains i.e. efficient, quick, lean, hybrid or agile supply chain and supply chain performance measures: The outcome of the primary aim should be answering two research questions:

1. What and how do these two Heavy vehicle manufacturers measure their performance, upstream and downstream the supply chain?

2. What does the research say about measuring supply chain performance depending on the type of supply chain?

The outcome of these two questions is discussed and analysed. If possible, the potential gap will be presented. The idea is also to present suitable measures, sub-measures and metrics that manufacturers of Heavy Vehicles could measure to track performance within their supply chain. This may be an interesting contribution to existing theory and the project could deepen existing knowledge of the types of Supply Chain Performance Measures and metrics that are vital for Heavy Vehicle manufacturers to measure. The following four will be analysed in depth: quality, delivery, cost/price and flexibility. These measures are often directly connected to the physical material flow, referred to by purchasing managers when selecting suppliers, and used as supply chain performance measures (Petroni and Pancioli, 2002).

THEORETICAL FRAMEWORK

A GENERAL DESCRIPTION OF THE SUPPLY CHAIN AND ITS PERFORMANCE

There are many descriptions of supply chains (Singh 1996; Christopher 1998; Mason-Jones and Towill 1998). Several researchers appear to agree that it mainly consists of three elements: physical material flow, information flow and the financial flow. The supply chain also includes several members who are positioned within it, either upstream or downstream. However, the view of the supply chain has changed over time from an internal to a more external focus i.e. an internal supply chain to an integrated synchronised supply chain. The performance of the supply chain has been widely covered in research. Several recent studies (Shepard and Günter 2005; Gunasekaran, Patel et al. 2001; Hoek van 2001; Landeghem van and Persoons 2001; Otto and Kotzab 2001; Lambert and Pohlen 2001) highlight the need to measure the efficiency of an integrated supply chain. Efficiency can best be described by customers. Petroni and Pancioli (2002) argue that customers usually retain a supplier who has the highest aggregate score on: price, quality, flexibility of production and delivery times. De Toni, Nassimbeni et al. (1994) claim that an efficient, high quality supply chain depends on achieving high-level performance in terms of cost, quality and time-to-market. Hayes and Wheelwright (1984) were the first to present methods for assessing operational strategy by means of four generic competitive priorities; quality, cost, flexibility and delivery. These priorities are the dimensions on which a company chooses to compete within a target market. Their original formulation was applicable to all functions. Hill (2002)
also addresses competitive priorities such as price, cost reduction, delivery reliability, delivery speed, quality conformance, increased flexibility – demand as well as product range and design, which he describes as order-winners or qualifiers. Since the beginning of the manufacturing era, performance measures have been important for organisations as a means of trying to obtain knowledge about what is happening around them. Lambert & Pohlen state that a well crafted system of supply chain metrics can lead to competitive advantage through differentiated services and lower costs. A supply chain performance measurement system consists of a set of parameters that can fully describe the logistics and manufacturing performance of both the whole supply system, as perceived by end customers, and of each actor in the chain, as perceived by downstream players. Several researchers (Beamon, 1999; Chan and Qi 2003; Gunasekaran et al., 2004; De Toni and Tonchia, 2001; Chan, 2003) have tried to design measurement systems to evaluate supply chain performance, but these designs appear to have several limitations: no reference to strategy; focus on cost to the detriment of non-cost indicators; lack of a balanced approach; insufficient focus on customers and competitors; loss of supply chain context, thus encouraging local optimization and lack of system thinking (Shepherd and Günter, 2006). Perhaps the best known is the supply chain operations reference (SCOR) model, developed by the Supply Chain Council in 1997 and described as a “systematic approach for identifying, evaluating and monitoring supply chain performance”. The idea behind the model is to measure the supply chain at multiple levels. Single indicators e.g. cost or time, cannot adequately measure supply chain performance. Shephard and Gunter argue that one of the main limitations of this model is that it does not offer a systematic method for prioritising measures, although recently some attempts have been made to address this weakness (Huang et al., 2004; Li, S. et al., 2005; Chan and Qi, 2003). The performance of a supply chain can be viewed as a system of measures e.g. quality, delivery, flexibility and cost/price. An example of a supply chain performance measure could be the measurement of quality might be: “the number of products delivered without defects or the probability of a product malfunctioning within a given period”. Metrics can then be described as the system of parameters or methods of quantitative assessment of a process, in addition to the means of carrying out such measurements. Metrics define what is to be measured and are usually area specific, which means they are only valid within a certain domain and cannot be directly benchmarked or interpreted outside it e.g. supply chain measure and metrics. Table 1 shows and example of supply chain performance hierarchy.

<table>
<thead>
<tr>
<th>Supply Chain Performance</th>
<th>Example of sub measures</th>
<th>Example of metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>The degree to which a product is manufactured to the agreed specification</td>
<td>% of reclamation</td>
</tr>
<tr>
<td>Delivery</td>
<td>The ability to consistently deliver on the agreed due date</td>
<td>% of on time delivery</td>
</tr>
<tr>
<td>Flexibility</td>
<td>The ability to effectively produce a wide variety of different products</td>
<td>X pieces of variances</td>
</tr>
<tr>
<td>Cost/price</td>
<td>The ability to produce products at a low cost. The ability to offer a lower product price than direct competitors.</td>
<td>X SEK</td>
</tr>
</tbody>
</table>

Table 1, Example of supply chain performance measures and its metrics (Chibba, 2007, Licentiate thesis)
Organisations today try to measure their overall performance in terms of customer satisfaction, and while the measures vary, they usually include quality (of the product) and delivery time. To generate this knowledge the organisations have to figure out what performance measure and its metric that are to be prioritised. As Robson (2004) states "without the knowledge of the exact circumstances under which a measurement system either will or will not improve the performance, it is difficult to genuinely justify the additional cost of implementing a measurement system".

**DIFFERENT TYPES OF SUPPLY CHAINS**

Cigolini et al. (2004) present three main factors that could play a major role in prompting organisations to adopt a particular SCM strategy. 1) the dominant phase in the end product's life cycle 2) the inherent structural complexity of the end product and 3) the type of supply chain. The first factor is described by Hayes and Wheelwright (1984), who defined four phases, which are now classical: introduction, growth, maturity and decline. The type of product an organisation manufactures can be categorised by means of this classic model. The second factor is defined by Cigolini et al. as the structural complexity of the end product, namely the number of parts, subassemblies and levels of the bill of materials involved in the end product, which determine the number of manufacturing processes, suppliers and technologies that have to be managed and co-coordinated. They also point out that the higher the product complexity, the harder the managerial challenges associated with procurement and manufacturing. Huang, Uppal et al. (2002) claim that products can be categorised into three types; functional, innovative and hybrid, and provide examples of each. Functional products are generally simple and synonymous with standard and commodity products. Demand for such products can be accurately forecast, and their market share remains fairly constant. The manufacturing process is well defined and involves an established, long-term relationship with suppliers in terms of material quality, delivery times and quantity discounts. Huang, Uppal et al. (2002) claim that this type of product should be manufactured and introduced to the market with the help of a Lean Supply Chain, (LSC). Innovative products can be new products developed by organisations to capture new markets and are designed to be acceptable to potential customers. They can also be derivative products aimed at capturing a larger share of the market. Huang, Uppal et al. (2002) argue that hybrid products consist of either different combinations of standard components, or a mix of standard and innovative components. The third determinant, the supply chain characteristic, refers to efficient, quick or lean supply chains. An efficient supply chain, ESC, brings product to the market which can be broadly considered as commodities and are often sold in high volumes (e.g. groceries, newspapers ...). Because of the stability of product flows, these organisations can invest in large and capital-intensive facilities, and improvement initiatives are focused on operations rather than product innovation. A quick supply chain, QSC, (e.g. fashion apparel, white products) can be defined as “products whose demand is difficult to forecast”. These types of organisations invest in manufacturing systems with a high variable vs. fixed costs ratio, due to the fact that manufacturing flexibility is highly valuable. A lean supply chain, LSC, (e.g. automobile) has intermediate characteristics: firms do not mainly compete on product price or novelty, but simultaneously on price, novelty, quality, and customer service. A LSC employs continuous improvement processes to focus on the elimination of waste or non-value stops across the chain and employs both lean production and time compression in parallel in order to be economical,
flexible and responsive. Meanwhile, innovative products have a different focus that can lead to the capture of new markets and are designed to be acceptable to potential customers. Huang, Uppal et al (2002) argue that these types of products are usually characterized by uncertain demand, unstable design and are in the introduction or growth stage of the product life-cycle, thus justifying the use of an agile supply chain (ASG). Huang, Uppal et al (2002) state that a hybrid supply chain could be the best choice for a car manufacturer and provide an example of the manufacture of an automobile in order to illustrate the fact that some components with different specifications may contain innovative features. As a result, these components may be produced using either lean or agile techniques. A hybrid supply chain could therefore be appropriate, as it consists of a mix of both lean and agile techniques. Cigolini, Cozzi et al. (2004) provide an example of how different types of products lead to a certain supply chain i.e. efficient, lean or quick. There are several types of supply chain described in the literature. The hybrid supply chain presented by Huang, Uppal et al (2002) seems to be the newest. These different types of supply chains described above are those discussed and referred to in research.

SCOPE FOR MEASURING SUPPLY CHAIN PERFORMANCE

Often the first step in assessing performance is to analyze the way in which order-related activities are carried out. In order to do this, the most important issues, i.e. the order-entry method, order lead-time and path of order traverse, must be considered (Gunasekaran, Patel et al. 2001). The production process in manufacturing organisations is often an activity that has a major impact on production cost, quality and speed of delivery. These metrics could correspond to three headings (Gunasekaran, Patel et al. 2001): Range of products and services, capacity utilization and effectiveness of scheduling techniques. These measures could be called functional measures. Functional measures (see figure 1, type 1) depict the performance of a single activity within a function of the chain, e.g. flexibility (mix) of production – the ability to effectively produce a wide variety of different products. These measures do not actually represent a supply chain measure but rather a functional one. However, Holmberg (2000) claims that in order to implement SCM within an organisation, the internal perspective on performance measures has to be expanded to include both “interfunctional” and “partnership” perspectives and inward-looking and self-focused attitudes in the management approach avoided. There are also measures that span over several functions and show the performance of several connected functions i.e. head-processes. Metrics such as cost (total cost), quality (part per million defects, PPM), non-conformities and delivery lead-time are appropriate for measurement. These type of measures could be called Internal integrated measures (see figure 1, type 2), as they depict performance across functional boundaries within the firm, e.g. quality (conformance) – the ability to manufacture a product whose operating characteristics meet established performance standards; Cost (total cost) the ability to minimize the total cost of production (labour, materials, and operating costs) – through efficient operations, process technology, and or scale economies; Delivery (speed) – the ability to minimise the time between the receipt of a customer order and final delivery. Other measures to consider are quality (conformance, reliability), delivery performance (reliability), product price and flexibility of scheduling and production. These types of measures can be called One sided integrated measures (see figure 1, type 3), as they depict performance across organisational boundaries and measure chain performance across supplier or customer boundaries, e.g. total cost, total lead-
time, delivery (speed) – the ability to respond in a timely manner to customer needs. Some researchers (Rushton and Oaxly 1991; Thomas and Graham 1996) claim that the largest cost component of logistics is transportation costs in the total chain.

They hold that the transport cost is always the highest part of the total distribution cost. It therefore seems important to treat delivery and cost as a high priority metric. Stewart (1995) identifies the following measures of delivery performance: delivery-to-request date, delivery-to-commit date, and order fill lead-time. These types of measures can be identified as Total chain measures (see figure 1, type 4) that depict performance across organisational boundaries and measure the performance of the complete supply chain, including links to suppliers and customers, e.g. total chain costs – the ability to minimise the total cost from supplier to end customer. The measurement situations (type 1-type 4) presented above can be linked to a model developed by the Supply-Chain Council (SCC), an independent, non-profit, global corporation, and based on a process view of the supply chain using four distinct management processes e.g. plan, source, make and deliver. The SCOR model combined with different supply chain performance measure situations, (figure 1).

Figure 1. Four different types of supply chain performance measurement situations

RESEARCH APPROACH

The two heavy vehicle manufacturers are part of a “heavy vehicles” group, and also support CIL, Centrum for Informationlogistics, Ljungby, Sweden. The manager of CIL first contacted these two manufacturers to invite them to take part in the research project, after which we contacted them and described the research project i.e. presented the research questions and the potential output. We all concluded that these questions were interesting for these two manufacturers and the questions were appropriate. The companies that we where about to study gave us their full support at the start of this project. Top executives allowed us to access to required data i.e. personnel and meetings. We employed a qualitative research process, as our aim was to present the supply chain performance measures and metrics focused on by these two Heavy Vehicle manufacturers as a result of their position in the supply chain. We limited our interviews with managers to 2-3 hours per interview. At an early stage we made it clear that we wanted to interview the “owners” of the per-
formance measure i.e. those who were responsible for measuring the supply chain performance, e.g. quality, delivery, cost (price) and flexibility. Together with the two manufacturers, we then defined our respondents as follows: Firm B’s Quality Assurance Purchasing Manager, Production Manager and Purchasing Manager and Firm A’ Quality Manager (also production manager at site 1 (Lidhult), Production Manager site 1 and Production Manager site 2 (Ljungby), Purchasing Manager (site 1 and 2) and finally Operating Purchasing Manager (site 1). The total number of respondents was seven. See appendix 1, interview questions.

The issues addressed in the interviews were based on earlier supply chain performance research (Chibba, Hörte 2003) and supply chain performance theories (Robson, 2004; Cigolini, Cossi et al, 2004) Staff interviewed included the managers from each company responsible for supply chain performance. The empirical data (research question no 1) was then compared with the results from the theoretical framework (research question no 2). The main theoretical base discussed above (supply chain performance) provided the necessary framework for sorting and analysing the data generated. The SCOR model combined with different supply chain performance measure situations (figure 1) was used to sort the supply chain performance measures and its metrics of these two manufacturers.

RESULTS AND ANALYSIS

THE CHARACTERISTICS OF THE HEAVY VEHICLE SUPPLY CHAIN

The supply chain of the two heavy vehicle manufacturers can be described as a hybrid one (Huang, Uppal et. al, 2002) i.e. cost minimisation, mass customisation, and adaptability for future changes. However, most respondents mentioned an ambition to work towards a lean supply chain, LSC. The respondents seemed to agree that the lean supply chain concept is right for the heavy vehicle industry. The skill required by these two heavy vehicle manufacturers can be described as twofold, products and service. They provide a service based on several years of “know how” e.g. core competence: lifting heavy goods, making roads etc. This is in contrast to the automotive industry, were the core competence is engine design and development, although engines of varying horsepower may be produced for the same model, as per customer requirement. Both of the heavy vehicle manufacturers have a significant difference in their sources of components and articles. All of the respondents were clear about the part (upstream or downstream) of the supply chain in which their organisation operates. Both heavy vehicle manufacturers see themselves as an Overall Equipment Manufacturer, OEM that works close to the end customer.

Both heavy vehicle manufacturers interact with their suppliers to a limited extent. Only Firm A, have a relatively structured form of interaction with suppliers, while Firm B have more of an ad hoc interaction with suppliers. At present, Firm A do not have the resources to interact to a greater degree with suppliers and therefore only help and interact with their 1st tier supplier. No systematic on-going projects with suppliers were taking place at Firm B, although there were a number of small projects with expected outcomes related to shorter lead-times from the supplier and in house, delivery performance to customer and average lead-time.
PERFORMANCE MEASURES AND ITS METRICS

Both manufacturers measure the performance within their own organisation and across the supply chain. They make use of measures within internal functions and measure the internal supply chain as well as their suppliers’ performance and their own customer performance, i.e. 1st tier supplier and collect the voice of the customer. However, they do not fully capture the whole supply chain performance, i.e. measures over organisational boundaries e.g. from 3rd suppliers to end customer and user.

FUNCTIONAL PERFORMANCE MEASURES WITHIN THE INTERNAL SUPPLY CHAIN – TYPE 1

Firm A’s purchasing department measures price development (%), payment (days), number of suppliers, number of articles, volume flexibility (% per year for flexibility, stockturnover (times per year) and stock value in SEK. The production at site 1 is measured internally by means of the following measures and metrics: lead-time, productivity (hours, time wasted, time waiting), quality (PPM, defects per manufactured item) and slack in production plan. The production at site 2 is measured by means of: direct labour i.e. % of minutes registers, pre-calculated time divided by used time, the target is 1. According to the Production Manager (site 2) direct labour should be over 80% (= direct time/appearance time), total productivity and quality (PPM, defects per manufactured item). At Firm B the purchasing department measures: the purchasing price per unit (changes), which is measured every month, the number of orders that are not completed, how much is bought in from low salary countries, how many articles/parts can be ordered through call off (30-50%) and stock value. The production at Firm B points out that the most important measures for both workers and owners are: cost (work-time and machine) productivity (money), how often a worker is present at work (present time/machine).

Internal Integrated measures – type 2

Firm A measure the lead-time (weeks) and cost (SEK) from order to delivery to end customer. They also measure inventory turnover (times per year) and quality (PPM). Firm B measures internal delivery performance i.e. “how close they are to the production plan”, the customer receives information once a week and Firm B measures the following on a daily basis; lead-time and inventory turnover (times per year), line stop (time), quality (PPM), the number of orders that are not completed, total cost (order to delivery) and productivity.

ONE SIDED INTEGRATED MEASURES – TYPE 3

At Firm A the external measures are: delivery performance of suppliers, quality of suppliers (PPM), lead-time of suppliers (weeks). They also measure when they receive the product from the suppliers i.e. the right day, too late, too early (days) and cost (SEK), lead-time average and claims. They keep statistics of how much is purchased from low salary countries and how many parts can be ordered through call off (30-50%). They measure the number of payment days from suppliers (at least once a month). Many of these measures are presented to top management. Firm B uses almost identical performance measures. They measure suppliers in terms of quality (PPM), claims (number, cost) and delivery precision (measured by material planner). Firm B’s customers are interested in the following: the right quality, i.e. the number of zero defects machines and turnover - poor quality costing and claims from market. Firm B also measure several aspects of the delivery perform-
ance to customers. Every week they measure the performance of the sell companies, distributors, and their workshop although this varies. They also measure the lead-time to customer (weeks). Firm B works with the concept of modular thinking.

