Constructing the first customer reference to support the growth of a start-up software technology company

Jari Ruokolainen

Department of Industrial Engineering and Management,
Helsinki University of Technology, Finland
Home address: Eestinlaakso 2 b 6 FIN-02280 Espoo
Email: jari.ruokolainen@pp1.inet.fi

Abstract

This paper helps explore the important and notably under-researched topic of first customer references, for which a basic descriptive framework has been created. The purpose of this paper is to further test the framework, validating it by means of new insights reached via a longitudinal case study. The first customer references are especially important for start-up technology companies trying to enter a potential business-to-business market with complex products. This is illustrated by the case study described in this paper. The case company has repeatedly been forced to change its product and market focus and thus provides an excellent opportunity for analyzing the meaning of first customer references. The history of this software technology company has been studied from its inception in the mid-1980s until 2004. This present work is an embedded single longitudinal case study with two levels of analysis units: the company and its customer cases. Pattern-matching logic and time-series analyses were used. The idea is to compare the observed patterns with those introduced by the basic descriptive framework. Each case was analyzed and then a cross-case analysis was carried out over the time horizon. The programming theory is used for describing the iterative nature of the phenomena of the market entry although natural language is used instead of formal notation. The results of the case study demonstrate various aspects of the working of the framework in practice. The present study results in a correct business operations setup model after each customer case. The case study highlights that from the competence marketing point of view there are no failed customer cases if experimental knowledge has been gained. This means that in order to evaluate the start-up technology companies' capabilities to enter the market all the customer cases should be evaluated even the failed ones. Successful customer references may give only a partial picture of the gained capabilities.

Keywords: Customer references, Market entry, High-Technology market

INTRODUCTION

The first customer reference is especially important for companies trying to enter the very competitive business-to-business market for complex products. Without proof of functionality in the real world and a customer reference from a third party, it is hard or impossible to convince the next potential customer. The case company, T.J.S. Consultants Co., Ltd, is an example from the software industry of such circumstances.

The importance of the first customer reference is reflected in many aspects of the business. A customer reference is assumed to reduce the risk perceived to be present in a venture (Bauer, 1967; Hutt and Speh, 1992), to increase the suppliers' credibility (Blomqvist, 1997; Levitt, 1967) and to increase the supplier's reputation (Herbig and Milewicz, 1993; Doney and Cannon, 1997), and thus customer references can be expected to help start-up technology companies enter markets. The next potential customer can appreciate the credibility gained by the first customer reference more than the innovativeness or the price of the new product. The importance of the first customer reference is undeniable. Especially in the marketing of complex and software-intensive products, experimental knowledge is crucial (Johanson and Vahlne, 1977). However, being successful in delivering the first customer reference is a significant challenge. When the product and the supplier are previously unknown to the seller, the chances of failure are even higher than in any other business.

Topics relating to the use of a customer reference by start-up technology companies are notably under-researched. Salminen (1997) stated that using an industrial reference has not yet been studied in the scientific literature. Beard and Easingwood (1996) found that the commercialization process is often neglected in the literature on new product development, innovation and high technology marketing. According to the Quarterly Bulletin of the Bank of England (2001), there are only a few, quite recent studies that have dwelled on the questions important for the success of start-up technology companies. Earlier research on start-up technology companies has mostly focused on the characteristics of the entrepreneur and his or her teams. Despite the dearth of literature on the present topic, the studies of companies' entry into foreign markets (e.g. Johanson and Vahlne, 1977) could provide some interesting points to consider.

T.J.S. Consultants Co., Ltd has needed first customer references several times as it has been forced to change the focus of its products and customers during its start-up phase before the business took off. Each new start with a new software product was targeted at a new industrial field and a new group of customers. Within each new customer group, a first customer reference was needed in order to enter the market. The sequential trials for building the first customer reference provide an opportunity to study the iteration of the factors from one customer case to another.

