

International Growth of a Finnish High-Tech SME: A Dynamic Capabilities Approach

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Abstract

The purpose of the study is to describe how Finnish high-tech small and medium-sized enterprises (SME) can achieve growth from international markets and to explore what roles dynamic capabilities can play in SMEs' international growth. The dynamic capabilities construct has been criticised for being too abstract. This study aims to tackle this criticism by introducing a theoretical framework for concretising dynamic capabilities and then by testing it empirically. The study's empirical part introduces a single case study of a Finnish high-tech SME. The longitudinal research data includes five interviews of the case firm's managers. Additionally a significant amount of secondary data was analysed during the study. Pre-planned systematic coding methods were utilised during the data-analysis phase of the study. As a result, the study provides concrete examples of dynamic capabilities identified from the international growth of the studied firm. In addition, by introducing an operationalized classification for studying dynamic capabilities qualitatively, the study has also methodological contributions.

JEL classification codes: F20, L10

Keywords: dynamic capabilities, international growth, SME, case study, high-tech

1. Introduction

A central concern of a firm's overall strategy and management is to maintain a dynamic fit between what the firm has to offer and what the environment dictates (Learned et al., 1965; Miles & Snow, 1978). Achieving this fit again requires that the firm is able to change its processes. For this a firm has to possess dynamic capabilities that, in addition to increasing a firm's opportunities to survive, often provide organisations with the potential for growth (Helfat et al., 2007). Briefly, the essence of the dynamic capabilities' approach is that competitive success arises from the continuous development, alignment and reconfiguration of firm-specific assets (Teece & Pisano, 1994; Teece et al., 1997; Augier & Teece, 2006). In other words, dynamic capabilities directly impact the resource base of the firm, which in turn is the source of the firm's competitive advantage (Ambrosini & Bowman, 2009). However, dynamic capabilities do not just appear from nothing, but instead they are typically the outcome of experience and learning within the organisations.

The importance of dynamic capabilities is now amplified because the global economy has become more open and the sources of innovation, and manufacturing are more diverse, geographically and organisationally (Teece, 2000), and multiple inventions have to be combined to achieve marketplace success (Somaya & Teece, 2007). However, while globalisation has expanded, it is not even nearly "complete" (Augier & Teece, 2007). Hence, it is assumed that the international business environment will remain very dynamic in the future. As a consequence, those firms who possess capabilities to observe changes emerging in their environment in advance (and are able to react to the changes) have better opportunities to grow and to be profitable than their slower rivals. Illustrations of these changes are new technological innovations that can create totally new product-markets.

This study is conducted among Finnish high-technology small and medium-sized enterprises (SME), and it is especially interested with dynamic capabilities role in a firm's international growth. The fact that SMEs can be international players is particularly evident when examining countries that have a fairly limited domestic market size, lengthy international trading history, technologically oriented products, reasonable domestic competition, organised company financial support systems, firms with willingness and ability to expand internationally, and low barriers for transcending country borders. There are several countries of this type, such as Austria, Switzerland, Belgium, Portugal, New Zealand, Sweden, Norway and Finland (see for example Holmlund et al., 2007).

So, in the empirical part of the study the main emphasis is given to the Finnish high-tech SME whose international growth is studied through qualitative case study methods. For example, Helfat et al. (2007) note that case-based approaches and other methods used to study strategy processes will increase our depth of understanding of dynamic capabilities as well.

Summarising, the purpose of the study is to describe how a Finnish high-tech SME can achieve growth from international markets and to explore what roles dynamic capabilities can play in SMEs' international growth.

The aims of the research stem from the main research objective and they are the following:

- To recognise critical events and to analyse which of these had a decisive impact on the studied SMEs' international growth.
- To show examples of dynamic capabilities identified from critical events beyond international growth of the studied SME.

The logic followed in this study is crystallised by Helfat et al. (2007, p. 2), who suggest that the transformation of an organisation through additions, deletions, or modifications to its resource base entails processes for achieving these changes. It is not enough that we know what organisations do – which markets they enter, which products they introduce, how fast they grow, which firms they acquire and so on – but also how they do it. So, understanding how things related on dynamic capabilities take place can help us to create a more complete picture of dynamic capabilities (see for example Helfat et al., 2007). It is assumed that international growth brings more dynamics or turbulence to a SME's business and hence the international growth as a context is seen to facilitate identifying embodiments of dynamic capabilities. This study utilises qualitative research methods and the research data consists of several interviews conducted in the studied firm between the years 2004 and 2010. Additionally, secondary sources (websites, magazines, journals, financial statements etc.) are also utilised in the case description. The study begins with a discussion of the previous literature, continues with methodological considerations and empirical findings, and ends with limitations of the study and further research opportunities.