**Total Chain Measures - Measures Across Organisational Boundaries – Type 4**

Total chain measures depict performance across organisational boundaries, i.e. suppliers, the organisation and customers. In both cases an organisation’s supply chain performance is measured with KPI, Key Performance Indicators, i.e. indicators of how well the organisation manages to deliver to the market. In both cases these KPI are input to top management, who can then interpret the facts and use the information to undertake necessary actions. Typical measures used by Firm A are delivery reliability, total lead time and real cost from supplier order to end customer (Sell Company). These types of measures exist in certain supply chains i.e. parts which are important, due to the fact that there are few suppliers, critical components/parts etc. Firm A mention delivery reliability as one measure, but divided into several parts i.e. suppliers, customers, internal and the site delivery reliability to the market. Quality, warranty % of total turnover, direct cost reduction, productivity, (hours for respective group), product cost (index), material price (index), quality (warranty against product lines in SEK), stock value (SEK), lead time, cost and quality (PPM). Firm A keep a list of its 20 worst 1st tier suppliers and also have an open day with their first tier suppliers. Firm B argued that lead-time is extremely important due to the fact that almost everything has to do with the time factor. They measure the “total lead-time” from point of order to when the machine is booked and ready for delivery, which could be classified as a total chain measure. Firm B has identified some Key Performance Indicators for their overall business: Quality, Delivery and Productivity (QLP). However, these performance indicators are not applicable for all functions within Firm B.

**Performance Measures that Wins Orders**

These two multinational heavy vehicle manufacturers have a very sound reputation and history. Firm B was founded in 1934 and focused its efforts on supplying the best in terms of machine performance to the road and to the civil construction industries. Firm B is a full line global supplier. Firm A has a long history dating back to the end of 1940. Since then it has delivered more than 65 000 machines to over 140 countries. Both LEs win orders as a result of their good reputation and history, their focus on quality, delivery and cost. One can say that they are in the premium segment of their type of products. The measure of quality is the most important measure among the respondents. Quality (metric: quality conformance, the degree to which a product is manufactured to the agreed specification) is the most important measure but also, as stated by one respondent: “quality is important but also service after the first 50 hours of use” i.e. metric: quality serviceability, the ease of servicing (planned or breakdown) to include the speed and provision of after sales service). The measure of delivery (metric: delivery reliability), the ability to deliver consistently on the agreed due date, is rated in second place by the respondents. One respondent argued that all measures are equally important because they are connected to each other. Below presents the different supply chain performance measures that these two large multinational manufacturers of Heavy Vehicles use in different measurement situations.
Table 2 Supply chain performance measures at two heavy vehicle manufacturers

<table>
<thead>
<tr>
<th>Measurement situation</th>
<th>Performance measure</th>
<th>Sub measure</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type 1</strong> Functional measures</td>
<td>Quality</td>
<td>Quality conformance</td>
<td>PPM</td>
</tr>
<tr>
<td></td>
<td>Cost</td>
<td>Productivity</td>
<td>Man hour/machine</td>
</tr>
<tr>
<td><strong>Type 2</strong> Internal supply chain measures</td>
<td>Delivery</td>
<td>Lead time</td>
<td>Days</td>
</tr>
<tr>
<td></td>
<td>Cost</td>
<td>Direct labour cost</td>
<td>SEK/machine</td>
</tr>
<tr>
<td><strong>Type 3</strong> One sided integrated measures i.e. supplier or customer</td>
<td>Supplier</td>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quality</td>
<td>Quality conformance</td>
<td>SEK/machine</td>
</tr>
<tr>
<td></td>
<td>Delivery</td>
<td>Reliability</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Price</td>
<td>Price/purchased item</td>
<td>SEK/item</td>
</tr>
<tr>
<td></td>
<td>Customer</td>
<td>Customer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Delivery</td>
<td>Reliability</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>Quality</td>
<td>Quality conformance</td>
<td>PPM</td>
</tr>
<tr>
<td></td>
<td>Service after delivery</td>
<td>Time to establish service for customer</td>
<td>Hours</td>
</tr>
<tr>
<td><strong>Type 4</strong> Total chain measures</td>
<td>Total cost</td>
<td>-</td>
<td>SEK</td>
</tr>
<tr>
<td></td>
<td>Total lead time</td>
<td>-</td>
<td>Weeks</td>
</tr>
</tbody>
</table>

CONCLUSION

These two multinational heavy vehicle manufacturers measure the supply chain performance, what and how they measure presents below (research question no. 1). They have defined their Key Performance Indicators as a measure to describe “how well the organisation manages to deliver to market”. Most of these performance indicators can be defined as “one sided integrated measures” which include first tier suppliers, the organisation, sales company and end customer. However, they do not measure the total chain, i.e. from 2nd and 3rd suppliers to end user, thus it would be interesting to do so, especially with regard to critical components i.e. engine, transmission parts. They measure: delivery reliability, quality, cost and lead-time. They interact with their suppliers to some extent. Firm A interacts systematically with 1st tier suppliers. They do not have the resources to interact to a greater degree with other suppliers upstream the supply chain. Firm A works towards prevention actions while Firm B have more of an ad hoc interaction with suppliers. At Firm B, the interactions with suppliers have a corrective action focus, as opposed to preventative actions. The respondents were clear that the most important supply chain measure is quality with its metric: “the degree to which a product is manufactured to the agreed specification”, followed by delivery and its sub measure: delivery reliability (time). Firm A and Firm B have a supply chain performance focus on quality, delivery and cost, which constitute their order winning criteria in the marketplace. It seems to be more important to their customers to receive their orders on time rather than the product arriving late but without the risk of some defects or malfunctioning parts. Therefore it is extremely important for these two large multinational manufactures to provide after sales service. These two manufacturers (Firm A and Firm B) have a history of over 50 years in their sector, and both claim that their products are in the premium segment i.e. high quality. Both manufacturers have an identical type of supply chain.

The research about different types of supply chain and supply chain performance measure gives theory that could be applied on these two Heavy Vehicles manufacturers (research question no. 2). Their supply chain can be characterised as a hybrid supply chain. Huang,
Uppal et al. (2002) argue that the purpose of a hybrid supply chain is to allow companies to interface with the market to understand customer requirements and maintain adaptability. They also try to achieve mass customization by postponing product differentiation until final assembly by adding innovative components to existing products. Their approach when choosing suppliers is focused on low cost and high quality, along with the capacity for speed and flexibility. Both manufacturers focus on shorter lead-times but not at the expense of cost. They also operate in the same part of the supply chain i.e. downstream and near the sales company and end customer. Their supply chain measures and metrics are almost identical. Both have consistent and well defined internal supply chain measures. Quality (product quality) and delivery (on time) seem to be the most important measures and metrics focused on by these two heavy vehicle manufacturers.

The gap, between how and what these two manufacturers measures their type of supply chain i.e. upstream and down stream (research question no 1) and research about different types of supply chain and supply chain performance measures (research question no 2) could be summarised as follows:

- They do not measure the total chain, i.e. from 2nd and 3rd suppliers to end user, thus it would be interesting to do so, especially with regard to critical components i.e. engine, transmission parts. They only measure 1st supplier.
- They do not have the resources to interact to a greater degree with other suppliers upstream the supply chain than 1st suppliers. Firm A works towards prevention actions while Firm B have more of an ad hoc interaction with suppliers.

This gap shows that these two Heavy Vehicles manufacturers to not have resources to interact with suppliers over the total chain e.g. 1st, 2nd and 3rd suppliers. The reason for this is unclear. Both manufacturers agreed that this requires a change in the future.

REFERENCES


NPD COLLABORATION IN MEDIUM SIZED FIRMS: A SURVEY AND BEST PRACTICE ANALYSIS

Jonas Rundquist

Abstract
It is proved that awareness and use of methods and processes for New Product Development (NPD) increase the success rate of NPD projects. The studies of Product Development Management Association (PDMA) indicate that NPD processes are increasingly in use. However, the samples of the PDMA studies include only very large firms and some important differences could be expected between NPD practices in large firms compared to medium sized firms. This paper focuses on the use of NPD methods and processes in medium sized firms and is a repeat study of a survey published in 2004. The survey will be repeated in medium sized firms every fifth year to detect trends in NPD practices.

The survey posted in 2007 had a general purpose to describe practices for NPD in medium sized firms and make a comparison over. As two special themes the 2007 survey also maps:

a) sources for new ideas, and

b) methods and practices of collaboration when outsourcing NPD.

Results show that almost every firm today use a formal NPD process. It is also interesting that the main sources of new ideas for the best performing firms are internal (as marketing or R&D function).

Keywords: NPD; survey study; best practice; Medium sized firms

INTRODUCTION
We could expect differences between medium sized and large companies in new product development (NPD) practices because of different settings in resources and structures (e. g. Wolff and Pett, 2004; Hörte et al, 2008). Even though differences can be expected and NPD is highly important for medium sized companies, we can see that this is an area where very few quantitative studies have been conducted. Although making an extensive literature review, we have found no quantitative studies describing NPD practices in medium sized companies. This study can therefore serve as a benchmark for managers in medium sized companies, and form a base for identifying research questions for future studies.

As the first in a long history of studies describing best practices for NPD management, Booz et al (1968) presented a six phase model of activities in 1968. Based on knowledge from 800 clients in approximately 50 firms, they recommended a high attention on the early phases and an organizational commitment on NPD. During the decades many descriptions of the NPD process, from idea generation phase through the product launch phase has been presented by
researchers based on theory or experience (e.g. Booz et al, 1982; Andreasen and Klein, 1987; Cooper, 1994; Yasdani and Holmes, 1999). Many studies have also been conducted to investigate the extent of use of these processes. In the tradition of detecting best practices, some of the more cited efforts are Little (1991), Page (1993), Griffin (1997), and Cooper and Kleinschmidt (2004). Griffin (1997) offers a summary of the best practice tradition up till that date. An attempt to take a new initiative for a best practice framework was published by Journal of Product Innovation Management (Vol 23, Iss 2) where Kenneth B. Kahn, Gloria Barczak, and Roberta Moss invited some of the early researchers mentioned above to suggest best practices.

Most of the best practice studies are conducted in a US context (e.g. Page, 1993; Griffin, 1997; Cooper and Kleinschmidt, 2004a; Kahn and Barczak, 2007), and all are targeting a sample of very large firms. This can of course be motivated with the fact that these very large firms are the most successful firms and therefore a benchmark for smaller and ambitious firms. However many studies show that results from large firms can often not be used for smaller firms (e.g. Verhees and Meulenberg, 2004; Hörte et al, 2008).

In 2002 a questionnaire was posted targeting medium sized firms (Rundquist and Chibba, 2004). The ambition was to repeat this study every five years in order to follow the development and awareness of NPD processes in this context. This paper presents the results of the second survey study conducted in medium-sized firms during the fall of 2007. The goal of the study was two-fold, namely to:

- determine the current status of NPD practice in medium sized firms (for example use of formal NPD-processes, type of process, and use of outsourcing of NPD), and
- compare the results with the results of the 2002 study (Rundquist and Chibba, 2004).

To define a framework for the topics developed in the questionnaire, a review of previous research in the areas was made. In the following section, the theoretical base of the study will be presented.

**FRAME OF REFERENCE**

The term “New Product” is defined by PDMA as a product (good or service) new to the firm marketing it (Kahn et al, 2005). As described previously, many practices exist for how to develop new products. This study is related to three areas of practices. These are; (formal) NPD-processes, NPD Strategies, and Outsourcing of NPD activities. In the following section key issues and concepts will be described and defined. The operationalization of the variables can be read in the questionnaire (Appendix A) at the end of the article.

**FORMAL NPD-PROCESSES**

A NPD Process can be defined as “a disciplined and defined set of tasks and steps that describe the normal means by which a company repeatedly converts embryonic ideas into salable products” (Kahn et al, 2005). The process contains activities such as concept generation, user tests, construction, design and development for manufacturability. Cooper (1994) defined a formal NPD-process as “a formal blueprint, roadmap, template, or thought process for driving a new product project from the idea stage to market launch and beyond”. This implies
that a formal NPD-process must be documented in some recognized form and be implemented to knowledge of the relevant parties, such as management, NPD-department and other departments involved in new product development. The following discussion will show that a formal NPD-process does not have to be rigid and inflexible. It could even be argued that the trend among theorists has moved from ad-hoc to a formal and rigid process and then turned back to a formal but flexible process (e.g. Yasdani and Holmes, 1999). This is also supported by Kahn et al. (2006) in their Delphi study.

One finding from studies of NPD processes is that the development process varies depending on the degree of newness to the product. PDMA uses a categorization scheme to make it clear to what extent a product is radically new or incremental (Kahn et al, 2005): New-to-the-world products or really new products, New-to-the-firm products or new product lines, Additions to existing product lines, Improvements and revisions to existing products, Repositioning, and Cost reductions. In this study NPD refers to the development of in the first three categories; New-to-the-world products or really new products, New-to-the-firm products or new product lines, and Additions to existing product lines. This is defined in the questionnaire used in the study.

Cooper (1994) describes three types ("generations") of NPD-processes. The first generation is a serial process aiming at minimizing technical risks through an system of checklists and stage-gates. A stage-gate is defined as a decision point at which specific criteria must be fulfilled before the go-ahead can be given for the next stage of the NPD-process (Booz et al., 1968). In the study these models will be categorized as functional and sequential. Business aspects were not really considered in these early models, and the process ends with delivery of a project result to a marketing department.

In the second-generation process the process expands to include non-technological steps and also to include a cross-functional approach to NPD. This means that functions as marketing and manufacturing are integrated at all stages (e.g. Andreasen and Klein, 1987). The decision points or gates are also cross-functional, which is important in terms of gaining acceptance for decisions within the organization. Two results of a cross-functional stage-gate process are stronger market orientation and the possibility of concurrent processing (Griffin, 1997). The gates of the second-generation process are normally described as being formal and rigorous. This means that all sub-processes within a stage must be completed before a go/stop decision can be made.

The third-generation process, suggested by Cooper (1994), introduces the possibility of overlapping the stages for greater speed and a less rigid stage-gate system. Cooper introduced the term "fuzzy gates", which means that go-decisions can be conditional or situational. A project can be given a go ahead even if sub-processes are not ready, on the understanding that the missing information is gathered later and before a fixed date. This means that every decisions and the timing of decisions are negotiable between the decision-maker and the team (Cooper, 1994). Whether using a 2nd or 3rd generation NPD process, there are studies showing the positive effect of cross-functionality on the NPD projects efficiency (e.g. Swink et al., 2006)

The respondents were asked whether they used no NPD-process, an informal NPD-process or a formal NPD-process based on the different types described above.
Idea Generation is a part of the pre-phase to NPD projects often called the "fuzzy front end". Ideas for new products can be obtained from basic research, customers, the company's R&D department, competitors, employees, marketing, or many other sources. Cooper and Kleinschmidt (1988) define fuzzy front end as the time from the creation of an idea till the point where the firm chooses a concept. In this stage it is relatively easy and cheap to close projects and turn ideas down. According to Reid and Brentani (2004), sources external to the firm are the primary sources of new ideas for discontinuous innovations (more radical). For example the users were pin-pointed as a strong support and source of ideas to the NPD process of a firm by Lüthje and Herstatt (2004). But also internal sources as employees or board of directors are of course possible as sources of new ideas before a NPD project starts.

In this study the respondents were asked from where the original idea to a new product came. The suggested alternatives stem from earlier studies (e.g. Kim and Wilemon, 2002; Boeddrich, 2004; Verworn, 2006)

NPD STRATEGIES

The second study by Booz et al. (1982) was published in 1982. They suggested a new step in the NPD process which was the formation of a new product strategy. Booz, Allen and Hamilton defined new product strategy as a strategy for deciding which new products are to be developed. This approach is also the most frequently studied strategy in a product development context (e.g. Kelley and Rice, 2002). Cooper and Kleinschmidt (1995) point out that "a clear and well-communicated new product strategy" is the second most important performance driver that separates the top performers from the rest. They also conclude that the strategies of the leading firms focused on and showed synergy with existing market strategies as well as existing in-house technology. This is confirmed in a benchmark from 2004 (Cooper et. al., 2004b) where it is concluded that a formalized portfolio strategy improves NPD performance.

New strategic issues connected to the NPD-process suggested in recent years include strategic outsourcing of innovation (Quinn, 2000) and product platform strategies (Meyer and Lehnerd, 1997). Meyer and Lehnerd (1997) define a product platform as "the development of a set of subsystems and interfaces that form a common structure from which a stream of derivative products can be efficiently developed and produced". The issue of innovation outsourcing will be described in a subsequent section of this article, but is discussed from a strategic perspective by McIvor (2008).

According to Cooper and Kleinschmidt (1995), a high quality NPD-process is also dependent on continuous improvements to the process. The authors argue that too many firms just formalize the activities that are already being performed instead of focusing on learning from previous processes. Their study concludes that this issue is the single most important difference between the leading firms and the rest and that, therefore, a strategy for continuously improving the NPD-process would be valuable. Their results are supported recently in a study of Hong Kong firms (Liu et. al, 2005). These four strategies are all defined as above and addressed in the questionnaire.
OUTSOURCING OF NPD

Outsourcing can be defined as the “purchase of an externally produced good or service that was previously internally produced” (Lacity and Hirscheim, 1993). This implies that, to be defined as outsourcing, an activity must previously have been produced internally.

In this study outsourcing of NPD refers to the outsourcing of development activities for developing new products (goods and/or service), where all or the innovative part of the NPD process is purchased externally according to a contract from organizational units separate from the outsourcing firm (Rundquist, 2008b). This definition implies that (A) the activity shall be an innovative (strongly contributing to the newness) part of the NPD process, (B) the activity shall earlier have been conducted internally, and (C) the activity shall be purchased in a contractual agreement between the organizations.