A basic descriptive framework based on Ruokolainen and Igel (2004) and Ruokolainen (2005) explain the factors which seem to affect the building of a successful first customer reference. However those studies did not take into account the consequence of sequential cases for the creation of a successful first customer reference. The objective of this

present paper is to test the basic descriptive framework of *the use of the first customer reference* by investigating the effect of sequential customer cases. The research question of this present paper is whether market entry through sequential cases is supported by the basic descriptive framework.

The Uppsala model (Johanson and Vahlne, 1977), which highlights the meaning of factors similar to those in the proposed basic descriptive framework, emphasizes the dynamic side of building the business: "We can say that the present state of internationalization is one important factor explaining the course of subsequent internationalization." This indicates that internationalization is an iterative phenomenon. It can be proposed that start-up technology companies' entry into a market is also similarly iterative.

This present work is an embedded case study (Yin, 1994), with two levels of analysis units: the company and its customer cases. The three sequential customer cases, two failed and one successful, are presented from within the business. In the next section, the basic descriptive framework on *the use of the first customer reference* and the related factors are presented in the light of the literature review. In the case data section, the history of the company is briefly introduced and the three customer cases are presented. In the following section, the lessons learned and the variable patterns are cross analyzed over time. The iterative nature of the start-up technology company's market entry is also presented. In the discussion and conclusion section propositions to develop the framework are made. Managerial implications are also proposed.

DESCRIPTIVE FRAMEWORK

There has been much skepticism concerning the high-technology market (Mortiaty and Kosnik, 1989; Beard and Easingwood, 1992), especially after the IT bubble burst in the beginning of the new millennium. Theoharakis and Wong (2002) propose that the high technology market is overloaded with hype and the high-technology market can be perceived as being chaotic by the market players. Jae and Jung (2004) even state that where a dominant technology emerges, switching costs may make the new entrant's position unassailable unless there is a fundamental shift in the technology paradigm. New high-technology products and companies are appropriately considered sources of high risk (Shanklin and Ryann, 1987). Investments are made only when the start-up technology company is able to build sufficient credibility regardless of the expectations for fast growth and high returns. The value of the first customer reference is essential in attaining the necessary credibility to produce trustworthy market messages. This statement is also supported by the fact that the increasing complexity of products creates barriers for customer adaptation of the new technology (Sheth and Ram, 1987).

The partnership theory emphasizes the role of long-term cooperation, open and honest relationships, and mutual commitment (Keough, 1993; Spekman, 1988; Asmus and Griffin, 1993). If the seller is able to build and cultivate such partnership-based relationships with the customers, then the chances of success with the first customer reference are enhanced. If the existing cooperation is deeper and longer, it is more

difficult to intervene in its arrangements. Thus, the tendency towards longer term cooperation, especially in high-technology industries, can hinder competition. New players might find it hard to break the existing relationships.

Many managers of start-up technology companies tend to concentrate on solving technological problems at the expense of product commercialization (Freel, 1998). A successful first customer reference requires well-balanced management in the company. Prospects may not be identified if the managers focus too much on technical issues. In addition, according to a recent research study, almost half of the start-up companies investigated report that they had problems with marketing (Huang and Brown, 1999). It has been reported that the failure rate of start-up companies often exceeds 50% in the first eight years of business (Bygrave, 1997). In addition, Leonidoy and Katsikeas (1996) argued that market information can be accessed neither easily nor inexpensively.

The basic descriptive framework is planned to describe start-up technology companies' entry to the market illustrated above by using the first customer reference. The basic descriptive framework is formed from a process and related factors. The conceptual description thereof is shown in Figure 1 and Table 1. The process that leads to utilization of the customer reference for the benefit of business can be divided into three main periods: the first one is finding the first customer reference; the second one is implementing the start-up technology company's product for the first reference customer; and the third one is using the first customer reference for building the business. This periodization (Jessop 1990) was done to determine the independent factors i.e. outputs, which are the finding of a first customer reference, successfully exploiting it and expanding the business through its good offices.