2. Defining the Theoretical Framework for the Empirical Study

There are various slightly different views concerning the essence of dynamic capabilities. Easterby-Smith et al. (2009) explain this by stating that scholars who have provided definitions for dynamic capabilities have come from different research traditions and have therefore viewed the phenomenon with different lenses, reflecting their different backgrounds.

Indeed, the literature review (see Table 1) indicates that some scholars emphasize the patterned and routine aspects of dynamic capabilities; whereas others focus on the entrepreneurial facets of management. However, these two approaches could be considered complementary rather than substitutive. Table 1 shows, in chronological order, some of the key definitions of dynamic capabilities emerging from previous literature. There have been slight differences between researchers when defining the term 'dynamic capabilities'. For example, Madsen (2010) makes a distinction between different definitions by dividing them into three groups: definitions focusing on the results of dynamic capabilities (e.g. Griffith & Harvey, 2001), definitions focusing on the presence of external conditions (e.g. Teece et al., 1997; Eisenhardt & Martin, 2000) and definitions focusing on abilities or activities that make the firm dynamic (e.g. Zollo & Winter, 2002; Zahra et al., 2006).

Table 1. Key definitions of dynamic capabilities emerging from previous literature

Author	Definition
Helfat (1997)	The subset of the competences/capabilities that allow the firm to create new products and processes and respond to changing market circumstances.
Teece et al. (1997)	The firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments.
Eisenhardt and Martin (2000)	The firm's processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match or even create market change. Dynamic capabilities are therefore the organisational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die.
Griffith and Harvey (2001)	A global dynamic capability is the creation of difficult-to-imitate combinations of resources, including effective coordination of inter-organisational relationships, on a global basis that can provide a firm with a competitive advantage.
Zahra and George (2002)	Dynamic capabilities are essentially change-oriented capabilities that help firms re-deploy and reconfigure their resource base to meet evolving customer demands and competitor strategies.
Zollo and Winter (2002)	A dynamic capability is a learned and stable pattern of collective activity through which the organisation systemically generates and modifies its operating routines in pursuit of improved effectiveness.
Winter (2003)	Those that operate to extend, modify or create ordinary (substantive) capabilities.
Alsos et al. (2007)	On the basis of their literature review Alsos et al. argued that there are four generic dimensions of dynamic capabilities. These are: 1) external observation and evaluation, 2) external resource acquisition, 3) internal resource reconfiguration and 4) internal resource renewal.
Helfat et al. (2007)	A dynamic capability is the capacity of an organisation to purposefully create, extend, or modify its resource base.
Augier and Teece (2009)	The ability to sense and then seize new opportunities, and to reconfigure and protect knowledge assets, competencies, and complementary assets with the aim of achieving a sustained competitive advantage.

Ambrosini and Bowman (2009, p. 38) found that four different outcomes might result from the deployment of dynamic capabilities. First, they can lead to sustainable competitive advantage if the resulting resource base is not imitated for a long time and the rents are sustained. Second, they can lead to a temporary advantage that is typical for markets with high turbulence. Third, they can give competitive parity if their effect on the resource base allows the firm to only operate in the industry rather than to outperform rival firms. Finally, the deployment of dynamic capabilities may lead to failure if the resulting resource base is irrelevant to the market.

However, this study does not aim to study the relationship between dynamic capabilities and firm performance; instead, the main emphasis is on the relationship between dynamic capabilities and the processes underlying them. The main reason for this choice is that limitations related to the research data make it impossible to accurately identify which part of a firm's international growth is a consequence of the firm's dynamic capabilities and which part is the result of other factors (e.g. industry, national economy etc.). In spite of this, SMEs experiencing international growth are a suitable target group for studying dynamic capabilities because international growth development demonstrates that these SMEs have faced recent changes in their business operations.