In a conceptual article in 2000, Quinn (2000) argues that strategic outsourcing of innovation is a necessary action to gather sufficient knowledge and manage the insecurities of a rapidly changing world. Almost any stage of the NPD-process can, according to Quinn, be profitably outsourced. Basic research and early stage development could be outsourced to universities or government laboratories, and advanced development and product innovation should, according to Quinn, preferably be outsourced to suppliers. Even later stages of the NPD-process such as business processes or new product launches could be outsourced to distributors or wholesalers.

From a theoretical perspective transaction cost perspective and resource based perspective is often revisited (e.g. Zhao and Calantone, 2006; Rundquist, 2008a), but the phenomena can also be seen from a knowledge based perspective, agency cost, or institutional theory perspective (Rundquist, 2008a).

Given that a firm needs to expand or improve its NPD efforts by outsourcing NPD, the decision process can be divided into three steps. The first decision is on whether to outsource or to build the capacity in-house (buy or make). The second decision concerns which activities in the NPD process to outsource. This decision includes an evaluation of which competencies are central to the organization. The third decision is which firm will be the outsourcing partner in the NPD process. The first decision can be seen as strategic in nature and may be taken at a higher level in the organization. The second decision is a mid-level decision taken by R&D department managers or similar. The third decision is more of an operational one, and may therefore often be taken on a lower level in the organization. (Rundquist, 2008b)

The first decision is based on an analysis of benefits and risks. The outsourcing decision is always a trade off between advantages and disadvantages. There can be benefits of cost saving, access to new knowledge, but also a risk of knowledge drain, increased transaction costs and lower morale among the in-house staff. The respondents in the study are asked for rationales behind the decision to outsource NPD or why outsourcing of NPD is not a practice in the firm. It is also interesting to know what function of the firm that is central when the decision to outsource NPD is made.

The next decision, choice of outsourcing partner, depends on which activity is chosen for outsourcing. Four factors are used to evaluate potential partners. These are cost, knowledge level, trust and institutional factors. Cost refers both to direct costs and to transaction costs.
Knowledge level refers to whether the partner can fill an identified knowledge gap, but also to the firm's possibilities to gain world class knowledge that can lead to future competitive advantage. Trust refers primarily to the dependency factors. A high level of trust leading to good long term relations may yield a positive outsourcing decision, as in such a situation dependency is not so hard to bear. Finally, the institutional factors refer to international agreements, federations, and governmental decisions such as regional subventions or tax discounts for certain industries. The respondents are asked which factors that are the most important when choosing partner for the outsourcing activity.

The study address the following questions; to what extent outsourcing of NPD is used, the rationales behind the outsourcing/non-outsourcing of NPD, to whom NPD is outsourced and which function within the firm decide on the outsourcing of NPD.

METHOD

In this study a survey questionnaire published on internet was used. The use of an E-survey is one of the factors that contributed to a very high response rate. The other factor is the choice of single respondent from each firm, as a multiple respondent approach would be heavy for a medium size firm. Compared to the earlier study (Rundquist and Chibba, 2004) the procedure is however very similar to using a questionnaire sent by letter. The internet survey was used to determine the current status of product development practices in medium-sized firms.

SURVEY INSTRUMENT

The history of tracking product development practices is very well described in a review of Griffin (1997). The survey instrument used in this study is also based on PDMA's instrument (Griffin, 1997). PDMA has further developed the instrument for a study posted in 2004 which has also served as a benchmark. The PDMA instrument was reworked and used in 2002 (Rundquist and Chibba, 2004) and was further developed before this study was posted in 2007. Other surveys in the area as Kuczmarksi (1994) and Cooper et al (2004a) also served as benchmarks.

The nine-page survey, which came with a list of instructions, was divided into five parts covering issues surrounding the NPD-process;

- Questions to categorize the responding organization
- NPD strategies
- NPD-processes within the organization
- Processes for outsourcing NPD
- Organizing NPD (Not presented in this paper)

The first part was used to classify respondents according to industry and to categorize them in two ways. The first categorization distinguishes between firms with a high and those with a low emphasis on NPD (The best and the rest). For this purpose, seven success criteria were used according to the questionnaire adopted from the PDMA study (Griffin, 1997). The seven variables cover three issues (Overall, relative, and market/financial success) according to the same measures as in the PDMA study. Overall success is obtained from a single item measure (position in your industry) that can be answered most successful, top 1/3, middle 1/3, or bot-
tom 1/3. Relative success is measured as to which degree the NPD activity meets its objective and to which degree the NPD program is a success. These two questions are answered on a 9 step likert scale. These two items are highly correlated in the data ($\rho=0.73$, $p<0.01$). The last issue of market and financial success is measured as four questions as for example “% of products categorized as financial successes in the last five years”. A scale constructed by averaging these four items has an $\alpha=0.74$. These three issues (seven variables) represents different aspects of success, but are well correlated in this study as in PDMA’s study earlier (Griffin, 1997).

To perform the second categorization, the firms were asked to rate twelve competitive factors for winning new customers (order winners). The factors in the survey were lower price, better product design, higher product quality, long term relation with customer, reliable deliveries, faster deliveries, geographical proximity to customer, better after sale, similar language/culture as customer, broader product line, frequency of new product launch, and close personal relations with customer. Respondents were asked to rate each competitive factor on a five-step Likert scale from not important (1) to very important (5). These results are only presented as a base for discussion in this paper.

The three consecutive parts of the questionnaire include questions relevant for the three top ic areas described in the previous chapter. The full survey is also applied to the article (see appendix A).

**SAMPLE**

The firms targeted in the study were medium-sized manufacturing firms of between 200 and 800 employees. First of all this is the same range of sample as was used in the previous study of 2002 (Rundquist and Chibba, 2004) allowing the two studies to be compared. The size span is, however, also interesting as the firms will be expected to have an organizational structure with different departments and a hierarchy in management, as opposed to smaller firms (less than 200 employees). The targeted firms covered products of varying complexity as well as varying production processes and markets. A database search at Affärsvärden (Swedish database over firms) in 4 industries resulted in a selection of 494 respondents registered as manufacturing firms with between 200 and 800 employees.

<table>
<thead>
<tr>
<th>Industry</th>
<th>No of respondents</th>
<th>Percentage of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>221</td>
<td>45 %</td>
</tr>
<tr>
<td>Food</td>
<td>41</td>
<td>8 %</td>
</tr>
<tr>
<td>Plastic and rubber</td>
<td>145</td>
<td>29 %</td>
</tr>
<tr>
<td>Wood and paper</td>
<td>87</td>
<td>18 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>494</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 1. The respondents divided into industries.

The firms in the sample have an average of 386 employees. The differences between the four industries are very small, meaning that the size distribution is not significant. However the two industries food and wood-paper have 25% higher turn-over per employee compared to mechanical and plastic-rubber.
DATA COLLECTION

The main reason for using an internet survey was the possibility of reaching a large number of respondents on a short time with a broad range of questions. As shown in the example from the survey questionnaire (see figure 1) the layout is very much the same as in a printed paper survey. The design is also influenced of research on e-surveys (Dillman, 2007). The same instrument was translated to English and successfully used in a Malaysian study (Al-Shalabi et al, 2008), and the questionnaire is attached in English in appendix A.

![Figure 1. Example of a likert scale question from the questionnaire.](image)

The advantages with an internet survey from a researchers perspective are that a) the results are directly stored in a database and need no coding, b) it is immediately registered when a respondent has answered and reminders can be sent automatically (Strengthening the anonymity), c) the respondent can fill out the form faster and do not need to post the paper survey in a return snail mail envelope. According to random follow-up interviews one disadvantage is that the respondent must answer the survey when being at a computer, and can’t bring the survey home and answer it under less stressful situations in spare time.

Each firm in the sample was contacted by phone, and the person responsible for product development was identified, informed about the survey and agreed to respond to it him/herself. Directly after the phone call an e-mail was sent with a link to the survey questionnaire. This method gave an interestingly high immediate answering rate, as more than 50% of the respondents gave their answer the same day as the e-mail was sent out.

Three reminders were sent out automatically and the response rate climbed to the final value. It is however interesting that more than 2/3 of the answers were given the same day.

In this study the response rate was relatively high at 77,3% (382 valid answers) out of the full sample of 494 firms. Our follow up interviews have indicated that the respondent found the formal positive and that it felt quicker to answer than a paper questionnaire.
DATA ANALYSIS

The data were analyzed through different methods including means, means across subgroups and Anova tests for continuous variables. Chi-squared tests and cross tabulation were used to analyze differences between discreet variables. These methods were used to investigate relations between individual variables and success (The groups defined as best and rest).

To categorize the firms distinguishing the best, the same analyze was used as in PDMA’s study (Griffin, 1997). “The best” are those firms who answered they were the most successful or on the top third of their industry. They must also be above the mean value on relative success and market-financial success for the full sample in order to classify in the group “the best”. A total of 76 responding firms (19.9%) met the three criteria and were defined as belonging to “the best” group. The 76 firms in the best group were distributed among the four industries according to table 2.

<table>
<thead>
<tr>
<th>Industry</th>
<th>No of respondents</th>
<th>No of “the best”</th>
<th>% “the best” per industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>165</td>
<td>32</td>
<td>19.4%</td>
</tr>
<tr>
<td>Food</td>
<td>35</td>
<td>9</td>
<td>25.7%</td>
</tr>
<tr>
<td>Plastic and rubber</td>
<td>111</td>
<td>20</td>
<td>18.0%</td>
</tr>
<tr>
<td>Wood and paper</td>
<td>71</td>
<td>15</td>
<td>21.1%</td>
</tr>
<tr>
<td>Total</td>
<td>382</td>
<td>76</td>
<td>19.9% of total sample</td>
</tr>
</tbody>
</table>

Table 2. The respondents divided into industries.
The differences between the four industries are noted, but do not lead to specific actions as they were considered not significant.

RESULTS

In the following part the results from the study are presented. The full survey is attached as appendix A and corresponds to the results presented in this part.

USE OF FORMAL NPD-PROCESSES

Many studies indicate that the use of a formal NPD-process has proved to be the difference between success and failure at project level (i.e. Tatikon da and Rosenthal, 2000; Cooper et. al., 2004a). The results of this study also show that the awareness of this has really penetrated most firms. Of the total sample only 13,9% do not use a formal process (response: “none” or “informal”).

The best firm group uses formal NPD-processes only to a slightly higher extent than the rest (table 3). In the best firms 87% use a formal NPD-process, compared to 85% of the rest (functional sequential, XF stage gate or XF 3rd generation as illustrated in table 3). The difference between the two groups is in what type of formal process is used. The best firms use a cross-
functional third generation process three times as often as the rest. This difference is significant to a level of p<.01.

** Chi-square p<.01, *Chi-square p<.05

<table>
<thead>
<tr>
<th>The best</th>
<th>The rest</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>2.9</td>
</tr>
<tr>
<td>Informal</td>
<td>10.1</td>
</tr>
<tr>
<td>Functional sequential</td>
<td>26.2</td>
</tr>
<tr>
<td>XF stage gate</td>
<td>29.9*</td>
</tr>
<tr>
<td>XF 3rd generation</td>
<td>30.8**</td>
</tr>
</tbody>
</table>

Table 3. NPD-processes: The best versus the rest. The categories "None" and "Informal" indicate no formal processes. XF=Cross-functional teams.

Most firms have also developed their formal process for many years. The median value since implementing the formal NPD process is 6-10 years among the best groups, and 2-3 years among the rest.

** Chi-square p<.01, *Chi-square p<.05

<table>
<thead>
<tr>
<th>Coworkers in the firm</th>
<th>Users or customers</th>
<th>Competitors</th>
<th>R&amp;D function **</th>
<th>Collaboration with other firms</th>
<th>Suppliers *</th>
<th>Market function **</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Best</td>
<td>3.8</td>
<td>4.1</td>
<td>3.2</td>
<td>4.1</td>
<td>3.0</td>
<td>4.1</td>
</tr>
<tr>
<td>The Rest</td>
<td>3.6</td>
<td>4.1</td>
<td>3.4</td>
<td>3.3</td>
<td>2.9</td>
<td>3.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consultants *</th>
<th>Internet</th>
<th>Board of directors **</th>
<th>Universities and institutes *</th>
<th>Production function</th>
<th>Suppliers of equipment</th>
<th>Journals</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Best</td>
<td>2.2</td>
<td>2.3</td>
<td>3.6</td>
<td>2.3</td>
<td>2.8</td>
<td>2.5</td>
</tr>
<tr>
<td>The Rest</td>
<td>1.8</td>
<td>2.2</td>
<td>3.0</td>
<td>2.7</td>
<td>3.0</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Table 4. Sources for ideas to new products.

The results show that users/customers, suppliers, and R&D function are the three most frequent sources for new product ideas (Table 4). Consultants and universities/institutes qualify as the least frequent. Also collaboration with other firms scores very low. There are three significant differences between the best firms and the rest. The best group gets considerably more ideas for new products from the internal functions of Marketing, R&D, and board of directors.

** NPD STRATEGIES **

The firms were asked if they had any documented strategies for different types of situations. The strategy aspects examined in the present study were product line, supplier involvement, product platforms and continuous improvements of the NPD-process (Table 5). In the total sample 96% answered to have a strategy (at least one of the four) for New Product Development.
The firm has a documented strategy for …

<table>
<thead>
<tr>
<th></th>
<th>The Best</th>
<th>Outsourcing of NPD</th>
<th>Product Platforms</th>
<th>Continuous improvements of NPD-process</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Best</td>
<td>87%</td>
<td>30%</td>
<td>74%</td>
<td>78%</td>
</tr>
<tr>
<td>The Rest</td>
<td>76%</td>
<td>17%</td>
<td>69%</td>
<td>41%</td>
</tr>
</tbody>
</table>

** Chi-square p<.01, * Chi-square p<.05

Table 5. The existence of a documented strategy for different aspects of NPD.

Two significant differences exist between the best group and the rest; the higher degree of strategies for continuous improvements of the NPD-process and for outsourcing of NPD. The best firms have higher degree of strategies on all four aspects.

OUTSOURCING OF NPD

Outsourcing of production was a trend during the nineties and the early years of the twenties, which has led to increased supplier involvement in the NPD-process. Only 37% of the firms in our sample outsourced activities in their NPD-process.

The group answering "yes" on the question whether outsourcing NPD was asked to state the most important reasons for this decision (See table 6). The respondents were able to answer with more than one alternative.

Only firms that use outsourcing of NPD activities were included. ** Chi-square p<.01.

<table>
<thead>
<tr>
<th>Reason</th>
<th>The best</th>
<th>The rest</th>
</tr>
</thead>
<tbody>
<tr>
<td>The NPD activity calls for technological knowledge that does not exist within the firm</td>
<td>69,3%</td>
<td>55,6%</td>
</tr>
<tr>
<td>The component/product will be manufactured by the same supplier, therefore it is more effective if the same supplier do the NPD</td>
<td>37,5%</td>
<td>45,2%</td>
</tr>
<tr>
<td>The NPD activity will be cheaper produced by the partner **</td>
<td>5,3%</td>
<td>27,2%</td>
</tr>
<tr>
<td>It is of strategic importance that the activity is conducted by a firm with world class technology knowledge **</td>
<td>54,1%</td>
<td>6,7%</td>
</tr>
</tbody>
</table>

Table 6. Criteria most important when a decision to outsource NPD is made.

Four different criteria were suggested as possible reasons for outsourcing NPD activities (See table 6). The far most important reason for outsourcing NPD activities was that the firm needed knowledge that did not exist within the firm (63,2 %) while 40% mentioned greater effectiveness in the production phase. There are however big differences between the best firms and the rest. Among the best firms the strategic importance of being in cooperation with firms of world class knowledge was almost as high (54,1 %) as the general need for technological knowledge, while among the rest this variable was much lower. The contrary is the case when discussing the variable of price, which was significantly more important among the rest firms.

As described in the introduction, far from every situation call for outsourcing. There are also many reasons not to outsource activities. Four of these reasons were presented to the firms in the sample and they were asked to answer if they agree or not with the following reasons
(see table 7). Two reasons were strongly present; strategic decision from the board and risk of competence drainage.

<table>
<thead>
<tr>
<th>Only firms that do not use outsourcing of NPD activities were included.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence will be drained from our firm</td>
</tr>
<tr>
<td>Cheaper in the long run to build own NPD function</td>
</tr>
<tr>
<td>Too many mistakes will be made during communication</td>
</tr>
<tr>
<td>Strategic decision from the board</td>
</tr>
</tbody>
</table>

Table 7. Reason for NOT outsourcing activities in the NPD-process.

The firms were asked how often they used different types of partners for outsourcing NPD activities. Firms that outsource NPD activities most frequently chose to collaborate with present or possible future suppliers. A five step likert scale was used ranging from never to always. The results (see table 8) reveal that the firms most frequently use suppliers and possible future suppliers, while customers and possible future customers are rarely used. Universities and institutes are used in close to half of the projects.

There is however a big difference between the best and the rest group, where the best group to a much higher extent choose to cooperate with universities/institutes, while the rest group have more cooperation with customers and possible future customers.

<table>
<thead>
<tr>
<th>Only firms that use outsourcing of NPD activities were included.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present supplier</td>
</tr>
<tr>
<td>Possible supplier</td>
</tr>
<tr>
<td>Present customer</td>
</tr>
<tr>
<td>Possible customer</td>
</tr>
<tr>
<td>Consultants</td>
</tr>
<tr>
<td>Universities and institutes</td>
</tr>
</tbody>
</table>

Table 8. With what type of partner does the firm cooperate when outsourcing NPD activities?

The previous questions map the question of outsourcing or not. The second question is whom to outsource to; the choice of outsourcing partner. The following question maps to what degree competence, price, trust and proximity affect the choice of outsourcing partner. A five step likert scale was used, ranging from not important to very important (see table 9). Access to enough technology knowledge to solve the problem is the most important factor for choosing a certain outsourcing partner. This factor is ranked highest both among the best and the rest groups. The mean value of 4,47 indicates that the factor is considered close to very important by all firms. The two closest factors are also connected to the access to knowledge. The factor outside knowledge ranked as the highest is the personal relation between key persons in the two collaboration organizations. Factors on trust and proximity were all ranked lower in both groups.