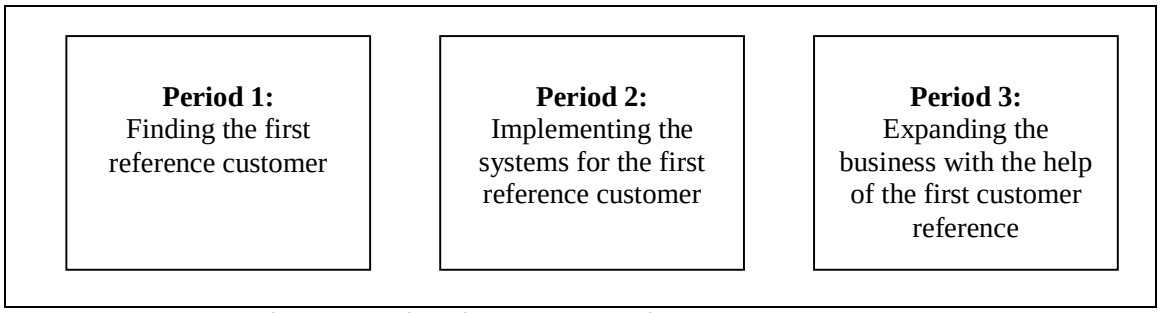

Figure 1: The process for the use of the first customer reference

The basic descriptive framework on 'the use of the first customer reference' consists of five factors, which affect different periods. The factors are as follows:

Table 1: Factors, their function and the related period

Factors	Function	Period
Social capital	Needed for finding the first customer reference	Period 1
Entrepreneur's background	Needed in implementing the product for the first reference customer	Period 2
Reference customer's commitment	Needed in entering the market and in implementing the product	Period 2 and period 3
Learning the experimental knowledge	Needed in entering the market	Period 3
Marketing values of the first reference customer	Needed in entering the market	Period 3

The phenomena surrounding the use of the first customer reference form a multivariate system. In empirical research, these variables represent the operational measurement of the real-world systems concepts. Appropriate management of the different variables at different times is required in order to build the first customer reference from a customer case. The basic descriptive framework was created and tested with a limited number of samples in previous studies. One of the research studies showed that the selected variables explained 70% of the growth in Thai software technology companies (Ruokolainen, 2004).

Overview of the variables of the basic descriptive framework

Social capital in finding the first customer reference

One way for a start-up technology company to open customers' doors is to use existing contacts and other associations between people and organizations i.e. social capital. Institutional theory seems to emphasize the role of trust as an essential part of social capital (e.g. Fukuyama, 1995; Putnam, 1993). It can also be assumed that those who have a relationship of trust with a customer may have a better chance of succeeding in entering a market. Several researchers have identified the role of social capital in setting up a start-up company (Aldrich and Zimmer, 1986; Otsgaard and Birley, 1994). Start-up companies can use the existing contacts of the owners to find customers or get venture capital (Birley, 1995; Eisenhardt and Schoonhoven, 1996). Actually, Granovetter (1985) and Block (1990) argue that market activities are embedded in social relationships. Despite extensive research on social capital Davidsson and Honig (2003) still remark that the knowledge of the processes of exploiting social capital is somewhat limited.

Social capital, which includes the informal contacts of the new entrepreneur, seems to be an important asset when setting up a start-up technology company. First customers are typically found through old friends, friends of friends, family ties, colleagues, ex-

employers, and other informal social channels (Ruokolainen, 2005). Granovetter (1973) illustrates this in his work, in which he identified a similar role of informal contacts in the USA labour market. The next job was usually not found directly through close friends or family ties but rather through the friends of friends and colleagues of colleagues etc. The pre-existing social contacts seem to be essential also in building and preserving the success of the first customer reference.