Therefore, as the study aims to research dynamic capabilities, it is essential to study the processes that are the mechanisms by which the dynamic capabilities are put into use. In fact, dynamic capabilities can be seen as processes themselves (e.g. Eisenhardt & Martin, 2000), although the literature often suggests that dynamic capabilities are not processes, as such, but more something embedded in processes (e.g. Zott, 2003). It is difficult to observe a dynamic capability that an organisation possesses unless it is put into use, and processes are the mechanisms that make it happen (Helfat et al., 2007). In other words, when we are observing dynamic capabilities in use, we are observing the underlying processes. As Ambrosini and Bowman (2009, p. 44) state it, “for dynamic capabilities to be a useful construct it must be feasible to identify discrete processes inside the firm that can be unambiguously causally linked to resource creation”.

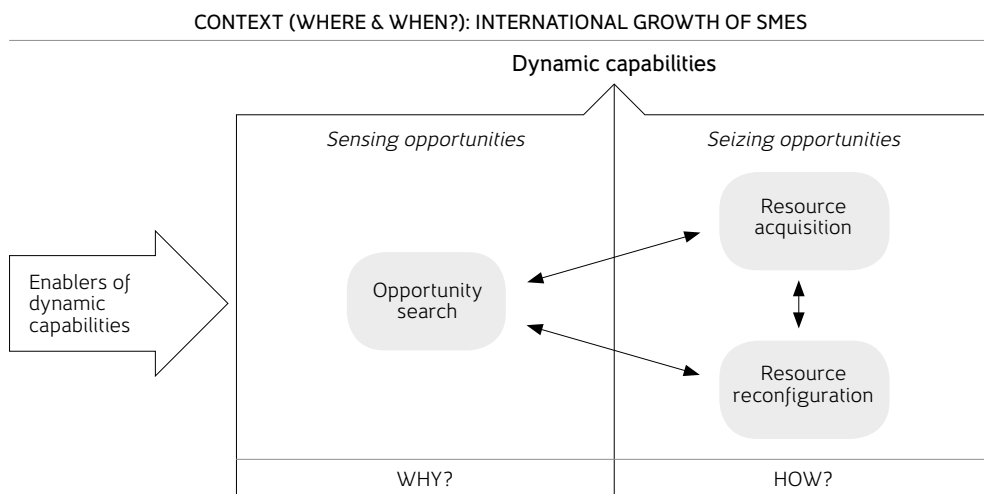
On the basis of the literature review (see for example Alsos et al., 2007), three forms of organisational processes underpinning dynamic capabilities were chosen to be studied more closely in this study. These processes (opportunity search, resource acquisition and resource reconfiguration) are investigated in the empirical part of this research by studying their role in the events that were identified as playing significant roles behind the studied SMEs’ international growth during the research period. In other words, by exploring the role of these processes in the chosen case, it is concretised why and how the studied SME seized the opportunities it sensed. Because dynamic capabilities are context-dependent, the circumstances (e.g. industrial characteristics, economic situation etc.) in which international growth took place and dynamic capabilities were analysed (where and when) also have to be noted.

The first processes underlying dynamic capabilities to be studied in this research are labelled as opportunity search. From the perspective of all entrepreneurial activities of a firm, these processes are fundamental (Stevenson & Jarillo, 1990). For example, to be able to launch new product innovations, the firm has to be able to search and combine new knowledge. On the other hand, there are numerous findings in the previous literature indicating that if the firm is able to effectively scan its business environment it can also respond more rapidly to changes in the environment (e.g. Thompson, 1967). As, for example, Jantunen (2005) puts it: recognition of business opportunities is an essential element in the dynamic capabilities framework. This dimension of dynamic capabilities is sometimes called sensing of opportunities (Teece, 2009).

After a firm’s managers have observed new business opportunities, they must figure out how to interpret new events and developments, which technologies to pursue and which market segments to target. Teece (2009) calls this dimension of dynamic capabilities seizing opportunities. In this study this seizing phase includes both the resource acquisition processes and resource reconfiguration processes underpinning dynamic capabilities. In other words, it is not enough to only observe a promising business opportunity; a firm’s management also has to be able to capitalize on it. If the firm lacks the relevant resources to do this, its management has to be able to search for new resources and add these into the firm’s resource base (e.g. Helfat et al., 2007). These needed resources can be, for example, new employees or new technologies. On the other hand, resource reconfiguration processes also play an essential part in the development of dynamic capabilities. A clear linkage can be found between the processes of resource acquisition and resource reconfiguration, and it can be stated that reconfiguration capabilities can lessen the need for acquiring new resources (Kuuluvainen et al., 2009). Examples of dynamic capabilities possessed by the firm

can be presented through studying the relationship of these three processes and the changes that emerged in the firm's business environment. In other words, dynamic capabilities are concretized by studying why and how firms have been modifying their processes to promote their international growth. The study's framework is illustrated in Figure 1.