Some significant differences can be detected between the two groups; Knowledge is ranked higher in the best firms group, while trust, proximity, and personal relation are ranked higher in the rest firm group.
Only firms that use outsourcing of NPD activities are included. **Chi-square p<.01.;* Chi-square p<.05.

<table>
<thead>
<tr>
<th></th>
<th>The Best</th>
<th>The Rest</th>
</tr>
</thead>
<tbody>
<tr>
<td>The partner has access to world class technology knowledge *</td>
<td>4,1</td>
<td>3,7</td>
</tr>
<tr>
<td>The partner has access to world class marketing knowledge</td>
<td>3,4</td>
<td>3,1</td>
</tr>
<tr>
<td>The partner has enough technology knowledge to solve our problem</td>
<td>4,5</td>
<td>4,4</td>
</tr>
<tr>
<td>The partner offers the lowest price *</td>
<td>3,0</td>
<td>3,3</td>
</tr>
<tr>
<td>The partner is located geographically close to our R&amp;D function</td>
<td>2,3</td>
<td>2,6</td>
</tr>
<tr>
<td>The partner is from the same cultural region as our firm **</td>
<td>2,0</td>
<td>2,5</td>
</tr>
<tr>
<td>The partner has a high language knowledge in the languages spoken in our firm **</td>
<td>2,0</td>
<td>2,0</td>
</tr>
<tr>
<td>The partner has a long history of cooperation with our firm **</td>
<td>2,0</td>
<td>3,1</td>
</tr>
<tr>
<td>Key persons with the partner have a good personal relation to some key persons in our firm *</td>
<td>3,1</td>
<td>3,5</td>
</tr>
</tbody>
</table>

Table 9. Which factors are the most important when choosing partner for outsourcing of NPD.

The functions most frequently employed to initiate outsourcing of NPD are Marketing, R&D and Production. These three are very close (see table 10).

<table>
<thead>
<tr>
<th>Function</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing</td>
<td>1,9</td>
</tr>
<tr>
<td>Production</td>
<td>3,3</td>
</tr>
<tr>
<td>R&amp;D/Construction</td>
<td>3,4</td>
</tr>
<tr>
<td>Marketing</td>
<td>3,7</td>
</tr>
<tr>
<td>Distribution/Logistics</td>
<td>2,6</td>
</tr>
</tbody>
</table>

Table 10. Functions most frequently initiating the outsourcing of NPD.

The previous questions have all addressed different decisions in the process of outsourcing NPD activities. The last question tries to map the practices for transferring knowledge and information after the outsourcing project is finished. The four alternatives describe two dimensions; focus on technical knowledge or process knowledge, and degree of personal interaction in the knowledge transfer process.

The results reveal a personal interaction with a focus on technical knowledge as the most common in both groups (about 75%). Only a small difference can be detected from the results. The best firms group has a much higher use of personal interaction for transferring process knowledge, while the rest firms group has a higher use of pure information transfer without any personal interaction.

In the questionnaire there is a matrix question with 12 variables that identify which are the most important order winners for the firm. Each question is answered with a Likert scale from 1 (not important) to 5 (very important). In a factor analysis two factors are identified as product properties, “better design”, “higher product quality” and “higher frequency of new product launch” as the highest. This factor as an order winner is significantly higher in “the best” firms. Meanwhile “the rest” firms rank organizational properties as “reliable deliveries”, “better after sales” and “short delivery time” as their most important order winners.
A factor analysis shows that the three “product properties” is reliable ($\alpha=0.7213$) as are the “organizational properties” ($\alpha=0.6453$) in a factor analysis. A third factor consisting of “long term business relation” and “geographical closeness” is also reliable ($\alpha=0.6273$). This factor could be defined as “inter organizational properties”, but is not significantly connected to neither “the best” nor “the rest”.

**DISCUSSION**

The results in this part have revealed that in many aspects the rest firms have caught up with the best firms when it comes to the use of documented NPD processes. This could indicate that the knowledge has spread through the full sample of firms. The best firms instead show higher degree of search and access to technological and/or market knowledge. Meanwhile the rest firms show a higher interest in improving effectiveness in manufacturing. This is somehow self-proving evidence as the best firms are defined as those with high emphases on innovation and NPD. The discussion on similarities and differences with the earlier study is presented in the next part of the paper.

**USE OF FORMAL NPD-PROCESSES**

Many studies indicate that the use of a formal NPD-process has proved to be the difference between success and failure at project level (i.e. Tatikonda and Rosenthal, 2000; Cooper et. al., 2004a). The results of this study also show that the awareness of this is widespread; only 13.9% do not use a formal process (86% using a formal NPD process). This is considerably more than the 71% using a formal NPD process in the 2002 sample (Rundquist and Chibba, 2004). In a present study 78% of automotive industry used a formal NPD-process (Ettlie and Elsenbach, 2007). The sample in this study is of course much larger companies, but is one of few benchmarks on this topic published lately.

One strong reason for this may still be that almost all firms in the sample are certified in accordance with ISO 9000. The ISO standard calls for the firm to document their processes including the NPD process. The importance of ISO 9000 for the implementation of a formal NPD process is also supported by the interviews in the firms followed during a long term period.

There is no significant difference between the best and the rest in this matter, which can also be explained by the fact that the two groups have equal influence from ISO 9000. The follow
up interviews also indicate a very high awareness of organizational matters. CEOs and R&D managers even for rather small firms show a high knowledge of different models, Stage-gates are often mentioned and discussed in detail, and there is also a high level of understanding of the need for flexibility and adjustment in the NPD-process. This is somewhat contrary to the results of Ettlie and Elsenbach (2007), who concluded that there is a connection between success rate (% successful projects) and a formal NPD process.

Most firms have developed their formal process for many years. The median value since implementing the formal NPD process is 6-10 years among the best groups, and 2-3 years among the rest. This supports the result that the firms in the rest group have implemented their processes more recently and now reached the same high rate of formal process. There is however no differences between the two groups regarding how often they evaluate and improve their processes. The mean value is approximately once a year, but there are no differences between the groups.

The best firms group gets considerably more ideas for new products from the internal functions of Marketing, R&D, and board of directors. Meanwhile the rest get more ideas from competitors, suppliers of equipment and universities/institutes. This could be explained with the higher level of technology knowledge in the best firms. The best knowledge available is the one found internally, while the rest group needs to search edge knowledge for new ideas outside the firm. Of course there is also need for knowledge in the best firms, but the best do search world class knowledge rather than good enough knowledge when searching for knowledge, as a lot of good knowledge already could be found inside the firm. Similar results were presented at the EIASM conference on PDM in Hamburg 2008 (Sköld and Karlsson, 2008).

NPD STRATEGIES

Comparing the two groups, the best have strategies for continuous improvement of the NPD process and for outsourcing of NPD to a higher extent than the rest. As systems for continuous improvements take time to develop and implement this result would be expected as the best firms have had formal NPD processes for a longer time. Remarkable is however that the best firms actually have higher degree of strategies on all four aspects.

A similar result indicated that firms that had modified their formal NPD process (continuous improvements) were more efficient in their NPD efforts in automotive industry (Ettlie and Elsenbach, 2007).

OUTSOURCING OF NPD

Outsourcing of production was a trend during the nineties and the early years of the twenties, which has led to increased supplier involvement in the NPD-process. It is therefore interesting to note that only 37% of the firms in our sample outsourced activities in their NPD-process. This is corresponding to the result that 25% of the firms have a documented strategy for outsourcing of NPD.

The most important reason for outsourcing NPD activities was that the firm needed knowledge that did not exist within the firm. Among the best firms however the strategic importance of being in cooperation with firms of world class knowledge was almost as high as the general need for technological knowledge, while among the rest this variable was much low-
er. The variable of price was significantly more important among the rest firms. These results are logic as the measure of "the best" is defined as the firms focus on product innovation, and the connection between product innovation and technological knowledge. The rest firms with a smaller focus on product innovation can be expected to have higher focus on effectiveness and volume, where price is an important factor.

As described in the introduction, far from every situation call for outsourcing. There are also many reasons not to outsource activities. Two reasons were strongly present in the answers from the firms; strategic decision from the board and risk of competence drainage. These factors could be expected to be high as competence drainage is a frequent discussion within the field of outsourcing (e.g. Bounfour, 1999; Narula, 2002).

Firms that outsource NPD activities most frequently chose to collaborate with present or possible future suppliers. Universities and institutes are used in close to half of the projects. There is however a big difference between the best and the rest group, where the best group to a much higher extent choose to cooperate with universities/institutes, while the rest group have more cooperation with customers and possible future customers. The focus on customer involvement in NPD in SMEs is also pin pointed by Mosey (2005). This study indicates customer collaboration as an important factor for NPD success in SMEs. Mosey study, however, does not compare importance of customer involvement with other possible categories of partners. As universities and institutes are very low as a source for new product ideas, it was assumed that universities and institutes were mainly used for later stages in the process. This impression was also amplified in interviews with selected respondents.

The choice of outsourcing partner is a decision based on many factors. The result support the results presented in table 6; that competence or knowledge is in focus for the outsourcing decisions. Access to enough technology knowledge to solve the problem is the most important factor for choosing a certain outsourcing partner. This factor is ranked highest both among the best and the rest groups. The mean value of 4,47 indicates that the factor is considered close to very important by all firms. This result corresponds well with the previous results that “good enough” knowledge is more important than price or world class, as long as it solves the problem (Rundquist, 2008a)

Some significant differences can be detected between the two groups; Knowledge is ranked higher in the best firms group, while trust, proximity, and personal relation are ranked higher in the rest firm group. This is also in correspondence with table 6, as knowledge was higher ranked in the best firms group, while synchronizing with suppliers was higher ranked among the rest.

The functions most frequently employed to initiate outsourcing of NPD are Marketing, R&D and Production. It is interesting that the purchasing function is the least frequent function to initiate outsourcing of NPD. Our respondents in the interviews meant that their responsibility would have been much higher if manufacturing was the object for outsourcing. In the early phases the functions participating in the NPD process will also be the functions with the larger networks and the knowledge of which suppliers are needed for a specific NPD activity. Barragan et al. (2003) took their theoretical basis from Quinn and Hilmer (1994) and operationalize their model in a three-case study. Some of their findings partly support the results of the present study. For example, they conclude that the R&D function is normally responsible
for the decisions associated with the outsourcing of NPD. This is explained by the fact that this function is also, all in all, responsible for the NPD process.

The last question tries to map the practices for transferring knowledge and information after the outsourcing project is finished. The results reveal a personal interaction with a focus on technical knowledge as the most common in both groups (about 75%). The significant differences are still interesting. The best firms group has a much higher use of personal interaction for transferring process knowledge, while the rest firms group has a higher use of pure information transfer without any personal interaction. This result is in line with the findings from a study of NPD in SMEs (Mosey, 2005) which conclude that systematized learning between projects involving individuals from both firm and customer is an important factor for improvement of the NPD process.

COMPARISON WITH THE FORMER STUDY

In this part the results from this study will be compared with the results from the earlier study of 2002 (Rundquist and Chibba, 2004). The results are presented in table 12 below.

All the results from the earlier study (2001) that were based on comparing firms with a formal NPD process with those firms that have none are not conducted in the present study. As 89% of the sample has a formal NPD process the group with no formal process will be too small.

The results compared indicate that the formal processes for NPD have been fully established in medium sized firms. The number of firms using a formal NPD is 86% and the use of formal NPD processes is equally established in the two groups of firms. One explanation could be that quality standards (as well as environmental standards) have spread down to cover the great majority of medium sized firms. These standards also recommend the need of documentation of the NPD process. These results are supported by the following interviews, where the introduction and establishment of standards are confirmed as an important incitement for documenting the NPD process.

Compared to the earlier study two aspects are significant; the higher degree of strategies for outsourcing NPD and for continuous improvements of the NPD-process. The first can be connected to the spread of globalization and international habits among the medium sized firms. Technology has offered new possibilities to be geographically spread and this technology has also been supported by a benchmark of outsourcing as a way to success. Our follow-up interviews show that some firms have outsourced NPD, but recently started to question their own habit and taken back activities from the partners. This pattern would be possible to track in the next survey of 2012. The strategy of continuous improvement is of course completely in line with other effects from ISO 9000, which as a standard prescribe routines for continuous improvements.
The findings of the first study (Rundquist & Chibba, 2004)  

Use of NPD-processes
The best firm group uses formal NPD-processes to a greater extent than the rest (87% versus 63%).

The present study (2007/2008)
The two groups use formal NPD-processes to almost the same extent (87% versus 85%).

Strategies for NPD
73.3% of the total sample had a strategy for new product activities.
No significant differences between the two groups.

96.1% of the total sample had a strategy for new product activities.
The best firm group has strategies for Outsourcing NPD and for continuous improvements of the NPD process to a significantly higher extent.

Outsourcing of NPD
The two most important reasons for outsourcing NPD were
1) need for technological competence,
2) more effective manufacturing.

The three most frequent types of partner were
1) supplier,
2) Consultants,
3) Universities/institutes.

The two most important reasons for outsourcing NPD were
1) need for technological competence,
2) strategic search for world class competence.

The three most frequent types of partner were
1) supplier,
2) Universities/institutes,
3) Consultants.

The three most frequent for initiating the outsourcing decision were
1) R&D,
2) Purchasing,
3) Production. R&D much more frequent.

The three most frequent for initiating the outsourcing decision were
1) Marketing,
2) R&D,
3) Production. Very small differences.

Table 12. Comparison of the results of the first study (Rundquist & Chibba, 2004)

The results regarding outsourcing of NPD activities are not as extensive as only a few of the questions on this issue were present in the earlier survey. However it could be interpreted that the focus on competence as a reason for outsourcing is getting stronger as Universities/Institutes have become a more frequent outsourcing partner. It is also interesting to note that the R&D function has lost its completely dominant position when it comes to initiating outsourcing of outsourcing activities. This could be explained by the higher degree of formalization and documented processes, where R&D is the spontaneous function to initiate, while marketing and production will have a greater influence in a formally decided process. The later explanation was suggested by respondents to the following-up interviews.

MANAGERIAL IMPLICATIONS

It is always difficult to give general recommendation based on statistic material. The managerial implications of the present study are presented here in the form of three recommendations, based on the findings from the best group of firms. It is however, necessary to evaluate the recommendations in order to find the best organization for every situation and context.
**Use of a 3rd generation NPD-processes.**

The use of a 3rd generation NPD process is much higher in the best firms group. Even though the use of formal NPD-processes seems to be similar in the two groups the best firms seem to have a higher degree of flexibility in the gates. By using a more flexible approach to the formal process the creativity and the entrepreneurial momentum of the project groups can be taken to use without losing the control of the process. The formal process can be seen as a way of controlling and measuring the results produced in the process, in order to offer senior management an opportunity to evaluate and compare projects. The formal process is often also initiated by the introduction of a quality system.

The cross-functional 3rd generation NPD-processes typically have a flexible approach to activities and decision gates. Cooper (1994) suggests that all activities are not always essential and that all gates do not need to be passed. The project team must decide how to use the models in meeting the particular needs of the specific project. This means that the formal NPD-process should be seen more as a roadmap than a rulebook. It is, however, important to remember that the decision to exclude an activity or decision gate must not be made ad hoc or for the wrong reason. A reason could be lack of competence, which should instead lead to a careful decision in agreement with the team and the gatekeepers at the preceding gate, taking many aspects into consideration.

**Listen to the users and the marketing department.**

The single most important source for new ideas is customers/users. This source of ideas scores highest both in the best and the rest groups. Identifying the significant differences between the two groups, the best firms seem to get more ideas from internal sources as market function or R&D function, while the rest firms get more ideas from external sources. Following the earlier reasoning it would be recommended, as a benchmark from the best firms, to not neglect to build internal competence in marketing and R&D where new ideas can appear. Internal knowledge in various areas can lead to new ideas when co-workers meet in formal or informal areas to discuss opportunities.

**Keep a knowledge focus in collaborative NPD**

The best firms have a much higher focus on knowledge aspects when outsourcing NPD. The main reason for outsourcing is need for knowledge not to be found inside the firm, or search for world class knowledge. The most important factors for choosing an outsourcing partner are high technological and marketing knowledge, and access to strategically important knowledge. Among the rest firms price, close geographical access, and personal relations are more important.

**Exchange process knowledge as well as systematic knowledge with partners**

The single most significantly different variable between the best firms and the rest is the way knowledge is transferred and exchanged after closing a joint development effort. The best firms use meetings on the operational level in R&D apartments, where not only technical results are exchanged. Instead they have personal meetings where experiences and details in the NPD process are evaluated and analyzed. This type of knowledge sharing makes not only results add to the knowledge base of the firm, but also the knowledge on how to run the process of collaborative NPD.
**FINAL REMARKS**

The present study will be repeated every five years in order to track development over time. Some questions will be irrelevant in future questionnaires because a concept becomes completely established. It appears for example as almost every firm today use a formal NPD process. It will therefore be more interesting to investigate specific applications, as use of information in the NPD process (e.g. Zahay et. al., 2004; Frishammar and Hörte, 2005).

It is also our ambition to give research groups in different countries and regions the opportunity to do comparative studies. The questionnaire will develop over time to absorb new questions that develop and leave questions that have become of lower interest.

**REFERENCES**


This instrument is designed to map practices and processes used in medium-sized firms in Sweden when developing new products or product innovations. All respondents will receive conclusions and a summary of the results as soon as they are finished.

Please note that all responses will be treated confidentially and that the information provided will be used only for general conclusions in academic research.

The survey consists of five parts concerning:

- General questions about the firm
- Strategies for product development
- The process of developing new products within the firm
- Processes when outsourcing product development
- Organizing product development

Your answers are supposed to reflect the situation for the whole company.