The technology market seldom pulls products of start-up technology companies and technology entrepreneurs rarely have knowledge on how to push their products into the open market. The option left for the entrepreneurs is to use their previous contacts with the potential customers. Almost half of the small enterprises investigated have reported that they have had major problems with marketing (Huang and Brown, 1999) including how to carry out promotions and how to execute market researches. Dodge (1994) also reports that start-up companies frequently encounter problems with financing and financial management. This can also be partly a result of facing difficulties in sales and marketing. Ruokolainen and Igel (2004) argue that start-up technology companies have problems in finding the first customer reference from the open market. This statement is also supported by the fact that Shanklin and Ryann (1987) report skepticism in the technology market. This means that it is hard for new players to enter the market. Many of the Thai start-up software technology companies seem to overcome the problems by using their social capital: 70% of the start-up companies have had previous contacts with their first reference customers (Ruokolainen, 2005).

Experimental knowledge developed from the first customer reference

The first customer reference can include a remarkable learning opportunity. A start-up technology company can learn essential knowledge from the first customer reference with regard to the development of the business. Start-up technology companies have reported that they use the first customer reference to further develop the product, find arguments for sales and marketing, learn project skills, and study the business logic in their industry (Ruokolainen and Igel, 2004). Johanson and Vahlne (1977) have studied companies entering a foreign market. They also emphasize the role of experimental knowledge gained through practical cases by setting-up operations. A good example of a practical case is building the first customer reference.

Nearly half of the start-up software companies studied in Thailand had used the first reference to test their technology (Ruokolainen, 2005). However, such companies have had a lower growth rate than other start-up software technology companies. Using the first customer reference as the basis for a sales argument seems to be infrequent. When this strategy was used by start-up software technology companies in the Thai sample, it turned out to be successful. Learning the project skills and the business logic, which are needed for building a software package, did not have a statistically significant correlation with growth. The first customer reference is important not only for testing the product technology, but also for verifying the business case. Such a concept includes understanding the business case behind the product including sales arguments, support functions and the readiness to solve the customer's problems. This approach is supported

by Gummesson's (1987) multi-headed customer and seller concept, which emphasizes multi-level contacts between sellers and buyers. The interaction approach (Hakansson, 1982) also highlights the importance of the relationships between companies instead of focusing on single transactions.

First reference customer's commitment to the business of the start-up technology company

Traditionally, it is believed that competition and the principle of arms-length distance in buyer-seller relationships help get the lowest price, as well as the best delivery and quality terms for the buyer (Spekman, 1988). However, in high technologies and complex product systems, long-term cooperation between the buyer and seller is necessary. Intensive cooperation and open knowledge sharing is often needed right from the research and development phase. The buyer needs the continuous cooperation of the seller in installing, operating, and maintaining a complex high-technology product. The partnership theory (Keough, 1993; Spekman, 1988; Asmus and Griffin, 1993) emphasizes the importance of long-term cooperation, an open relationship and mutual commitment. The consequences of not having an open relationship and mutual commitment have been addressed in the literature in several ways:

1. Disputes over intellectual property rights of the first reference are not rare (Bruce et al, 1995). Smaller companies have gone bankrupt when they have lost the intellectual property rights to their new products or new technologies. The financial resources of a small company can be drained when the company is forced to defend these rights in legal proceedings, regardless of which party is legally right. An essential precondition for a successful first customer reference is that the intellectual property rights are properly managed

2. There are also partly contradictory research results concerning the impact of customer involvement in the research and development process of the company. Companies can benefit from the lead-user methodology (Herstatt and von Hippel, 1992), in which research and development are done in close cooperation with a lead-user. Lead-user means the pilot customer user for the new product or service. However, it has been noted that in research and development, heavy customer involvement imposes a danger that the innovativeness of research and development can suffer (Bidault and Cummings, 1994). In some cases, a company developing a new product has ultimately lost its independence and ended up being a research and development subcontractor to its customer.