Figure 1. Framework of the study



It is important to acknowledge that although these processes are reviewed, they cannot be studied entirely separately from each other. In other words, changes in one process bundle often mean that other bundles also need to be modified.

2. Study Design

Case-study research should not be thought of as a specific method, but more as a strategy, which could include the use of different kinds of methods for obtaining data (e.g. Stake, 2000; Ghauri, 2004). Consequently, there are alternative ways of doing case-study research and a researcher's choices are influenced by the study's philosophical and disciplinary background, its purpose, the nature of the research questions and the research design, including the number of cases to be researched (Eriksson & Kovalainen, 2008). This study is a single case study aiming to illustrate dynamic capabilities role in the international growth of an SME. The choice is justified since (as a consequence of studied firms' turbulent near history) the case provides an opportunity to create concrete illustrations of the phenomenon.

After the decision to rely on qualitative case methods in the study, data collection was the next step. Personal interviews formed the primary data source of the study, because studying the international growth processes of SMEs properly would not have been possible by relying mainly on structured telephone interviews and secondary sources. Although structured telephone interviews, newspaper and magazine articles and financial statements provided lots of information about the studied SME, the most detailed information concerning influential incidents behind the international growth in the studied firm was gathered from personal interviews.

Finally, the research data including two structured telephone interviews (conducted in 2004 & 2007), two personal interviews (conducted in 2008 & 2010) and one e-mail interview (conducted in 2010) with different managers of Information Technology Inc. (this and all subsequent firms are given fictional descriptive names that characterise either their core products or the industries they represent), together with a significant amount of secondary data, was analysed. The case firm was promised anonymity (supported e.g. by Alasuutari, 1994) because presentation of the firm by name will not increase the value of the results, and the researcher is not able to predict the publicity of the final work.

In case-study research, pre-planned systematic coding is often used when the study is grounded in existing theory, and it attempts to improve the theory (e.g. Yin, 2002; Eriksson & Kovalainen, 2008). Coding (often called data reduction) means that the features, issues and themes in the empirical data are classified and given a specific label, a code (e.g. Miles & Huberman, 1994). As a result of coding, research data are often divided into thematic or conceptual categories that can also include subcategories (Shank, 2002). In this research, these thematic categories were the same as the processes underpinning dynamic capabilities that were selected to be researched in this study (see previous chapter).

However, since the findings of the previous literature on dynamic capabilities are often very abstract, and in order to decrease the risk of misunderstandings, it was decided to make the studied processes more concrete (Table 2) – making coding of the data easier.

Table 2. Operationalised themes to guide the data analysis

Classification/meta-theme	Themes
Opportunity search ¹	Continuous search of new development ideas Continuous collection of market information Continuous review of business environment changes and their possible effects
Resource acquisition ²	Investments in human resources Investments in technology Increase in financing
Resource reconfiguration ³	Launch of new products and services Product improvements and modifications Process improvements

Note: ¹ See e.g. Teece et al. (1997), Eisenhardt and Martin (2000), Zollo and Winter (2002), Ambrosini et al. (2009)

² See e.g. Eisenhardt and Martin (2000), Rindova and Taylor (2002)

³ See e.g. Eisenhardt and Martin (2000), Danneels (2002), Zollo and Winter (2002), Zott (2003), McKelvie and Davidsson (2006)

At this point, the researcher had already formed a picture of international growth in the studied SME since he had several times read primary and secondary data carefully through. This had an influence on the researcher's selections concerning which change-related themes were chosen to represent the opportunity search, resource acquisition and resource reconfiguration processes. Therefore, at this point the data were also allowed to 'speak' and the researcher suspected that these operationalized themes were playing important parts in the international growth processes of the studied SMEs.