The survey should be answered by the Product development manager or the R&D manager of the firm. If there is no such position, it should be answered by the person who is most responsible for product development.

Please return your completed survey in the enclosed and prepaid envelope.

Thanks for your contribution!

Jonas Rundquist – joru@hh.se - +46 - 35 16 75 93

CPDR
School of Business and Engineering
University of Halmstad
P.O. Box 823
S-30118 Halmstad
I. **GENERAL QUESTIONS ABOUT THE FIRM**

The purpose of these questions is to provide a general picture of the firm and the activities in the firm.

Please answer the questions as a representative for the whole firm, and not as a representative for a single business unit or a geographical location.

1. Firm: ____________________________________________________
   Address: ___________________________________________________
   Telephone/e‐mail: _____________________________________________
   Homepage (www): _____________________________________________
   Name of the respondent:_______________________________________
   Position of the respondent:_____________________________________

2. Average number of employees during 2006 ____________

3. Firm’s total turnover in 2005/2006 ____________

4. Please describe the new‐product success for your firm compared to your competitors. Do you estimate that you are:
   
   □ The most successful in your industry on your most important markets
   □ In the top 1/3 of your industry on your most important markets
   □ In the middle 1/3 of your industry on your most important markets
   □ In the bottom 1/3 of your industry on your most important markets

5. For your new product development program, provide the following estimates:
   
   A) New product sales as % of total sales (average for past 5 years): _________%
   B) New product profits as % of total profits (average for past 5 years): _________%
   C) % new products considered as successes in the last five years: ____________%
   D) % new products considered as financial successes in the last five years: ______%

6. How would you describe the development during the last two years of the markets where the most important product lines of the firm compete?

   rapidly increasing  [ ]   increasing  [ ]   stable  [ ]   decreasing  [ ]   rapidly decreasing  [ ]

7. Approximately what share of the firm's turnover was generated by the three largest customers?

   less than 25%  [ ]   25‐50%  [ ]   51‐75%  [ ]   76‐90%  [ ]   more than 90%  [ ]
8. Which of the following goals are of importance to the most important customers of the firm? Compared to your competitors, do you win orders because of the following factors?

<table>
<thead>
<tr>
<th>Goal</th>
<th>Not important</th>
<th>Very important</th>
<th>How important is this factor compared with 3 years ago?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower price</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Better product design</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Higher product quality</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Longterm business relation between firms</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Reliable deliveries</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Short delivery time</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Geographically close</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Better service (after sales and tech support)</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Same language and culture</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Broader line of products</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Frequent new products</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
<tr>
<td>Longterm relation between individuals</td>
<td>1  2  3  4  5</td>
<td></td>
<td>equal lower higher</td>
</tr>
</tbody>
</table>

9. Our new product development program meets the performance objectives set out for it

10. Overall, our new product development program is considered a success

II. STRATEGIES FOR PRODUCT DEVELOPMENT

The purpose of these questions is to map strategic decisions made in the firm.

11. Does your organization have a specific strategy for the development of new products regarding the choice of product lines or areas where new products shall be developed?

   Yes ☐ No ☐

12. Does your organization have a specific strategy for the development of new products based on product platform thinking?
   (A product platform is a joint basic design or a number of joint key components which can be combined to form many different products.)

   Yes ☐ No ☐

13. Does your organization have a specific strategy for the development of new products based on a module system?
   (Module thinking means that a small number of modular products can be combined to form many different products.)

   Yes ☐ No ☐

14. Does your organization have a specific strategy for selecting the activities in product development that will be subject to outsourcing?
   (Outsourcing of product development means that the main part or the most important parts of the product development process are conducted outside the firm.)
15. Does your organization have a specific strategy for continuous improvements of product development activities and the product development process?

Yes ☐ No ☒

III. THE INTERNAL PROCESS OF PRODUCT DEVELOPMENT

The purpose of these questions is to map the product development activities of the firm and the combination of product development activities.

Please answer the questions as they apply to the more innovative types of new products or services developed in your organization. These include such things as new applications, major product changes, new products and product lines, and new-to-the-world products. Please do not include product repositioning, brand or product line extensions, or incremental product improvements.

16. Please check the one box of the five which best describes your firm’s product development process (check only one):

☐ We do not have any formally documented process for new product development. (Go to Q19)
☐ We do not have any formally documented process for new product development, but we have a series of activities that are informally accepted as the way we conduct product development in this firm. (Go to Q19)
☐ We have a formally documented process where one function completes a set of tasks, management reviews the results and then passes the results on to the next function which completes another set of tasks.
☐ We have a formally documented process where a cross-functional team completes a set of tasks, management reviews the results and gives a go-ahead for the team to complete the next set of cross-functional tasks.
☐ We have a formally documented process where cross-functional teams use a staged process with overlapping, fluid stages, but where the phases interact and management takes decisions when they are needed and in dialogue with the cross-functional group.

17. Approximately how many years has your organization been following a formally documented product development process?

☐ 0-1 yrs ☒ 2-3 yrs ☐ 4-5 yrs ☐ 6-10 yrs ☐ more than 10 yrs ☐

18. On average, how often do you redesign your formally documented process (please check one box)?

☐ On an ongoing basis ☐ Every five years
☐ Every 6 months ☐ We have not redesigned our process
☐ Every year ☐ Other (please specify): ________________
☐ Every two years ☐
19. Development of new products often originates or is based on ideas from various sources. For the most recent product innovations in your company, please indicate the importance of each of the following sources of NPD.

<table>
<thead>
<tr>
<th>Source</th>
<th>Not at all important</th>
<th>Extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coworkers in the firm</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Users or Customers</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Competitors</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Internal R&amp;D</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Cooperation with other companies</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Suppliers</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Internal marketing group</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Consultants</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Internet</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Top Management</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>University or Research institutes</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Internal manufacturing</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Acquisition of new equipment</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Professional journals</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

IV. PROCESSES WHEN OUTSOURCING PRODUCT DEVELOPMENT ACTIVITIES

The purpose of these questions is to map product development activities conducted outside the firm’s boundaries. (Outsourcing of product development means that the main part or the most important parts of the product development process are conducted outside the firm.)

Please answer the questions as they apply to the more innovative types of new products or services developed in your organization. These include such things as new applications, major product changes, new products and product lines, and new-to-the-world products. Please do not include product repositioning, brand or product line extensions, or incremental product improvements.

20. Does your firm conduct outsourcing of product development activities?
   - Yes ☐
   - No ☐

21. (ONLY IF ANSWER IS NO ON Q20) WE DO NOT OUTSOURCE PRODUCT DEVELOPMENT ACTIVITIES BECAUSE:
   (PLEASE CHECK ALL STATEMENTS THAT DESCRIBE YOUR FIRM)
   - ☐ Competence will be drained from our firm
   - ☐ It is cheaper in the long run to build our own NPD function
   - ☐ Too many mistakes will be made in the communication
   - ☐ It is a strategic decision from the board
22. Which criterion is the most important when making the decision to outsource an activity?

- The product development activity needs technological knowledge that does not exist within the firm.
- The production of the component with the supplier will be more effective if the supplier also conducts the product development.
- The product development activity will be less costly if it is conducted outside the firm.
- It is strategically important that our firm outsource product development to the leaders of a technology.
- Other reason for outsourcing (which?): __________________________
  ________________________________________________________________

23. Which category or categories of firms conduct product development activities outside your company? Check if outsourcing of product development activities to the categories below exists, and estimate the share of the total number of product development projects where outsourcing to this category exists.

<table>
<thead>
<tr>
<th>Category</th>
<th>% of the NPD projects involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present suppliers</td>
<td>%</td>
</tr>
<tr>
<td>Possible future suppliers</td>
<td>%</td>
</tr>
<tr>
<td>Present customers</td>
<td>%</td>
</tr>
<tr>
<td>Possible future customers</td>
<td>%</td>
</tr>
<tr>
<td>Consultancies</td>
<td>%</td>
</tr>
<tr>
<td>University or College</td>
<td>%</td>
</tr>
<tr>
<td>Other (what?)</td>
<td>%</td>
</tr>
</tbody>
</table>

24. In which function of the firm is outsourcing of product development activities initiated? Mark with one [1] the function that most often initiates outsourcing, then with [2] the function that second most often initiates outsourcing.

[ ] Purchasing
[ ] Production
[ ] Research and development/Construction
[ ] Marketing
[ ] Distribution/Logistics
[ ] Other (what?) __________________________

25. When outsourcing product development activities, which factors are the most important for the choice of partner? Mark with one [1] the most important factor for choosing outsourcing partner, then with [2] the second most important factor for choosing outsourcing partner and with [3] the third most important.

[ ] The partner has world-class technological knowledge.
[ ] The partner has the lowest price.
[ ] The partner is located near our product development department.
[ ] The partner has a long history of working with our firm.
[ ] The partner has world-class market knowledge.
[ ] The partner has enough knowledge to solve our problem.
[ ] The persons working at the partner firm have personal relations with our staff.
[ ] The partner firm comes from the same cultural area as our firm.
[ ] The partner firm speaks the same language as our firm.
26. How does your firm use the results of the outsourced product development activity? (Please check all statements that describe your firm)

- Drawings and documents are returned to our firm and registered
- Our product development staff has a meeting with the partner where technological information is exchanged
- Contacts are mainly between the firms' economy departments
- Our product development staff has a meeting with the partner where experiences from the project are exchanged
- The directors of the firms have a meeting to conclude the project
MANAGERIAL BEHAVIOR IN SLOW AND FAST GROWING SMALL FIRMS

Henrik Florén, Joakim Tell

Acknowledgements

The authors are grateful for financial support from the Knowledge Foundation.

ABSTRACT

The objective of the paper is to fill a gap in our understanding of what makes certain small firms grow while others do not by exploring the relation between managerial behavior and small firm growth. This has been done by direct observation of the owner-managers in twelve small manufacturing firms (six slow-growing and six fast-growing). Methodologically the project draws on the extensive research that has been conducted within the area of managerial work. We have used the method of structured observation as developed by Henry Mintzberg as the primary tool for data collection. Data consists of approximately 330 hours of observation and about 2460 activities have been observed and classified according to their primary purpose.

The framework used to analyze the data comes from established conceptualizations of “managerial behavior”. More specifically, the two groups of managers have been compared in terms of; how the managers’ allocate their time; with whom they interact; with whom do they communicate; and the roles they shoulder in their firms.

What is both striking and surprising in the empirical material is that there are only minor differences between the groups of growing and slow-growing firms. These differences, however, all point in the same direction and confirm one suspicion following our observations of the two groups which is that the hectic and turbulent work situation characterizing the situation of the slow-growing managers were not present in the growing firms. There might not seem to be such a big difference between the two groups, but trivial questions consumes much of the time for managers in slow-growing firms which isn’t the case for managers in fast-growing firms. This gives the managers in fast-growing firms more time to focus on other work than the daily operations and problems of the firm, which consumes much of the managers time in slow-growing firms.

Keywords: Managerial behavior, small firm, performance, growth and structured observations.
INTRODUCTION

The question of what makes some small firms outperform others is central to the area of small business research. The aim of this paper is to add knowledge to this complex and elusive question. Even if available research is extensive, we will in this paper argue that our capacity to really provide an answer to this surely important question is constrained by a lack of knowledge of a certain kind/quality. We will shortly pinpoint what kind of knowledge we talk about, but we will first give a short overview of different explanatory approaches that have been common in previous endeavors to answer the question.

Previous research on small firms growth has tried to find an answer to the question of why some firm outperform others by studying if it is something the entrepreneur is (Miller & Toulouse, 1986; Delmar, 1996); the firm does (Covin & Slevin, 1989; Wiklund, 1998); the firm have (Zander & Zander, 2005); or something that the entrepreneur have (Dyke & Fischer, 1992)? We will in this paper not give a thorough review of this research as this has been done elsewhere (see Davidsson, Achtenhagen and Naldi, 2006; Dobbs and Hamilton, 2007 for recent reviews). We will instead only note that in spite of the vast research that have addressed the question, some researchers argue that our understanding of what makes some firms outperform others is under developed. More specifically, some have proposed that we should pay interest to the behavior of the entrepreneur (Gartner, 1988, p.12).

Behind this plea lies the implicit question if it might be that the answer to why some firm outperform others is found in a better understanding of what the manager does? The answer to the question of how managerial behavior relates to small firm performance has been asked for (Gartner, 1988; Gartner, et al., 1992; Sarasvathy, 2001) and addressed in different ways (Delmar 1996; Sadler-Smith et al., 2003) during the last decade. The ambition of this paper is to contribute knowledge that helps us better understand this relationship.

In accordance, the overall question that seeks an answer in this paper is if it is possible to observe a difference in how top-managers in growing and slow-growing firms (but otherwise similar firms) behave. The search for an answer to this question is a first step towards a better developed understanding of if the behavior of the small firm top-manager has an affect on the performance of the firm, and if, in what way. Consequently, it is important to note that our ambition, in this study, is not primarily to relate managerial behavior to firm performance in a comprehensive manner. Or modest ambition is to explore if we can identify any differences in the way comparable managers in two groups of similar growing and slow-growing firms behave.

The main contribution of this study is its focus on comparing managerial behavior in fast-growing and slow-growing small firms in a homogenous sample. It has been found that the heterogeneity of the population of small firms make explorations seeking answers that are possible to generalize to small firms in general difficult. In this paper we have chosen to focus on small industrial firms with similar size operating in similar industries, managed by managers with similar age and management experience.
THEORETICAL FRAMEWORK - CONCEPTUALIZING MANAGERIAL BEHAVIOR

In order to find an answer to the question “Is it something that the manager does?” that affect small firm performance we need to develop a way to understand managerial behavior. In this paper we have chosen to theoretically relate to the area of research on managerial work that goes back at least to Carlsson (1951) study¹. Characteristic for this research is the interest of what managers do, and the results from the research has provided a understanding of the managers’ jobs that was very different from how it was reputed to be (Hales, 1986, p.103).

When it comes to how “what managers do” has been operationalized, a number of different approaches can be identified. Some pay interest to the “work” of the manager, while others chose to study “managerial activities” or “managerial behavior”. A review of this literature reveals a conceptual turmoil (Stewart, 1989), but we will in this paper not elaborate this any further. We will in this research study managerial behavior in terms of the activities of the managers in accordance with the terminology developed by Mintzberg (1973). This means that we seek to describe how the managers in growing and slow-growing firms dispose their time in a fundamental sense, and if they differ in any respect. What activities do the managers engage in? How much time do they spend in deskwork, telephone, unplanned and planned meetings, and in tours? With whom do they work? Where do they work? What are the characteristics of their work?

Except for evaluate similarities and differences in the managers’ activities, we will also compare the roles that the managers’ in the two groups shoulder in their firms. The role concept has been used in different ways, but we will in this paper adopt the widely dispersed conceptualization of what managers do as inherent in the concept of role as developed by Mintzberg (1973).

In line with Mintzberg's (1973) understanding of what managers do, we subsume to the following conceptualization. The work of managers consists of three basic elements. First, they interact with other people. Second, they process information. Third, they make decisions. In an extended conceptualization another basic element of managerial work has been identified. In addition to these "managerial" activities, all managers – to a different extent – engage in operational work.

Consequently, there are ten managerial roles and two operational roles that a leader can shoulder. Mintzberg (1973, p.92-93) describes the roles as follows:

Interpersonal roles:

- **Figurehead** – Symbolic head; the manager is obliged to perform a number of routine duties of a legal or social nature due to the fact that he/she are the head of the firm.
- **Leader** – The manager is responsible for the motivation and activation of subordinates; responsible for staffing, training, and associated duties.

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Liaison – The manager maintains a self-developed network of outside contacts and informers who provide favors and information that can be used to manage and operate the firm.

<table>
<thead>
<tr>
<th>Managerial roles</th>
<th>Interpersonal roles</th>
<th>Figurehead</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Leader</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liaison</td>
</tr>
<tr>
<td>Informational roles</td>
<td>Monitor</td>
<td>Disseminator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spokesman</td>
</tr>
<tr>
<td>Decisional roles</td>
<td>Entrepreneur</td>
<td>Disturbance handler</td>
</tr>
<tr>
<td></td>
<td>Resource allocator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negotiator</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operational roles</th>
<th>Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Substitute operator</td>
</tr>
</tbody>
</table>

Table 1. Understanding of managerial work in terms of “roles” (Mintzberg, 1973)

Informational roles:
- Monitor – The manager seeks and receives a wide variety of special information (much of it current) that enables him/her to understand what is taking place in the organization and its environment. He/she materialize as a nerve center of internal and external information of the organization.
- Disseminator – The manager transmits information received from outsiders or from subordinates to members of the organization; some information is factual while other information involves interpretation and integration of diverse value positions of organizational influencers.
- Spokesman – While the disseminator role looks into the organization the spokesman role the manager transmits information to outsiders on organization’s plans, policies, actions, results, etc..

Decisional roles:
- Entrepreneur – In the entrepreneur role the manager operates as initiator and designer of much controlled change in the firm. He/she searches organization and its environment for opportunities, and he/she initiates “improvement projects” to bring about change. The manager also supervises the design of certain projects as well.
- Disturbance handler – Responsible for corrective action when organization faces important, unexpected disturbances. Whereas the entrepreneur role focuses voluntary action by the manager, the disturbance handler role deals with involuntary situations and change, that might be partially beyond the managers control. The types of disturbances are many and often hard to foresee.
- Resource allocator – The manager is responsible for the allocation of organizational resources of all kinds (e.g. money, time material and equipment, manpower, and reputation) – in effect the making or approval of all significant organizational decisions. Through this role the manager is operating the organizational strategy-making sys-
tem. On an overall level three elements can be identified in the resource allocation process; the scheduling of time, the programming of work, and the authorization of action.

- **Negotiator** – Responsible for representing the organization at major non-routing negotiations with other organizations or individuals, and it is often the manager who leads the contingent from his/her organization.

**Specialist roles:**

- **Specialist role** – The leader is often involved in operational activities due to his/her expertise in the area. The specialist role can also follow if the leader decides to keep the control over a certain function if the leader perceives the function crucial for the company.