According to Johanson and Vahlne (1977) the companies' commitment to the foreign market is dependent on two factors, the amount of resources and the degree of commitment, which are dependent on specializing in a specific market. The start-up technology companies' commitment to the local market in terms of resources can be narrow. However, the degree of commitment can be high due to the need to specialize in a narrow market sector. Johanson's and Vahlne's view of the commitment is one-sided:

they do not take into account the customers' commitment to the business of the supplier as highlighted by the partnership theory.

The anticipated benefits of a first customer reference can be attained only if the customer is willing to invest in the cooperation and shows sufficiently strong commitment. It seems that, in practice, building the necessary commitment entails the customer paying for part of the development costs. On the other hand, the need for clear contracts must be emphasized when the costs of product development are shared. An agreement on the ownership of the intellectual property rights should be drawn up by the partners in advance when a common understanding prevails – not when conflicting perceptions of the ownership rights have already started to emerge.

Background of the entrepreneur

The background of the start-up entrepreneur is a factor, which is assumed to have an effect on the company's success. The implications of various types of entrepreneurial backgrounds have been widely investigated in the literature. For example, Freeser and Willard (1990) state that those start-up companies whose products are related to the last company an entrepreneur worked for before starting his or her present company tend to grow faster.

In the case of start-up software technology companies in Thailand, most of the new entrepreneurs had a deep understanding of the technology of their company based on their previous work experience. They usually had less experience in management and marketing. Freel (1998) states that technical entrepreneurs tend to concentrate on the technical aspects at the expense of commercialization. It can be argued that the background of an entrepreneur can help or hinder implementation of the first customer reference. Some of the Thai entrepreneurs of start-up technology companies had international experience from Siemens, IBM, and Microsoft. However, Ruokolainen (2005) was unable to find support for the idea that working experience in big international enterprises means success for their start-up companies.

The findings from Thailand support the hypothesis that the better educated the entrepreneur, the higher the growth of his or her start-up software company (Ruokolainen, 2005). Contradictory results have also been reported in research studies (Maes, 2001). Johanson and Vahlne (1977) called the knowledge gained through education 'objective knowledge'. They consider the knowledge gained through experimentation more important in the internationalisation process than objective knowledge.

The market value of the first reference customer

Beard and Easingwood (1996) prefer large companies to small companies as reference customers. The assumption is that potential customers find large companies as reference customers more convincing than small ones. This credibility of the reference customer can be called 'the market value of the reference customer'. Other features might also

increase the market value of the reference customer such as age or business sector. It was assumed that if the first reference customer operated in the key industrial cluster of the country, the start-up technology company providing the product would grow faster. According to recent research studies in Thai start-up software technology companies, the market value of the first reference customer does not correlate with the growth of a start-up software technology company (Ruokolainen, 2005). According to the same study, together with the other variables in a regression analysis, the key industrial cluster explains nearly 70% (adjusted R square) of growth.

METHODOLOGY

Yin (1994) and Eisenhardt (1989) have described in detail the use of case study research in management inquiry. This present work is an embedded case study (Yin, 1994), with two levels of analysis units: the company and its customer cases. Yin introduced three different dominant modes of analysis for case studies. In this present research, pattern-matching logic and time-series analyses were used. The idea was to compare the observed patterns with those introduced by the basic descriptive framework. Each case was analyzed and then a cross-case analysis was carried out over the time horizon.

The longitudinal single case study is also used for studying the iterative phenomena of the start-up technology companies' entry into the market by following-up the iteration of the factors in the time horizon from one case to another. The nature of the phenomenon in this present research is contingent teleological. Unbounded design or contingent teleology occurs when the end-state is not specifically predetermined, but rather is the result of selection of one from among several available alternatives (Ayla, 1970). The construction of a customer reference aims at market entry, which can fail or succeed. Holmlund (1977) writes that the relationship management as it happens during building a customer reference can be divided into sequences and further into episodes and acts. Similar to Uppsala Model (Johansson and Valhne, 1977) it can be stated that the present state of acts, episodes and sequences affects the course of following acts, episodes and sequences. In addition to the current state of the system investigated in this present research the goals set for the company affect the actions planned to be taken in order to reach the goals. The goal can be described by a set of postconditions and the starting state can be described by a set of preconditions. The length of the period of the longitudinal case allows the real sequence of events to be followed in order to find out how the variables iterated from case-to-case toward the goal.