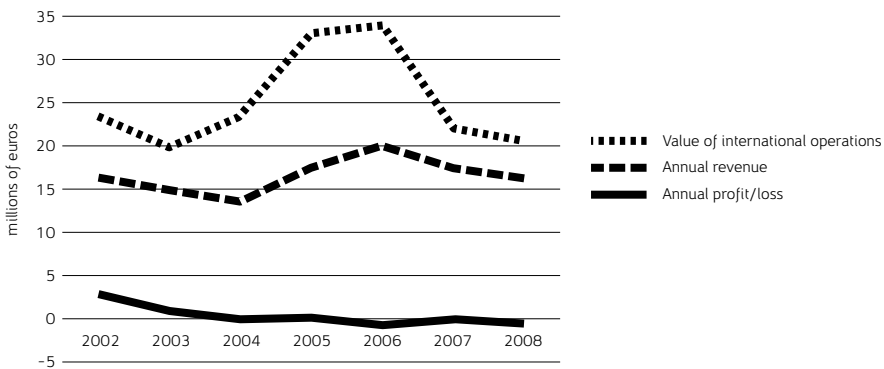
4. Information Technology Inc.: Acquisition as an Accelerator of International Growth

Information Technology Inc. was established in the early 1990s. The firm manufactures test and measurement products, which are primarily based on software used in certain high-technology industries.

The critical event identified as playing a major role in the international growth and development of Information Technology Inc. (see Figure 2) was the acquisition of US-based Load Measurement Ltd. in 2005. That event is described in this chapter.

The Figure 2 represents the absolute international growth curve of Information Technology Inc. In other words, it introduces the absolute monetary value of the firm's operations.

Figure 2. Information Technology Inc.'s growth development (2002–2008)



Source: Financial statements & data gathered from interviews

In pre-acquisition phase 2005, Information Technology Inc. announced to the press that the firm had signed a letter of intent concerning the acquisition of a US firm called Load Measurement Ltd. Load Measurement Ltd. was founded in 1996, it was profitable, and it had recently grown rapidly. In 2005, the firm employed about 75 people and its revenue was about 8 million euros (about 10 million dollars). In February 2005, Information Technology Inc.'s CEO valued Load Measurement Ltd. at about 21 million euros (about 26 million dollars).

The management of Information Technology Inc. declared that the acquisition would increase the level of the firm's customer service and make the product portfolio more versatile. Information Technology Inc. had a good market position in Europe and Asia; whereas, Load Measurement Ltd. was strong in the United States and had a manufacturing unit in India. Hence, the firms' primary markets were not overlapping but complementary.

One of the main motives behind the acquisition was that Information Technology Inc. already had a global sales channel ready for marketing the products of Load Measurement Ltd., and the firm wanted to move to the next size class. This required increases in its product range.

We had a joke that we were like shampoo sellers who had nothing else to sell than anti-dandruff shampoo. Every time a client wanted to buy shampoo we offered them anti-dandruff shampoo. (Director of Personnel, telephone interview, 2010)

Other motives behind the acquisition were primarily related to technological resources and capabilities. By combining the technologies of Load Measurement Ltd. with the ones already possessed by the firm, Information Technology Inc. aimed to strengthen its market position in VoIP (Voice over Internet Protocol) product markets. The importance of acquiring resources related to VoIP technologies was addressed in the interview of the CEO of Information Technology Inc.

We haven't been involved in too many VoIP products and solutions, and that is where Load Measurement Ltd. is strongest. (CEO, Secondary source, 2005)

The acquisition provided for a rapid entry into the VoIP test sector. VoIP was seen as a very promising new market, but developing products from scratch would have required significant efforts because there were competitors who had started their R&D in this sector much earlier. The development of new innovations and products is expensive and risky, and furthermore, Information Technology Inc. faced challenges in its innovation processes. In other words, not all of their new products have been successful.

We have been always working with the most modern technologies. Sometimes we've been investing in technologies that our clients have not needed after all. (Director of Personnel, interview, 2008)

In 2005, the firm's CEO mentioned that Information Technology Inc.'s primary markets continued to be in mobile markets, where they had regularly launched new test products and services during the past year. Instead, VoIP was seen as a means of expanding the firm's product offering to complementary product markets. Another motive for buying VoIP resources can be found by analysing the firm's competitor environment. Several of the firm's competitors had recently made similar acquisitions.