- **Substitute role** – In the substitute role, the manager must be prepared to step into a job when any one of a number of needs arise. This might happen, for example, when an employee is absent, the plant is operating at full capacity and an extra hand is needed.

**METHOD**

The ambition of this research is to make an in-depth study of the relationship between managerial behavior and small firm growth. A danger with such an approach is that the sample will not allow any comprehensible conclusions, due to the possible confounding influence of variables that are not considered in the analysis. In the introduction we have summarized the main growth determinants that have been reported in previous research on small firm growth. Based on these findings we have tried to draw homogeneous samples of fast-growing and slow-growing firms. In the selection of our cases we have, more precisely, sought to pick firms that are similar when it comes to age and experience of the manager, firm size, industry, and ownership (Li & Simerly, 1998), as these factors have been proven to have explanatory power when understanding small firm growth.

The sample in the study comprises two groups of six small firm owner-managers respectively (i.e. 12 managers in total). The managers taking part in the study are managing Swedish manufacturing companies in traditional branches having between 10 – 43 employees.

The group of growing firms was selected from a list of “Gazelle-firms” Birch (1987) developed by the major daily economic journal in Sweden (Dagens Industri (eng. Industry Today)).

The slow-growing firms were selected from a list of firms participating in a previous research project.

Data were collected in two steps, first during the winter of 2002/2003 when six owner-managers in small slow-growing firms were observed, and thereafter during 2006/2007 when the work of six managers in fast-growing firms were observed. Table 2 is a summary of some key characteristics of the participating managers and their companies.

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2 This study has been reported in Florén and Tell (2004) and in Florén (2006).
As mentioned earlier this study drew on the method of structured observation as designed by Henry Mintzberg\(^3\) (1973). Data was collected during the winter of 2002/2003 (the six slow-growing companies) and the winter of 2006/2007 (the six fast-growing “gazelles” companies) by both authors simultaneously. During the six weeks of observation (one week for each manager in the group of slow-growing firms, and three days at the fast-growing firms), we used Mintzberg’s chronology, contact and mail records (see appendix 1-3). In total, approximately 330 hours of work and 2460 activities were observed and characterized according to their activity pattern and roles. During the observations extensive field notes were taken to support the recapitulation of “stories” and “events”.

<table>
<thead>
<tr>
<th>Study</th>
<th>Focus of study/number of employees</th>
<th>Sex/age</th>
<th>Time as manager</th>
<th>Empirical data</th>
</tr>
</thead>
<tbody>
<tr>
<td>No/slow growth</td>
<td>6 owner-managers (17-43 employees)</td>
<td>Male/ between 43-58 years</td>
<td>Between 1-28 years</td>
<td>1 week of observation. A total of approx. 204 hours of observation. A total number of 1634 activities documented.</td>
</tr>
<tr>
<td>-3% in average increase turnover six years prior to observation</td>
<td>Manufacturing industry Average 26 employees</td>
<td>Average 49,3 years</td>
<td>Average 14 years</td>
<td>Data collected in 2002/2003</td>
</tr>
<tr>
<td>Fast growth</td>
<td>6 owner-managers (10-38 employees)</td>
<td>Male/ between 35-65 years</td>
<td>Between 3-20 years</td>
<td>3 days observation</td>
</tr>
<tr>
<td>+241% in average increase in turnover six years prior to observation</td>
<td>Manufacturing industry Average 24 employees</td>
<td>Average 49,3 years</td>
<td>Average 12 years</td>
<td>A total of approx. 125 hours of observation (+2 days of observation of 4 of the managers (approx. 67 hours) by master students). A total number of 855 activities (+418 activities by stud.) documented.</td>
</tr>
<tr>
<td>Range: -61% to +28%</td>
<td></td>
<td></td>
<td></td>
<td>Data collected in 2006/2007</td>
</tr>
<tr>
<td>Fast growth</td>
<td>6 owner-managers</td>
<td>Male/ between 35-65 years</td>
<td>Between 3-20 years</td>
<td>3 days observation</td>
</tr>
<tr>
<td>+93% to +406%</td>
<td>Manufacturing industry Average 24 employees</td>
<td>Average 49,3 years</td>
<td>Average 12 years</td>
<td>Data collected in 2006/2007</td>
</tr>
</tbody>
</table>

Table 2. A comparison between the two groups of no/slow growth and fast growth companies.

Everything the managers did were observed and written down as it took place, minute by minute in a chronological order. Data was then summarized and presented to the managers in group-sessions in which our observations were analyzed. These focus-group-sessions were important to verify the “normality” of the data, and for the sense-making around the data. In short it helped us to grasp the data beyond the level of mere activity patterns.

One advantage of direct observation in comparison to interviews is that the data surfaced through observation are less constrained and interpreted by participants (McDonald, 2005, p. 459). Observation as a method has its important advantages (as noted previously). The presence of the researcher does, however, make it important to consider the “researcher effect”

\(^3\) For a thorough description of the use of this methodology, see Mintzberg (1973, Appendix C).
(or the “Hawthorne effect” that some labels it). Even if this effect cannot be ruled out or even measured (Snow and Thomas, 1994) it is important to consider how the presence of the researcher has affected the data and research results. According to Burgoyne and Hodgson (1984) it is necessary to discuss how observer effects have influenced the data together with those being observed. In this study this have been done both directly after the actual observation one on one with each manager, and in two group discussions in which all managers in slow-growing firms and growing firms together reflected over the research effect.

Our conclusion is that our presence has affected the data but that this effect is limited. The main reason for this is that the many of the activities of a manager is “initiated” either by someone else that is not aware of the presence of the researcher (as is the case e.g. when someone is calling or sending e-mail to the manager), or prior to the actual observation (as is the case e.g. with planned meetings). The number of and scope of unplanned meeting is, however, probably lower and less extent due to our presence. Our presence most likely also has a structuring effect on the working day of the manager as it becomes uncomfortably for the manager to be “ineffective”.

<table>
<thead>
<tr>
<th></th>
<th>Anderbjuv et al. Average for four managers (range)</th>
<th>Florén &amp; Tell Average for four managers (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total working hours/day (excluded lunch and breaks)</td>
<td>8 (7-8)</td>
<td>9 (8-12)</td>
</tr>
<tr>
<td>Total number of activities/day</td>
<td>52 (41-66)</td>
<td>56 (48-68)</td>
</tr>
<tr>
<td><strong>Deskwork</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of sessions/day</td>
<td>14 (9-22)</td>
<td>16 (12-21)</td>
</tr>
<tr>
<td>Average time in deskwork sessions</td>
<td>20 (8-28)</td>
<td>17 (10-33)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>52% (38-65%)</td>
<td>44% (35-56)%</td>
</tr>
<tr>
<td><strong>Telephone calls</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of calls/day</td>
<td>14 (5-19)</td>
<td>14 (8-19)</td>
</tr>
<tr>
<td>Average time in phone</td>
<td>4 (3-5)</td>
<td>4 (3-5)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>10% (4-11%)</td>
<td>12% (8-12%)</td>
</tr>
<tr>
<td><strong>Planned meetings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of planned meetings/day</td>
<td>2 (1-3)</td>
<td>2 (0-3)</td>
</tr>
<tr>
<td>Average time in planned meetings</td>
<td>59 (17-90)</td>
<td>24 (20-29)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>16% (10-26%)</td>
<td>8% (1-14)</td>
</tr>
<tr>
<td><strong>Unplanned meetings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of unplanned meetings/day</td>
<td>19 (17-23)</td>
<td>18 (4-33)</td>
</tr>
<tr>
<td>Average time in unplanned meetings</td>
<td>4 (3-5)</td>
<td>5 (3-7)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>16% (13-21%)</td>
<td>17% (4-31%)</td>
</tr>
<tr>
<td><strong>Tours</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbers of tours/day</td>
<td>4 (1-8)</td>
<td>3 (1-5)</td>
</tr>
<tr>
<td>Average time on tours</td>
<td>4 (1-6)</td>
<td>9 (5-19)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>4% (0-7%)</td>
<td>5% (1-7%)</td>
</tr>
</tbody>
</table>

Table 3. Evaluating the permanence of the work of the manager

To control if the days we observed were “typical” days, that is, no extraordinary in any way, we had three master students observing four of the managers for two days, using the same records and procedures as we had been using. Their observations (of deskwork sessions, planned and unplanned meeting, telephone calls and tours) were then compared with ours. The results are presented in table 3 below and show the similarity of our data. Our tentative
conclusion here is that the observed days are representative (the empirical data in this study is reliable), but also that the daily work of the managers (as a group) is very similar.

During the observation, we took turns in observing the managers, and we also shared the time-consuming task of typing in the data from the day before in Excel-sheets. The fact that there were two observers made it possible for us to input our hand-written observations to our database the day after the observation. This supported the process of filling-in-the-blanks and of recapping more fully what had happened during the day of observation, in close connection to the actual observation.

Based on our experience we would also argue that the iterative process of classifying all activities would have been difficult for a single researcher. In most previous studies, the observations have been conducted by a single observer (e.g. Mintzberg, 1973; Kurke and Aldrich, 1983; O’Gorman et al., 2005). In the process of classifying the roles, we did the classification first on our own and then we compared the results. This work showed the difficulty in having the same opinion concerning how to classify the roles. So in spite of both of us having followed all the managers, and going through and classifying half of the managers’ roles together, we did not fully agree on more than 60% of the roles during the first classifying round. This resulted in us having to go through 40% of the activities that we disagreed about, another turn, and classifying the roles together. After this second round, we both agreed on the roles. The main reason for us having different opinions is that several of the activities incorporated more than one role, and in many cases it was difficult in deciding what the main intention of the manager was. When both of us had been present at all the companies, we could discuss the results and agree on the definitions. In carrying out an extensive observational study such as this, we have found it important to share the workload and all the uncertainty that has characterized the process between two researchers.

RESULTS

As pointed out in the introduction, the overall question that this paper addresses is if it is possible to observe a difference in how top-managers in growing and slow-growing firms (but otherwise similar firms) behave. We will in the following summarize the results from our observations.

SIMILARITIES AND DIFFERENCES IN WORK ACTIVITIES

On an aggregated level, the amount of time the managers’ works shows almost no difference. One idea one could have is that managing a fast-growing company would demand more hours to be put down by the manager, but taking away lunch and breaks, the average working hours per day in both groups are eight hours (nine hours included lunch and breaks). At evenings, on an average one hour was spent, reading through material for preparing for instance meetings.
### Table 4. Comparing the work of managers in small firms.

When it comes to the location of their work, the managers in the slow-growing firms spent 62% of their working day at their office and 14% of their time in the outer office, 8% of the time in the production and 16% outside the firm, compared to managers in the fast-growing firms which spend almost 72% of their time in the office, 20% of their time in the outer office, 6% of the time in the production and 2% outside the firm. The difference between the two groups, even if it is only a minor difference, is that the managers in fast-growing firms spend more time in their own office and less time outside the company.

<table>
<thead>
<tr>
<th></th>
<th>Slow-growing firms (range)</th>
<th>Fast-growing firms (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working hrs/day (included lunch and breaks)</td>
<td>9.1 (8-10)</td>
<td>8.9 (7-12)</td>
</tr>
<tr>
<td>Hrs during evenings/day</td>
<td>1 (0-6)</td>
<td>1 (0-2)</td>
</tr>
<tr>
<td>Place (% of activities) Office/outer office/production/outside company</td>
<td>62/14/8/16</td>
<td>72/20/6/2</td>
</tr>
<tr>
<td>Initiative (% of activities) others /own/ clock (planned meetings)</td>
<td>53/45/2</td>
<td>53/44/3</td>
</tr>
</tbody>
</table>

### Table 5. Proportion of activities lasting less than 9, more than 60 minutes and verbal contacts of small firm managers.

An analysis of the initiator of the activities in which the managers engage, shows that there are no differences that can be observed. On the contrary, the two groups are almost identical. The only difference among the groups, is found in planned meetings. In fast-growing firms, 3% of the activities are planned (which means that they are booked at least one day ahead), compared to 2% in slow-growing firms.

The proportion of activities lasting less than nine minutes in the slow-growing firm represents 80% of the managers’ time and in the fast-growing firms, slightly less (75%). The managers in slow-growing firms interact 51% of their time with their subordinates, as compared to 52% with managers in fast-growing firms.

Both groups interact approximately the same time with (10-11%) with clients. The managers in fast-growing firms spend 17% of their time with suppliers, compared to 28% with slow-growing firms. 11% of the time is spent with others in the group of slow-growing firms compared to 20% in the group of growing firms.
In table below follows an account of how the managers allocates their time on (i) deskwork sessions, (ii) telephone calls, (iii) scheduled meetings, (iv) unscheduled meetings, and (v) tours. Comparing the activities in the two groups, one see that there are only minor differences, but the managers in fast-growing firms spend more time in deskwork sessions, attend to more scheduled meetings, have less unscheduled meetings and takes less tours in their facilities (see table 6). One can also see that there is a large within-group variance which makes it difficult to draw any firm conclusions.

<table>
<thead>
<tr>
<th></th>
<th>Average slow-growing firms</th>
<th>Average growing firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(range)</td>
<td>(range)</td>
</tr>
<tr>
<td>No. of activities per day</td>
<td>57 (48-66)</td>
<td>51 (41 – 69)</td>
</tr>
<tr>
<td><strong>Deskwork sessions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number per day</td>
<td>13 (8 – 20)</td>
<td>14 (7 – 21)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>46% (34 – 50%)</td>
<td>50% (36 – 63%)</td>
</tr>
<tr>
<td>Average duration (min)</td>
<td>16 (11-21)</td>
<td>18 (10 – 32)</td>
</tr>
<tr>
<td><strong>Telephone calls</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number per day</td>
<td>17 (11 – 21)</td>
<td>15 (8 – 19)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>13% (10 – 16%)</td>
<td>13% (9-16%)</td>
</tr>
<tr>
<td>Average duration (min)</td>
<td>3 (2 – 4)</td>
<td>4 (3 – 5)</td>
</tr>
<tr>
<td><strong>Scheduled meetings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number per day</td>
<td>1 (0 – 2)</td>
<td>1 (0 – 3)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>15% (7 – 19%)</td>
<td>17% (1 – 22%)</td>
</tr>
<tr>
<td>Average duration (min)</td>
<td>88 (27 – 165)</td>
<td>75 (20 – 210)</td>
</tr>
<tr>
<td><strong>Unscheduled meet-</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number per day</td>
<td>22 (12 – 26)</td>
<td>16 (4 – 33)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>19% (7- 22%)</td>
<td>16% (5 – 36%)</td>
</tr>
<tr>
<td>Average duration (min)</td>
<td>4 (3 – 5)</td>
<td>4 (2 – 7)</td>
</tr>
<tr>
<td><strong>Tours</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number per day</td>
<td>4 (2 – 8)</td>
<td>2 (1 – 5)</td>
</tr>
<tr>
<td>Proportion of time</td>
<td>7% (2 – 10%)</td>
<td>6% (1 – 9%)</td>
</tr>
<tr>
<td>Average duration (min)</td>
<td>7 (5 – 9)</td>
<td>13 (5 – 20)</td>
</tr>
</tbody>
</table>

Table 6. A comparison of the work of top managers of small firms and in fast-growing firms concerning activities, excluded lunch and breaks. The table also shows the range of data for the respectively group.

These differences although each and one not large, add up together and creates more slack for the managers in fast-growing firms. At a first glance there are only minor differences, but they together add up and confirms one gut feeling we got when we were observing the two groups, and that is, that the managers in growing firms had a much calmer work situation. It seems that the slow-growing managers operate in a more hectic and turbulent context. One way to visualize this is to calculate for how long time the manager can work without being interrupted. In order to calculate this, one can compare the number of unscheduled meetings on others initiative, tours on others initiative and incoming telephone calls. Table 7 shows the percentage of telephone calls, tours and unplanned meetings on others initiative between the two groups.
Table 7. Percentage of telephone calls, tours and unplanned meetings on others initiative.

Table 7 shows that there are very small differences between the two groups. Managers in slow-growing firms have more incoming telephone calls, but on average both groups spend approximately the same time in telephone each day (1 hour) and unplanned meetings takes approximately 1.5 hour for both groups.

When going through and recapitulating the observation data, it becomes apparent that the managers in the slow-growth group tend to use more of their time to control their employees. It seems that they do not have the same trust for their employees as the group of managers in the fast-growing firms. What struck us during the observation, is that due to this need for control, employees were inclined to interrupt the managers in the slow-growing firms with trivial questions concerning everything from that they needed paper clips, batteries and pencils. In the group of fast-growing firms, the employees did not come to the manager with such trivial questions, which made the fragmentation of their working day less apparent. Their motive behind touring the factory was instead to inform themselves about the status of the production and to motivate their employees (management by walking around as one manager said).

The need to control the employees and the number of trivial interactions takes time and focus from other more important work in the slow-growing firms. One hypothesis from this is that the more reactive managers in slow-growing firms do not have the same time to focus on strategic work because they are “interrupted” more frequently with trivial questions and have a larger need to control their employees. A lot of empirical research shows that working with strategic work is what differentiates high performing firms from less successful firms (see for instance Woods and Joyce, 2003, Sadler-Smith et al., 2003). What is needed in order to further understand the differences is to go deeper in the material and see if the time the managers in fast-growing firms are disposed to focus on strategic questions instead of controlling operational work.

SIMILARITIES AND DIFFERENCES IN THE MANAGERS’ WORKING ROLES

In order to go beyond the mere quantitative data, we did go through all activities and classified them according to the roles as developed by Mintzberg (1973) to see if this could show differences.

Even the quickest glance at table 8 above will show big similarities between the groups. The only difference is that managers in slow-growing manufacturing firms work more hours as a specialist. Another difference is that managers in fast-growing firms to a greater extent take on the leader role than managers in slow-growing firms. This could be explained by that fact that the managers in slow-growing firms to a larger extent work more as a specialist, and more take on the role as an employee than a leader.
What is obvious in the empirical material is also the large span in the different roles as well as in activities. Even though the two groups are extremely homogenous at a first glance, activities and roles differs in respectively group. This leads to two important reflections. First, the need to launch longitudinal studies, to be able to follow the behavior of the fast-growing managers over time and see if the behavior of the managers are related to different stages in the process of growth and with that information, group the fast-growing firms according to their phase in the growth cycle. Second, it would be worthwhile to classify all activities according to the functions and see if this classifying could show differences and support our tentative results so far.