The above approach can be formalized by using programming theory (Gries, 1983). According to programming theory programs can be presented by using the following notation {Q}S{R} where Q and R are predicates and S is a program. The notation has the following interpretation: "Completion of S starts by satisfying Q and ends by satisfying R in a finite amount of time." Q represents a precondition for starting the program, and R represents a postcondition that must be satisfied to exiting the program. In this present research, S can consist of completing one or more customer cases, in which each customer case represents one iteration step, S'. During the completion of S' the related factors might be altered and thus the state of the system also changes during each

iteration step. It can be proposed that the notation {Q}S{R} provides a structure for presenting the results of an iterative phenomenon. The notation does not indicate if the iteration is deterministic or heuristic.

The case company was chosen because the company found it necessary to change its business direction three times before the business took off. For each new start, it needed a new first customer reference. From the longitudinal case study point of view, the sequential changes of business direction provide an important opportunity to follow the evolution of the variables from case-to-case. The collected information contributes to this present research by giving an overview of the events relating to three different customer cases, and how the company has grown since. Each of the three sequential customer cases represents an attempt to build the first customer reference.

The history of the case company includes information dating from its birth in the mid-1980s until 2004. Researchers from the Asian Institute of Technology and Helsinki University of Technology first gathered information relating to the case company, T.J.S. Consultants Co., Ltd, in the mid-1990s as part of a large survey on Thai technology companies. A follow-up study was conducted in the late 1990s.

The author of this present study interviewed the entrepreneur for the first time in 2000 in the premises of the Software Park Thailand. In order to complete the history of the events leading up to getting the first customer reference, the entrepreneur was interviewed several times during 2003 and 2004. The entrepreneur also lectured on the history of her company in a course at an Asian university in 2002. The entrepreneur discussed openly about the difficulties and problems she had faced as an entrepreneur. This was recognized and appreciated by the researchers and her students. In the interviews with the entrepreneur the constructed story of the case company was reviewed in order to complete the picture. The entrepreneur was also approached by email to solve questions that occurred whilst writing the research. So as to gain a better understanding of the meaning of the customer reference, one of the potential customers was also interviewed. In addition, the case company specific reports of the earlier surveys were available for this present research. All the material collected, such as marketing brochures, www-pages and reference customer lists were also very helpful for tracking the events of the company and their sequence.

Table 2*:* Date and place of the interviews

Interviewee	**Date**	**Place**
Managing Director	19.7.2000	In the premises of Software park
Managing Director	16.7.2001	At Asian Institute Of Technology
Human Resource manager of the potential customer	3.1.2002	In the customer's office
Managing Director	7.6.2002	In the office of the case company
Managing Director	7.1.2003	In the office of the case company
Managing Director	28.9.2004	In the office of the case company

Material was also collected for writing a teaching case study (Ruokolainen *et al.,* 2005) of the case company including recent balance sheets, status of current competitors, staff interviews, and the potential next customer. The teaching case material was tested in several courses with technology entrepreneurs and MBA students approached by an Asian university. The students used the material in several lessons to evaluate the story from the venture capitalist's perspective. The questions asked by students were discussed first in the lessons and then in meetings with the entrepreneur. The case study material, as well as the earlier version of this present paper, was pre-checked by the entrepreneur. This present research study only focuses on getting the first customer reference. Therefore, not all the collected materials are relevant from this case study's point of view. However, it is believed that going through the history of the case company in different situations and points of time with the help of the previous research records didn't leave much space for preconception. The entrepreneur of the case company did not regard her business as successful at the time of the interviews. However, she preferred her entrepreneurial independence to working in an enterprise as an employee.