Providing a wider product range was clearly one of the focus points of the strategy used by Information Technology Inc. The firm's main clients, such as Mobile Co., were continuously decreasing the number of suppliers used and this development clearly favoured suppliers who could offer larger entities. This issue also came up during the CEO's telephone interview in 2007, and it partly explains the high growth-orientation of the firm.

Economies of scale are large and we want (to produce) higher volumes. We aim to become a large partner to our clients and a stimulating employer to our employees. (CEO, telephone interview, 2007)

To summarise, it can be stated that Load Measurement Ltd. fulfilled the criteria that Information Technology Inc. had set for the potential acquisition candidates: the firm possessed technologies that Information Technology Inc. did not yet have, it was large enough, and it served predominantly the same customers as Information Technology Inc. Furthermore, the products manufactured by Load Measurement Ltd. products were seen as a good addition to Information Technology Inc.'s product line.

5. Findings: Dynamic Capabilities in the International Growth of Information Technology Inc.

Several examples of the dynamic capabilities possessed by Information Technology Inc. can be identified by analysing the acquisition of Load Measurement Ltd. Dynamic and the capabilities can be identified by investigating how the firm's operational capabilities changed during the research period.

First, Information Technology Inc. operates in a high-tech industry requiring that the firm possess a large number of industry-specific technological capabilities (for example knowledge of hardware and software). These could be called the operational capabilities required to keep the business running. However, as a consequence of the acquisition of Load Measurement Ltd., these technological capabilities were reconfigured. It is stated that the deal was Information Technology Inc.'s response to similar acquisitions conducted by its main competitors. It is assumed that because those competitors had already acquired VoIP-technologies, Information Technology Inc. had to respond to ensure its future competitiveness. This is also in line with the observation that the firm's largest customers had started to reduce the number of suppliers they used. Centralisation usually leads to a situation where only the largest suppliers survive by developing their product offerings to be more versatile. This again requires that the firm is able to acquire new resources and capabilities and, therefore, to grow. So, Information Technology Inc. bought new resources and capabilities appropriate to the VoIP test sector and integrated these with capabilities it already possessed. Hence, Information Technology Inc. was able to expand its product offering and reduce the risk of being cut off by its largest clients (such as Mobile Co.).

Second, before the acquisition the great majority of Information Technology Inc.'s personnel had been located in Europe. However, soon after the acquisition, the geographical focus of the personnel started to change. Because Indian employees are far cheaper than Europeans, Information Technology Inc. started to transfer the majority of its production, and a significant share of its R&D, to India. As a result, the firm reduced costs and also the pressure on product price levels. This was important since the increased requirements of the business environment had forced the Information Technology Inc. managers to continuously search for new ways to increase the effectiveness of the firm's processes. This again was essential because the telecommunications industry as a whole was suffering, and the firm's customers had financial problems. Hence, the customers applied considerable pressure to prices. As a consequence of the pressure on its prices and the fact that several important customers had been lost due to mergers, acquisitions and bankruptcies, Information Technology Inc. had to increase the flexibility of its product prices. The acquisition alleviated the situation by providing access to Indian human resources. In doing so, the firm's management changed its human resource strategy significantly, ensuring that the firm would remain competitive in the future. There was also an additional motive for the acquisition. Although, Information Technology Inc.'s managers did not mention it in interviews, it is clear that Mobile Co.'s strategic decision to invest significantly in the Indian market also had a major influence on Information Technology Inc.'s desire to get access to India. In 2004, Mobile Co. employed only 450 people in India, whereas by 2008 that number had risen to over 15000. Today, India holds the distinction of being the second largest market for Mobile Co. globally and the corporation has three research and development centres in the country. In addition to Information Technology Inc., many other suppliers to Mobile Co. have also established sales

offices and factories in India. So, Information Technology Inc. must surely have been aware of Mobile Co.'s plans to expand its operations in India and therefore the firm's management decided to follow its key customer's strategy. After all, it was obvious that Mobile Co. would need a great number of Information Technology Inc.'s products in India, a factor that must have reduced the uncertainty related to the Indian market entry.