<table>
<thead>
<tr>
<th>Interpersonal roles</th>
<th>Slow-growing Average (range)</th>
<th>Fast-growing Average (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figurehead</td>
<td>0 (0-2)%</td>
<td>2 (0-9)%</td>
</tr>
<tr>
<td>Leader</td>
<td>6 (2-10)%</td>
<td>16 (1-50)%</td>
</tr>
<tr>
<td>Liaison</td>
<td>7 (0-16)%</td>
<td>1 (0-5)%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Informational roles</th>
<th>Slow-growing Average (range)</th>
<th>Fast-growing Average (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor</td>
<td>10 (6-19)%</td>
<td>14 (9-28)%</td>
</tr>
<tr>
<td>Disseminator</td>
<td>3 (1-4)%</td>
<td>2 (0-4)%</td>
</tr>
<tr>
<td>Spokesman</td>
<td>2 (0-4)%</td>
<td>4 (1-10)%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Decisional roles</th>
<th>Slow-growing Average (range)</th>
<th>Fast-growing Average (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneur</td>
<td>10 (1-28)%</td>
<td>5 (0-20)%</td>
</tr>
<tr>
<td>Disturbance handler</td>
<td>4 (1-7)%</td>
<td>2 (0-5)%</td>
</tr>
<tr>
<td>Resource allocator</td>
<td>12 (3-27)%</td>
<td>9 (0-14)%</td>
</tr>
<tr>
<td>Negotiator</td>
<td>1 (0-4)%</td>
<td>6 (0-29)%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operational roles</th>
<th>Slow-growing Average (range)</th>
<th>Fast-growing Average (range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist</td>
<td>38 (12-63)%</td>
<td>29 (6-53)%</td>
</tr>
<tr>
<td>Substitute operator</td>
<td>1 (0-4)%</td>
<td>7 (0-45)%</td>
</tr>
</tbody>
</table>

Table 8. The managers working roles

**CONCLUSIONS AND DISCUSSION**

In this study, we have researched the relation between managerial behavior and small firm performance/growth. To assume that managerial behavior *per se* can be used to predict firm performance perhaps seems a bit naïve. Given that the cases included in this research are as similar as they could be given the case study design of this research, we do, however, argue that we have taken a first step towards a more developed understanding of what makes some small firms outperform others.

What is both striking and surprising in the empirical material is that there are only minor differences between the groups of growing and slow-growing firms. These differences, however,
all point in the same direction and confirm one suspicion following our observations of the
two groups which is that the hectic and turbulent work situation characterizing the situation
of the slow-growing managers were not present in the growing firms. There might not seem
to be such a big difference between the two groups, but trivial questions consumes much of
the time for managers in slow-growing firms which isn’t the case for managers in fast-
 growing firms. This gives them more time to focus on other work than the daily operations
and problems of the firm, which consumes much of the managers time in slow-growing firms

The results from this study indicate that there are no major differences in managerial behav-
ior in growing and slow-growing firms. This conclusion is, however, to early to draw. The
fact that we do not find any major differences could be a sign of that the behavior of the top-
manager is not important for small firm growth. But it could also be due to limitations of our
study. To be more precise; it might be the way we have conceptualized managerial behavior
that causes us to fail to recognize the differences. We have searched for differences by studying “activity patterns” and “managerial roles”, but it might be that other conceptualizations
make it possible to identify differences. We could have, for example, measured managerial
behavior in terms of leadership styles (task, relation, change), or we could measured the
functions the managers chose to allocate their time on. Consequently, future research should
set out to conceptualize managerial behavior in other ways, in order to evaluate if differences
in behavior can be identified.

Except for the challenge of conceptualizing managerial behavior, research on small firm
growth has to face the fact that small firm growth is an elusive phenomenon that is affected
by many different factors, and that it is difficult to study in any simple way. We know for ex-
ample that firms often grow in an erratic way and that the process of growth differs among
firms (Delmar et al., 2003). We also know that different “phases of growth” put different and
specific demands on the manager. From this follows that there is a risk that we, in our study,
have observed firms in different stages/phases of their growth, and that the observed non-
differences in managerial behavior is not an indication of that there do not exist differences
between growing and slow-growing firms. It could be the case that our observations fails to
identify any differences because the growing firms is located in different stages/phases in
their growth. Hence, future research should be sensitive to selection of firms to study. If we
want to compare managerial behavior in growing and slow-growing firms we must be sure
that the firm’s life-cycle-position does not affect the behavior of their managers.

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THE INFLUENCE OF ENVIRONMENTAL SCANNING ON INNOVATION PERFORMANCE

Johan Frishammar, Sven Åke Hörte

Abstract

This study explores the link between environmental scanning and innovation performance in manufacturing firms. The overall question put at stake is whether or not those firms that are better at managing external information also are those that are the better innovators. Data were collected by means of a mail survey. The results show that there exists a positive relationship between environmental scanning in the industry- as well as general sector of the environment and innovation performance. Moreover, sharing information across functions/departments as well as using environmental information in decision-making concerning new product development was also found to correlate positively with innovation performance. The results also show that firms that are skilful at collecting information, skilful at sharing it, and also skilful at using it when deciding on new products are those that exhibit the highest degree of innovation performance.

Keywords: Innovation, information, environmental scanning, external environment.

INTRODUCTION

What makes an organization innovative? This question has attracted a great deal of attention from scholars in different academic fields and disciplines, as well as from practitioners. Addressing the question is essential, since one of the most serious challenges facing organizations is how to manage innovation as the organization evolves (Koberg et al., 1996). An organization embarks on innovative projects in order to improve its position in the competitive arena (Neely et al., 2001), thus allowing for an increased return on investments, a greater market share or other measures of business performance (Venkatraman & Ramanujam, 1986). As pointed out by Tidd et al. (1997), competitive advantage may result from size or possession of assets, etc. but the pattern increasingly favours those organizations that can mobilize knowledge, technological skills and experience to create new products, processes and services. Indeed, it is safe to say that a firm that does not plan for innovation may soon find itself in an inferior position in relation to its competitors (Ahituv et al., 1998).

As stated by Garcia & Calantone (2002, p. 112), an innovation is “an iterative process initiated by the perception of a new market and/or new service opportunity for a technology-based invention which leads to development, production, and marketing tasks striving for the commercial success of the invention”. In accordance with current literature, it is important to elucidate that an invention does not become an innovation until it has been processed through production and marketing and is diffused into the marketplace.

Drawing on the existing volume of literature, some of the factors affecting weather or not an organization becomes innovative are the existence of a creative culture and climate (Ahmed, 1998), unconventional individuals (Steiner, 1995), and a qualified labour force (Brenner,
Furthermore, spillovers are believed to create innovation (Anselin et al., 1997; Blind & Grupp, 1999), as well as co-operation between firms, for example joint R&D (Brenner, 2001). Innovation has sometimes been found to depend on the size of the organization (Anselin et al., 1997) although this is not always the case. Other factors of importance may be the structure of the organization and its incentive system, as well as its age and centralization of power (Koberg et al., 1996). Moreover, Bharadwaj & Menon (2000) found that R&D intensity, availability of organizational slack, and the relative importance of innovation to the organization are critical factors worthy of consideration.

Another factor of importance for innovation, often overlooked and rarely addressed, is firms’ use of external information. A couple of studies have addressed this theme (e.g. Aguilar, 1967; Miller & Friesen, 1982; Koberg et al., 1996; Ahituv et al., 1998 and Mishra et al., 1996) but none of them use a similar design and approach employed in this paper. We therefore intend to expand and further elaborate on this issue in the context of innovation performance. By high innovation performance we mean the existence of a strong emphasis on R&D, the introduction of many new products/services, and significant changes in products/services. Conversely, by low innovation performance we mean the opposite.

From a theoretical point of view, there are several reasons why we should expect the gathering, sharing and use of external information to be positively associated with innovation. More specifically, we will present three arguments reflecting two important dimensions – technology and marketing – as to why we expect this association or correlation to occur. First, in line with the arguments of Miller & Friesen (1982), we will assume that innovation is not a natural state of affairs. Innovation must be encouraged by challenges and threats, and therefore requires effective information processing to make managers aware of the need for change. Attempts to gather information from the environment may make managers aware of the disadvantages of their own product lines but can also underline changing customer demands and buying patterns (ibid). The second argument, which can be viewed as an extension of the first, suggests that, as organizations mature, they become more remote from external developments (Koberg et al., 1996). According to Koberg et al., much innovation is initiated externally, which suggests that the boundaries of an organization must be permeable, at least from the outside in, and that information gathering from various sources is vital to the success of a firm that depends on its own product development. For an example, see Neely et al. (2001), who suggest that innovative firms maintain close contact with customers and suppliers in order to obtain ideas. Therefore, after an original idea is commercialised, firms that wish to remain innovative will need to continually acquire and analyse information from the environment (Quinn & Cameron, 1983).

The starting point of the third argument is in the above mentioned difference between the two terms invention and innovation. A discovery that goes no further than the laboratory remains an invention (Garcia & Calantone, 2002). Therefore, an innovation differs from an invention in that it provides economic value and is diffused to other parties beyond the discoverers. In order to change an invention into an innovation, i.e. to have it diffused, information from various sectors of the external environment is necessary. As noted by Mishra et al. (1996) and Ottum & Moore (1997), a firm must analyse current situations and trends of a potential market for a new product (a new invention). Without knowledge of the potential market, a firm may waste resources in developing a product for an unfavourable market. For example, a firm may produce a product for which there is insufficient demand. Examples of the market
characteristics factor are degree of price competition, presence of a dominant competitor, market size, market growth, and the role of the government in the marketplace. Indeed, a strong market-orientation with an emphasis on user needs is crucial for successful innovation (Rothwell, 1992).

Perhaps not much external information is needed for invention; the literature provides numerous examples of great inventions that developed out of curiosity and experiments. Innovation on the other hand is, we believe, dependent on external information. The overall purpose of this article is therefore to examine whether or not those organizations that are better at managing external information also are those that are the better innovators.

FRAME OF REFERENCE AND HYPOTHESIS

To monitor the external environment of organizations implies collecting information. This activity is known as environmental scanning and may be defined as “the activity of acquiring information” (Aguilar, 1967, p. 1.) Therefore, environmental scanning is the means through which managers perceive external events and trends (Hambrick, 1982). Lozada & Calantone (1996) argue that information acquisition and processing activities are imperative for ascertaining environmental change, and these activities have a definite impact on the organization’s ability to uncover sources of advantage over time. Thus, the managerial perceptions resulting from the information that managers receive have a decisive impact on the formulation of strategic responses in general, and on the process of innovation in particular (ibid). Similar findings have been presented by Birkinshaw & Fey (2000) who state that environmental scanning may generate external ideas or “openness to external knowledge” (p. 11). In summary, environmental scanning can spawn innovative ventures (Howell & Shea, 2001).

Environmental scanning, weather or not it is known by that name (Frishammar, 2002), provides information from various sectors of the environment. In order to discriminate between different environmental sectors, we employed a hierarchical conception of firms’ external environment. Thus, we suggest a division into competitive or industry environment, and general environment (Fahey & Narayanan, 1986).

The industry environment comprises a firm or business unit and its competitors within the same industry and is thought to consist of a particular set of competitive forces that es-

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4 The term “external environment” when divided into two sectors implies a unique and objective environment that exists independently of actors and actions and appears similar to all observers, but it equally implies specific boundaries separating the organization from that “environment”. As noted by Weick (2001), “while the categories external/internal exist logically, they do not exist empirically... there is no methodological process by which one can confirm the existence of an object independent of the confirmatory process involving oneself” (p. 184). There are different schools of thought here, i.e. do people invent rather than discover what they think they see? The definition used here is, of course, a theoretical construct and as such a simplification of the true state of affairs. However, the dichotomies of external/internal, as well as the concept of organizations having “boundaries” are widely used in the literature, and the distinction was employed in order to allow for hypothesis testing although we recognize its limitation.

5 A third level, referred to as task environment (Dill, 1958) can be identified. The task environment can be described as firm specific, and is not considered in this study.
establish both opportunities and threats and that may change due to the actions of competitors. As such it represents a specific school of thought in environmental analysis with regard to what is fundamental and important. Porter (1980) uses the term competitive forces to refer to buyers, suppliers, substitute products (or services), potential industry entrants, as well as strategic groups of directly competing firms. Strategic moves by any of these can alter prevailing relationships and thereby change the pattern of forces in a firm’s environment. Lenz & Engledow (1986) have suggested that environmental change, from this perspective, occurs as a result of certain evolutionary processes that originate from both interaction among competitors and events in the general environment (e.g. product innovation, government policy). In either case the effect is to erode the prevailing equilibrium of the underlying structural features of an industry. This sets the stage for the emergence of a new pattern of competitive forces.

Change is, however, not random. As put forward by Porter (1980), environmental evolution often follows a general developmental path comprised of five stages: fragmented, emerging, mature, declining and global. The suggested pathway seems rather orderly but Porter (1980) observes that no environmental evolutionary path is inevitable. Rather, multiple scenarios exist for the development of organizational environments and, in order to track these changes, Porter proposes that organizations should gather information about their environments through the implementation of a formalized competitor analysis system. All organizations active in an industry characterized by competition face some kind of industry environment, and therefore it is necessary to actively engage in information gathering (even if the conditions of the environment itself might be of lesser importance for firm innovation, see Koberg et al. 1996).

In an international study, Mishra et al. (1996) also found this kind of information to be significantly correlated with new product success. Therefore, we hypothesize that:

H1: There is a positive association between scanning of the industry sector of the environment and innovation performance in organizations.

Everything of importance to an organization does not, however, occur in the industry. An organization must also be alert to changes in the general environment, sometimes referred to as the macro environment (Fahey & Narayanan, 1986). Factors in the general environment influence all the industries within it and include social factors (e.g. demographics, life-styles, social values of society); economic factors; political factors (e.g. political processes, regulatory institutions), and technological factors (e.g. technological processes or advances, new products, processes, or materials, etc.). For example, innovative firms have reported that investors and governments play a crucial role in the innovation process, the former by providing funding and the latter by influencing the firms’ choices with regard to standards (Neely et al., 2001). Moreover, Abell (1978) has argued convincingly that the nature of technological innovation and diffusion is such that most major innovations will originate outside a particular industry and not within. Established competitors in an industry are usually challenged not by their known competitors within the industry, but by organizations that base their approach on a technology developed outside that industry. To cope with this, Abell (1978) suggests that managers tend to increase their information gathering activities in an attempt to enhance decision-making.

Utterback (1996) also points to the fact that changes that can revolutionize an organization’s business have a tendency to come from unexpected directions and be viewed as disruptive. These include functional competition from new technologies often introduced by new firms or existing businesses entering a new market. The author suggests that organizations must adapt to environmental changes that are often beyond its control or influence and which require
changes in products, policies and structure. This presupposes a need to anticipate important environmental changes as well as an emphasis on the way in which organizations gather and analyse information about the environment (ibid). As previously mentioned, the discussion in this paragraph has centred on major- or radical innovations. Does that imply that the general environment is unimportant for other types of innovations? While we do not believe this to be the case, we have nevertheless failed to locate anything in the literature to lend support to such an opinion. This is a question that needs closer attention. Thus, we would also like to draw attention to the importance of factors outside the industry and will therefore hypothesize that:

**H2: There is a positive association between scanning of the general sector of the environment and innovation performance in organizations.**

It is, however, probably not a question of either, i.e. scanning the industry environment or scanning the general environment. As noted by Howell & Shea (2001), scanning the environment can spawn innovative ventures. We therefore believe that organizations should monitor both their industry- and the general environment; while the latter may be outside their sphere of influence, it is not beyond their ability to adapt. We therefore suggest the following hypothesis; a combination of the first two:

**H3: There is a positive association between scanning of the industry- and the general sector of the environment and innovation performance in organizations.**

Gathering information from the environment is, however, not sufficient. Sharing information across functional areas is also vital for success. Furthermore, it has been observed that information sharing is problematic for many firms. In general, information is often perceived to be “owned” by the department that has collected it, and it is rarely shared with other functions (Ottum & Moore, 1997). These authors found that, during less successful new product development projects, market information was only transferred from the marketing department in infrequent batches. On the other hand, developers of successful new products transferred more information across all functional interfaces in a continuous manner (ibid). Ashton & Stacey (1995) also draw attention to this fact, emphasizing that information must be delivered to users. This may be accomplished in many ways, ranging from formal reports or presentations to e-mail and one-to-one conversations. The selected methods depend on the nature of the information to be distributed, the intended audience, cost, urgency and user preferences. Thus we suggest that information sharing between functions/departments is important and may moderate the hypothesized relationship between environmental scanning and innovation performance.