Based on the previous facts the data collected from the case company for this present single longitudinal research was considered valuable and rather rare.

CASE DATA

Background of the case company

The case company, T.J.S. Consultants Co., Ltd, was founded in the mid-1980s in Thailand. It has produced complex software systems for human resource management for companies operating in Thailand since the beginning of the 1990s. In the start-up phase, the company was looking for a focus in its business by carrying out three different 'first customer reference cases' one after the other before the business took off. In other words, three cases of trying to build the first customer reference are studied in this single longitudinal case study. The case company spent more than five years getting started. These three cases are introduced in the following sections.

The entrepreneur has a doctoral degree in mechanical engineering from the USA. She worked as a programmer and software designer for an international oil company and afterwards as the head of department in another company before setting up her own.

The first customer case

The first customer of the case company was one of the largest pig farms in Thailand, owned by the entrepreneur's good friend with whom she had often been in contact since school. This friend and customer had connections with major players in the pig rearing industry. From the entrepreneur's point of view, the case looked to be a good opportunity to develop a software product for managing pig farms and for devising feeding plans for pigs.

The idea of the software package was conceived and developed together with the first reference customer. The focus of the joint development was on determining the specifications and figuring out the business logic for the pig feeding system and implementing it. The first customer was willing to act as a test site, thus helping to verify the functionality of the new software. The entrepreneur contacted a professor at a local university to get a better understanding of the optimum feeding process. The software package was finalized with contributions from all of the parties involved, without considering the question of ownership of the intellectual property rights. The entrepreneur commented that her team learned much about how to build software systems.

The case company, T.J.S. Consultants Co., Ltd, and the local university together arranged a seminar and an exhibition for pig farmers introducing the opportunities offered by the new technology. In the seminar, the new software package and the first reference customer's experiences with the new system were presented to the pig rearing industry as a success case. The price of the package was considered modest by potential customers. The development cost of the software product was paid by the case company.

It soon turned out that only large pig farms wanted to use the software product offered by the case company. Small and medium-sized farms preferred to use software packages distributed free of charge by pharmaceutical companies. Pharmaceutical companies delivered their software products to farms to support their sales. However, large pig farms did not want to become dependent on one pharmaceutical supplier. Therefore, they were interested in using software products provided by an independent software company. Taking into account the modest pricing of the new software package and the low number of large pig farms in Thailand, it was clear that the anticipated business could not be profitable.

As the home market could not generate enough revenue, the case company attempted to export the software product to a neighboring country. An agent, a local software company, was found to help in this endeavour. Six software packages were sold, and then the agent suddenly disappeared. All subsequent efforts to contact the agent firm failed.

Although the software product was developed and implemented successfully, the attempts to make revenue from selling the software to pig farms ended in failure. The entrepreneur felt afterwards that the work done at that time was valuable, although the project itself failed. During this initial business stage, the entrepreneur and her team gained valuable experience about markets.

The second customer case

After the first case, which failed to introduce a new product to the market, the business idea of the case company, T.J.S. Consultants Co., Ltd, was to provide customized software development services for mainframe computers. One of the ideas of the entrepreneur was to become a subcontractor for a big local company via IBM. The first contact with IBM was earlier made through the entrepreneur's student colleague, who

asked her to make a presentation of the case company, T.J.S. Consulting, for IBM in Thailand.

One of the main Thai car part manufacturers had contacted IBM to get a quote for a management information software system. IBM asked the case company, among other potential providers, to tender for a Human Resource Management system, which was a part of the total delivery package. IBM had found that standard overseas software packages were not compliant with the complicated Thai labor and tax legislation. The HRMS would be a large software package, including modules for managing the recruitment, payroll, appraisal, and many other functions of the company.