Third, the acquisition also provided new sales channels, local staff and new networks for the firm. Furthermore, these resource base extensions can become intertwined with the business environment changes because, again, the Information Technology Inc. management had clearly understood that the firm must grow to ensure survival in a very turbulent market situation. The firm's entry into the American market through acquisition was timed perfectly, as the following year the European and Asian markets, which had previously been the primary markets for the firm, stopped growing. However, sales in the American market increased significantly and ensured that the firm's revenue grew in 2005 and 2006.

Finally, Information Technology Inc.'s management followed its business environment systemically. An illustration of this was the firm's routine created to guide its acquisitions. However, this routine (and a tool created to assist in following the firm's market environment) also had dynamic elements since it was regularly updated. These updates were usually based on information gathered from discussions with stakeholders, from exhibitions or from the Internet. So, senior top management collated information in a common document that guided the search for acquisition candidates and ensured the document was regularly updated. Some firms, for example, were removed from the document as a result of mergers or bankruptcies, others were added in their place. At the same time this helped management to build an extensive picture of the development of the industry as a whole.

According to Zahra et al. (2006, p. 921) there are three essential elements that can be related to the dynamic capabilities studies. These are: 1) the ability to solve a problem (an operational capability), 2) the presence of rapidly changing problems (environmental characteristics) and 3) the ability to change the way the firm solves its problems (a higher-order dynamic capability to alter capabilities). A review of the case through the three essential elements of dynamic capabilities studies noted by Zahra et al. (2006) is presented in Table 3.

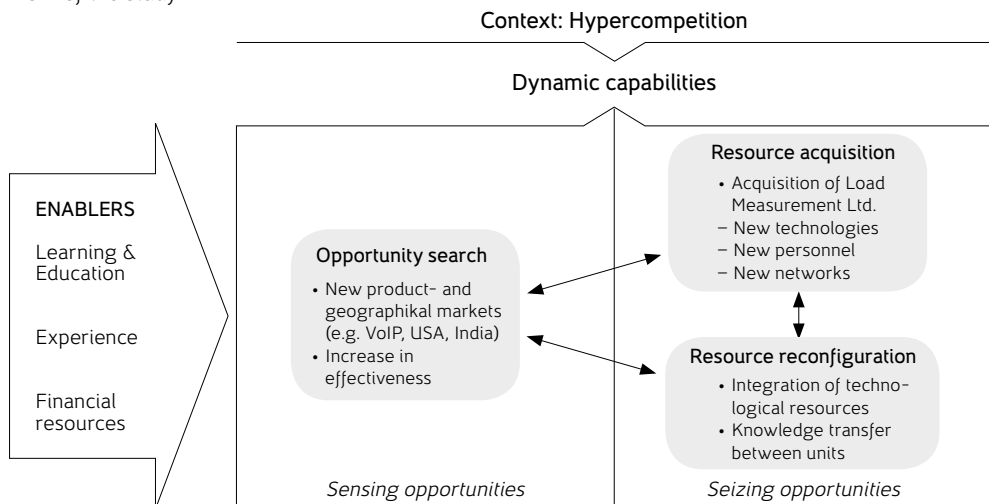
Table 3. Three essential elements of dynamic capabilities in the international growth of Information Technology Inc.

Operational Capabilities	Environmental characteristics/ Triggers for change	Change of operational capabilities/ Examples of dynamic capabilities
Technical capabilities (R&D)	VoIP-investments made by competitors; Need to expand product portfolio	As a part of the acquisition Information Technology Inc. bought significant VoIP resources and capabilities and integrated these with its already existing resource base. Therefore the acquisition was also a shortcut to VoIP markets.
Human resource capabilities (Recruiting)	Client's cost-saving programs	Information Technology Inc. increasingly began to transfer its operations to India. In practice, routine-level programming was soon being performed almost completely in India, whereas only the most demanding programming tasks continued to be coded in Finland. It can be stated that subsequently, Information Technology Inc. was forced to move its production from Finland to less expensive countries because in this business price is a very important factor in purchasing decisions.
Managerial capabilities (Acquisition capabilities)	The limits of organic growth were on the horizon	Information Technology Inc.'s management understood that the limits of organic growth were near and therefore they refined their strategy and conducted the firm's first international acquisition.