In accordance with the existing literature, we will use the term integration when referring to this dimension (Lawrence & Lorch, 1986; Ottum & Moore, 1997). Lawrence & Lorch (1986, p. 1) defined integration as “the quality or state of collaboration that exists among departments that are required to achieve unity of effort by the demands of the environment”. Kahn (1996) stresses that integration is a two-dimensional construct representing both interaction and collaboration. In the context of new product development, integration is typically operationalized in terms of the transfer of information and/or the degree of cooperation or cohesion between marketing and R&D – a critical issue for a firm concerned with new product introduction (Galbraith & Kazanjian, 1986). As noted by Kahn (1996), an organization's in-
ternal environment should be one of cooperation, not competition. Or, to paraphrase Rothwell (1992), organizations that are successful with regard to innovation emphasise information sharing across functions, thus ensuring that customer needs remain the focus of R&D-activities. We therefore suggest that:

**H4: There is a positive association between integration and innovation performance in organizations.**

Given that the organization gathers information about the environment through environmental scanning activities, and given that this information is communicated to and shared with other functions/departments, it is still necessary for this information to be used and evaluated by executives responsible for making key decisions (Miller & Friesen, 1982). As earlier research has shown, the fact that information is available is no guarantee that it is used (Cyert & March, 1963). Without delving too deep into the field of organizational decision making (for a short review, see e.g. Saunders & Jones, 1990), we assume that the end goal of environmental scanning is to ensure better-informed decisions (Choo, 1996). We therefore recommend that information collected and disseminated should be considered when making decisions pertaining to innovative activities. Therefore, as in the case of the integration dimension, we also hypothesize that decision-making on innovative activities will moderate the link between environmental scanning and innovation performance. Therefore, our fifth and final hypothesis suggests that:

**H5: There is a positive association between decision-making based on environmental information and innovation performance in organizations.**

**METHOD**

Data for the study were collected via a mail survey between October 2002 and January 2003. The target population, which we conceive of as a census/population rather than a sample, comprised firms classified as manufacturers with 175 – 2500 employees. The purpose of controlling for size was to obtain firms large enough to have specialized functions (e.g. marketing, R&D), while still being sufficiently small so that a single respondent could be expected to have a satisfactory overview of operations. We also controlled for the fact that the firms had in-house product development, a criterion necessary for hypothesis testing. The population represents a cross-section of industries and in some cases also separate divisions of larger corporations. All firms are located in Sweden.

Initially, the population consisted of 344 firms. After a first mailing wave, three reminders were sent out and telephone calls were made to almost all firms that did not respond. In retrospect, 14 firms were dropped from the population frame, thus leaving us with N = 330. In total, we received 208 responses, and six of those reported missing values. Two of the six were dropped since respondents failed to answer certain sections of the questionnaire, a commonly used approach when relatively few cases report this kind of problem (see Hair

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6 12 firms lacked their own product development (they were subcontractors), one was bought up, and one was found to sell only services and no products.
et al., 1998). In the remaining four, where single items were left blank, a replacement procedure employing mean substitution was adopted. Thus, the actual number of responses was 206, or a response rate of 62.4%. Since it seems to be widely believed that top administrators can best provide information about environmental and organizational characteristics, we mailed the questionnaires to the chief executive officers of these firms. Of those who responded 84% were CEOs; the remaining 16% were typically marketing or R&D managers.

**Measures**

When selecting variables for the study, our research purpose and hypothesis served as principles. We decided to opt for the variables used in a conceptual model known in the literature as the intelligence cycle, see for example Montgomery & Weinberg (1979) or Ashton & Stacey (1995). The model describes information collection, dissemination and use but also provides an outline of the relationships between these variables. In summary, the model stipulates that information must be both shared and used, in addition to being collected. To use innovation performance as a dependent variable is, however, not stipulated by this model. The variables considered in the study are innovation performance, scanning of the industry- and the general environment sector, integration, and decision-making (see Table 1). The variables were constructed by building sum indices of equal weight for all items included. Five-point Likert scales were used for all measurements, with the sole exception of innovation performance, which was measured on a seven-point scale. All variables are considered ordinal.

Innovation performance was measured using the three items suggested by Miller & Friesen (1982). One item was changed; we asked about products or services instead of lines of products or services since the firms we investigated were generally much smaller than those studied by Miller & Friesen. Furthermore, these authors did not provide a clear definition of innovation in their article. We therefore used a definition combining those of Gopalakrishnan & Damanpour (1997) and Garcia & Calantone (2002) in our mail survey. From the point of view of construct validity, this method is questionable since it actually measures self-reports, and therefore could be viewed as being subjective. Jennings & Young's (1990) findings imply, however, that such subjective measures of innovation can be used interchangeably with objective ones. Furthermore, this measure has also been validated by Kahn & Manopichetwattana (1989), who found a strong correlation between this perceptual measure and more objective measures of innovation. Since the study is considered exploratory, our aim was to obtain a rough measure suitable for differentiating between "more innovative" and "less innovative" firms. Therefore, we have not allowed for any differentiation between macro/micro dimensions such as radical – incremental, or major – minor. Cronbach’s alpha for innovation performance was 0.79.

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of items</th>
<th>Scale (points)</th>
<th>Sample median</th>
<th>Quartile deviation (Q3 – Q1)/2</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation performance</td>
<td>3</td>
<td>7</td>
<td>4.3</td>
<td>1.00</td>
<td>0.79</td>
</tr>
<tr>
<td>Scanning of industry environment</td>
<td>8</td>
<td>5</td>
<td>3.5</td>
<td>0.32</td>
<td>0.75</td>
</tr>
<tr>
<td>Scanning of general environment</td>
<td>8</td>
<td>5</td>
<td>2.9</td>
<td>0.44</td>
<td>0.78</td>
</tr>
<tr>
<td>Scanning total</td>
<td>16</td>
<td>5</td>
<td>3.2</td>
<td>0.32</td>
<td>0.83</td>
</tr>
<tr>
<td>Integration</td>
<td>15</td>
<td>5</td>
<td>3.9</td>
<td>0.34</td>
<td>0.89</td>
</tr>
<tr>
<td>Decision-making</td>
<td>6</td>
<td>5</td>
<td>3.5</td>
<td>0.50</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Table 1: Summary and descriptive statistics for the utilized constructs.
Measuring scanning activity is difficult since executives scan in fragmented, informal and ad hoc ways (Aguilar, 1967; Hambrick, 1982). When measuring the scanning of industry environment and scanning of general environment, we adopted a method suggested by Hambrick (1981; 1982) that has found widespread acceptance. While adopting the basic idea of the method, the items used in the original version had to be amended due to the fact of differences in environmental conceptualization. The method is built around three different constructs, referred to as the frequency method, the interest method, and the hour’s method. The frequency method, as used here, involved asking respondents how frequently they learned of events or trends in two sectors of the environment. The interest method involved asking executives to rate the extent to which they made a point of staying abreast of the two sectors of the environment. The third construct was not used since it was judged unsuitable for our purposes. A total of 16 items were used – eight for scanning the industry environment and eight for scanning the general environment. Cronbach’s alpha for scanning of industry environment was 0.75, for scanning of general environment it was 0.78. In order to obtain a measure of the overall scanning activity in the firms surveyed, the items used for measuring industry and general environment scanning were combined. Cronbach’s alpha for this measure was 0.83.

Integration was measured using the guidelines provided by Kahn (1996). Integration is, as previously stated, a two-dimensional construct. Nine items were used to measure interaction, of which four were slightly modified to better reflect activities, thus hopefully making more sense to the respondents. Another six items were used to measure the collaboration dimension, thus a total of 15 items were used. Cronbach’s alpha was 0.89. When measuring decision-making, or the extent to which the external information collected actually enters into the decision making process in the area of innovative activities, initial inspiration was provided by Ottum and Moore (1997). While the basic idea of their method has been adopted, all items were made new since we could not find a previously used instrument that fitted our research purposes. Cronbach’s alpha for this measure was 0.81. A summary of the different constructs as well as descriptive statistics for each is presented in table 1.

**ANALYSIS & RESEARCH FINDINGS**

All five hypotheses presented were first tested by performing simple bi-variate correlation analysis. Innovation performance was then treated as the dependent variable and the remaining four as independent. For our first hypothesis \(H1\), we found support for the belief that there is a positive association between environmental scanning of the industry sector of the environment and innovation performance; Spearman’s rho was 0.259. We also found support for the second hypothesis \(H2\), which states that there is a positive association between environmental scanning of the general sector of the environment and innovation performance. Here, Spearman’s rho was 0.236. Given the result in \(H1\) and \(H2\), it was not surprising that we also found support for \(H3\); that there is a positive association between environmental scanning of the industry- and general sector of the environment and innovation performance. Spearman’s rho for \(H3\) was 0.278. Integration was also found to correlate with innovation performance. The fourth hypothesis \(H4\), stating that there is a positive association between integration and innovation performance, had a Spearman’s rho of 0.277. Finally, the fifth and last hypothesis \(H5\) was also found to correlate positively. The hypothesis stating that there is a positive association between decision-making based on environmental information and innovation per-
formance had a Spearman’s rho of 0.360. All results were significant at the 0.01 level\(^7\) (1-tailed). Table 2 provides a summary of the hypothesis testing.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Variables</th>
<th>Spearman’s Rho</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Scanning of industry env.; Innovation performance</td>
<td>0.259*</td>
</tr>
<tr>
<td>H2</td>
<td>Scanning of general env.; Innovation performance</td>
<td>0.236*</td>
</tr>
<tr>
<td>H3</td>
<td>Scanning total: Innovation performance</td>
<td>0.278*</td>
</tr>
<tr>
<td>H4</td>
<td>Integration; Innovation performance</td>
<td>0.277*</td>
</tr>
<tr>
<td>H5</td>
<td>Decision-making; Innovation performance</td>
<td>0.360*</td>
</tr>
</tbody>
</table>

Table 2: Summary of hypothesis testing. * = significant at the 0.01 level (1-tailed)

While we are satisfied that the hypotheses are correctly formulated and worthy of testing, they do not tell the whole story. One could easily argue that firms with a poor record of environmental scanning, who fail to share collected information among its functions/departments, and who fail to make use of it when developing new products/services can be expected to suffer more than others in terms of innovation performance. Conversely, those firms that are good at scanning their environment, good at sharing information among their functions/departments, and good at using the information when developing new products/services can be expected to exhibit a higher degree of innovation performance than other groups of firms. The remaining firms can then be expected to fall somewhere in between.

For testing this idea we performed median level splits on the scanning total, integration, and decision-making variables respectively. Thus, each firm was given a value of “high” or “low” for each of the three variables. We then sorted the firms according to the values of each of the three variables, thus forming eight groups. For example, those firms that scored “high” on all three variables formed one group, and those who scored “low” on all three formed another. Then, we compared the groups in terms of innovation performance scores. Drawing on the results of tests of the five hypotheses, we expect the group with above median value for both environmental scanning, integration, and decision-making (Group A) exhibit the highest degree of innovation performance, and the group with below median values on all three variables (Group H) to exhibit the lowest degree. The results for the eight groups can be found in the figure below.

![Figure 1: Innovation performance scores for each group of firms. Median, Md, and Quartile deviation, Q, in brackets. Md for population = 4.3](image)

As can be seen from the figure, Group A exhibited the highest degree of innovation performance and Group H) exhibited the lowest degree of innovation performance, just as ex-

\(^7\) Data on degree of significance might not contribute much in this study since we are dealing with a census/population and not a sample.
pected. Groups B and E, who both scored "high" on environmental scanning but "low" on one of the other variables tended to cluster close to the population median value for innovation performance, as did group C that scored "low" on environmental scanning, but "high" on integration and decision-making.

The most surprising results were found in group F: while scoring "high" on environmental scanning and "low" on both integration and decision-making, these firms were found to have the same degree of innovation performance as group A, who scored "high" on all three variables. This result may be accounted for by other variables considered exogenous here; the firms in groups A and F are likely to differ with regard to other aspects not considered in this study.

Overall, the results suggest that the presence of above median scores for environmental scanning, integration, and decision making lead to the highest level of innovation performance. In other words, it seems as if those firms that are good at collecting environmental information, good at sharing it, and also good at using it when deciding on new products/services are those that exhibit the highest degree of innovation performance. While the differences between those firms that exhibit the highest and the lowest degree of innovation performance (Group A vs. Group H) may be considerable, several other groups (B, C, D, E) show no major differences.

The 19 firms in Group F is an obvious exception. The median degree of innovation performance of that group is the same as in Group A, but the median values on environmental scanning, integration and decision-making differ between the two groups. The firms of Group F do not excel in environmental scanning, or in sharing available information across functional areas of the firm, or base the key decisions about innovation activities on environmental information, compared to the rest of the firms. Still, they have a high degree of innovation performance, focusing on technological leadership, developing radically new products and marketing many new products. This paper does not offer an explanation to this surprising result, but suggests that this phenomenon should be examined in further research.

DISCUSSION & IMPLICATIONS

This study indicates that a positive relationship exists between environmental scanning and innovation performance. For the firms in our study, both scanning of the industry and the general environment were positively associated with innovation performance. Since environments change over time (see e.g. Pfeffer & Salincik, 1978), our results support the idea that monitoring these changes may pay off in terms of increased innovation performance. Thus, it seems that those firms that put effort into monitoring their customers and competitors and other industry-related factors may benefit from such activities. In addition, the monitoring and understanding of more general aspects such as demographics and economical, political and technological factors seem to be of importance for the innovation performance of the firms in our study. The study also shows that sharing information between functions/departments is positively associated with innovation performance as is using environmental information when actually taking decisions on new product/service development. The study has further demonstrated that those firms that are good at scanning their environment, good at sharing the collected information and good at using environmental information when deciding on new products/services benefit in terms of innovation performance in
comparison with most other groups that lack one or more of these characteristics. However, these findings should be interpreted with caution for a couple of reasons.

Firstly, the variables considered endogenous in this study only consider informational aspects: collection, dissemination, and use. There is no doubt that many other exogenous variables have an impact on innovation performance in firms, and there is an abundance of literature in this area. Therefore, the results may very well have been different had additional variables been taken into consideration. That is, all hypotheses are implicitly governed by ceteris paribus assumptions. Secondly, since data are cross-sectional, it is difficult to ascertain if being skilful at information collection, dissemination and use invariably leads to increased innovation performance. One could visualise a reverse direction of causality, i.e. that more innovative firms may have the excess resources needed to invest more time in environmental scanning activities. Such an explanation would run contrary to current theoretical explanations but is nevertheless plausible. Future studies with a longitudinal design may shed light on this question. Thirdly, one key feature of innovation – the fact of it being a process – is taken as given in this study. Failure to discuss this fact does not reflect a judgement that this is irrelevant or uninteresting. Rather, we were forced to view innovation as a product for hypothesis testing.

Suggestions for further research

Our understanding of how firms’ management of external information impacts on innovation performance can be enhanced by additional research. An interesting approach would be to examine differences in how ”more” and ”less” innovative firms handle external information in innovation processes. Preferably, such a study should be conducted by employing a case-study approach. Furthermore, to collect data over time with a longitudinal design would also be valuable. Perhaps such a study would confirm the tentative evidence found here as well as removing the doubts regarding the direction of causality. Finally, to conduct a similar study but with additional variables, i.e. more endogenous variables, would be of interest. May be such a study could shed light on the surprising result discussed above, that the group of firms with a high degree of environmental scanning, but below median degrees on decision-making and integration (Group F in Figure 1) have the same high degree on innovation performance as the group of firms with a high degree on all three variables (Group A).
Appendix. Operational Measures

1. Innovation Performance

By a new product/service innovation we mean one that is new to the firm, new to the market, or new to the industry and that is introduced for the benefit of customers or clients outside of your firm.

*Please consider the following paired statement with regard to product/service innovation, and circle the number that is most accurate for your firm:*

- There is a strong emphasis on the marketing of true and tried products or services.  
- There exists a very strong emphasis on R&D, technological leadership, and innovations.

*How many new products or services has your firm marketed in the past 5 years? Please exclude mere minor variations.*

- No new products or services in the past 5 years.  
- Hundreds of products or services in the past 5 years.

*Consider also the following statement, and circle the option that best suits your firm.*

- Changes in products/services have been mostly of a minor nature (e.g., putting in towel with the soap).  
- Changes in products/services have usually been dramatic (e.g., changing from mechanical to electric calculators).

2. Scanning of Industry Environment

*Listed below are 4 types of external events/trends or factors potentially affecting your organization. Please rate the approximate frequency with which each type of information comes to your firm’s attention.*

Information about

1. Customers of your organization
2. Suppliers to your organization
3. Competitors
4. Substitute products

(Response format: 1 = once a year or less; 5 = once a day or more)
Listed below are the same 4 types of external events/trends or factors that were described above. Please rate the extent to which your firm makes a point of staying abreast of these various trends/factors.

Information about

1. 1 Customers of your organization
2. 2 Suppliers to your organization
3. 3 Competitors
4. 4 Substitute products

3. Scanning of General Environment

Listed below are 4 types of external events/trends or factors potentially affecting your organization. Please rate the approximate frequency with which each type of information comes to your firm’s attention.

Information about

1. 1 Demographics (life styles, social values of society)
2. 2 Economic factors [interest rate, gross domestic product (GDP), etc.]
3. 3 Political factors (new laws, regulations, and policies)
4. 4 Technological factors (new products, processes, materials)

(Response format: 1 = once a year or less; 5 = once a day or more)

Listed below are the same 4 types of external events/trends or factors that were described above. Please rate the extent to which your firm makes a point of staying abreast of these various trends/factors.

Information about

1. 1 Demographics (life styles, social values of society)
2. 2 Economic factors (interest rate, GDP, etc.)
3. 3 Political factors (new laws, regulations, and policies)
4. 4 Technological factors (new products, processes, materials)

(Response format: 1 = We generally do not try to stay abreast of this type of information; 5 = We try to know all there is to know about this type of information)

4. Integration

When developing new products or services, to what degree do the departments and/or functions of marketing, production, and R&D within your firm interact with each other with regard to the below activities?
1 Participation in meetings
2 Participation in committees/task forces
3 Phone conversations
4 Exchange of mail
5 Exchange of electronic mail
6
7
8
9 Exchange of FAX materials
10 Achieve goals collectively
11 Work for a mutual understanding
12 Informally work together

(Response format: 1 = never; 2 = seldom; 3 = occasionally; 4 = often; 5 = quite frequently)

5. Decision-Making

Information collected from the industry environment (e.g., information about customers, suppliers, competitors, substitute products) is extremely important when:

(a) We set the actual design specifications for new products/services at our firm.
(b) We make decisions on developing new products/services at our firm.
(c) New products/services are introduced into the market by our firm.

Information collected from the general environment (e.g., information about demographics; lifestyles; economic, political, and technological factors) is extremely important when:

(a) We set the actual design specifications for new products/services at our firm.
(b) We make decisions on developing new products/services at our firm.
(c) New products/services are introduced into the market by our firm.

(Response format: 1 to 5)
References