To summarise, when reflected against the definitions of dynamic capabilities introduced in the literature review (for example Teece et al., 1997 or Helfat et al., 2007), the examples presented above reflect the dynamic capabilities possessed by Information Technology Inc. very accurately. In these examples, changes in the firm's resource base were often related to changes in customer requirements (more versatile product offerings, price pressures) or changes in the competitive environment (acquisitions of VoIP technology, new geographical markets). In addition to changes motivated by the firm's external environment, the acquisition also influenced the firm's internal environment. This can be illustrated through management's assumptions that the integration of existing resources and capabilities with acquired ones would result in new product upgrades and innovations. Further, knowledge transfers between old and new personnel improved the effectiveness of the firm in India. In other words, good practices were successfully transferred between the firm's employees despite different cultural and educational backgrounds.

Information Technology Inc.'s acquisition of Load Measurement Ltd. can be illustrated in the theoretical framework of the study (Figure 3).

Figure 3. Information Technology Inc.'s acquisition of Load Measurement Ltd. in the theoretical framework of the study



In summarizing the case of Information Technology Inc., it is evident that the firm was able to grow, although its industry was no longer growing. In fact, the competitive situation in the industry was so hard that many competitors disappeared altogether. The reasons for Information Technology Inc.'s survival and growth can be found in its high-quality products, good customer relations and continuous search of new geographical and product markets. This required dynamic capabilities because the firm's management had to be able to modify its products, processes and internationalization strategies to remain competitive. When the acquisition of Load Measurement Ltd. is studied in detail, it is apparent that the relationships between opportunity search, resource acquisition and resource reconfiguration were highly intertwined (bidirectional arrows). The acquisition provided new markets and human and technological resources for Information Technology Inc. In addition, the integration of technologies already possessed by the firm with the resources it acquired provided added value to the firm.

6. The Limitations of the Study and Further Research Opportunities

Some limitations of this study should also be mentioned. First, the research design led to a sample of only one case. Therefore, the findings have a strong intuitive and conceptual appeal and statistical generalizability is not appropriate. It should be also borne in mind that the majority of the data was gathered at the time of an economic boom, which certainly influenced results.

Furthermore, this study has not devoted a great deal of attention to the relationship between environmental turbulence and dynamic capabilities. Researchers within the field are divided into those who relate dynamic capabilities with highly dynamic environments (Teece et al., 1997), those who acknowledge the relevance of the concept in both stable and dynamic environments (Eisenhardt & Martin, 2000; Zollo & Winter, 2002), and those who simply ignore the characteristics of the specific environment (e.g. Makadok, 2001). Although, the issue has been very popular among dynamic capabilities researchers, in this study it was not dwelt upon because the studied firm was operating in international markets and it was assumed that those markets are always quite dynamic from the perspective of SMEs.

The limitations suggest avenues for future research. It would be interesting to follow the studied SME in the longer term. When the impact of recession is studied, it would be interesting to see whether the studied SME has been able to maintain those capabilities identified from their operations at the time of international growth. In other words, financial problems may reduce firm-specific dynamic capabilities since the maintenance of them can demand investment in supporting processes. Examples can include employing new specialists, investment in R&D or in training. However, the recession forced many SMEs to cut expenditure, which may have meant that firms lost some of their dynamic capability. This again highlights how challenging the management of an SME can be. Management are expected to simultaneously plan for tomorrow and be able to modify their resource-base to cope better with the current business environment. So, the managerial dilemma is to decide which resources or capabilities are essential to maintain while the firm's business is suffering, and which resources or capabilities are less vital to the business and can be cut. For example, taking care of employees during the recession will probably pay back when the new growth starts and there is lack of skilled personnel. However, sometimes SMEs just need to decrease their costs and this usually requires that people have to be laid off.

Finally, although the SME studied here had achieved international expansion during the research period, the focus of the study was not on the relationship between dynamic capabilities and a firm's performance. However, it would be interesting also to study those SMEs whose international operations decreased during the same period. What kind of dynamic capabilities could be identified from these firms? If the firms shared very similar processes with SMEs that did expand internationally, could it be argued that a firm's performance is more dependent on the industry it operates in than on its dynamic capabilities? On the other hand, if failed SMEs clearly lacked dynamic capabilities, could it be argued that dynamic capabilities play an important role in a firm's performance? The above examples just go to show that there still remain many questions to be answered on the study of dynamic capabilities in the context of international growth.

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