The entrepreneur got invaluable help from a friend who joined her company to prepare the offer. This friend had experience preparing proposals for large projects in an international accounting company. The case company won the contract to produce the Human Resource Management System as a subcontractor to IBM at a fixed price. Although IBM subcontracted the systems from the case company, IBM's role was more or less that of an intermediary: the case company was clearly responsible for delivering the required system to the customer and it dealt directly with the customer in matters concerning the system's delivery and development. Thus, the primary customer from the case company's perspective was the car part manufacturer, although some of the requirements came from IBM.

Development of the software package turned out to be more difficult than anticipated. The entrepreneur had no prior experience in managing software development and a project of this size. In addition, IBM required the case company to use documentation and project management practices, with which the entrepreneur and her team were unfamiliar. The project was delayed by about one year.

The end customer, the car part manufacturing company, also introduced requirements, which had not been included in the original specification. According to the entrepreneur, another reason for the delay was that the project was over-staffed and the employees of the case company were too inexperienced with the technology used in the project. The company had hired six new employees just before the project. The entrepreneur was busy managing the projects and teaching new employees and therefore did not have much time to spend on commercial aspects.

Despite the delays, the case company was able to successfully develop the software product. The end customer applied the new software in its operations for four years and was satisfied with its performance. The entrepreneur commented: "You could say that the company was my first reference in software development service for a large computer system." The entrepreneur felt that it proved her ability to build large computer systems for customers, at least to herself.

Despite the customer's satisfaction, T.J.S. Consultants Co., Ltd had lost about 5 million baht on the project. This sum was more than twice the initial capital of the company. After intense negotiations with the entrepreneur, IBM agreed to cover part of the losses

arising from implementation of the additional requirements demanded by the end customer. IBM paid 1.2 million baht on top of the original contract. The case company was saved from bankruptcy by M-Group Holding Company, which was co-opted and invested 10 million baht.

The third customer case

The M-Group investment enabled the case company, T.J.S. Consultants Co., Ltd, to develop a new product. This was a commercial software package, based on the software delivered to the car part manufacturer as an outcome of the joint project with IBM.

When this first customer found out that the case company was developing a commercial software package from the original software, it contacted the entrepreneur through IBM and accused it of violating its Intellectual Property Rights. However, the COBOL programming language that had been used in the original software was replaced by a newer software package, Progress, a 4th generation programming language. A different platform and a different database were used. Therefore, it was not easy to prove the accusations.

This first reference customer, the car part manufacturer, stopped all cooperation with the case company and started buying maintenance services from another company. The case company ended up not only losing its first customer, but also its first customer reference even though the customer was successfully using the product. The case company again needed a first customer reference.

In the old research files at the Asian Institute of Technology, there is the record of the entrepreneur's interview made at the beginning of the 1990s. The entrepreneur told of having major problems with marketing and finding customers. She had just lost her first customer reference, the customer of the second case, and was searching for a new customer reference from the open market. Even in 2003, the entrepreneur can recall that it was very hard to find a new first customer reference for the revised Human Resource Management System software package. She had a tough time convincing potential customers of the ability of her team to implement and to maintain the revised Human Resource Management system and the advantages of this system. She also had difficulty in persuading potential customers that the system was really worth the price they were being asked to pay. In other words, she had to put much effort into developing sales arguments to convince customers of the benefits of her system while she was not able to use the reference openly.

Eventually a large, well-known Thai construction company was found after an extensive search. They were interested in the Human Resource Management System, but the price of the software package had to be cut by about 50% before the case company was able to close the deal. The customer project went quite smoothly without major snags with the help of the knowledge gained from the previous customer project with the car part manufacturing company in the second case, and the time spent in becoming familiar with the new technology. The construction company was ready to act as the first reference

customer. The entrepreneur said: “After we got the first reference customer, we were able to sell our package to other customers more easily.” She felt that the first customer reference had given credibility to her company and that potential customers’ trust in her team had increased.

Growth after gaining the first customer reference

Since finalizing the first real customer reference in 1993, the company has grown steadily as Figure 2 demonstrates.

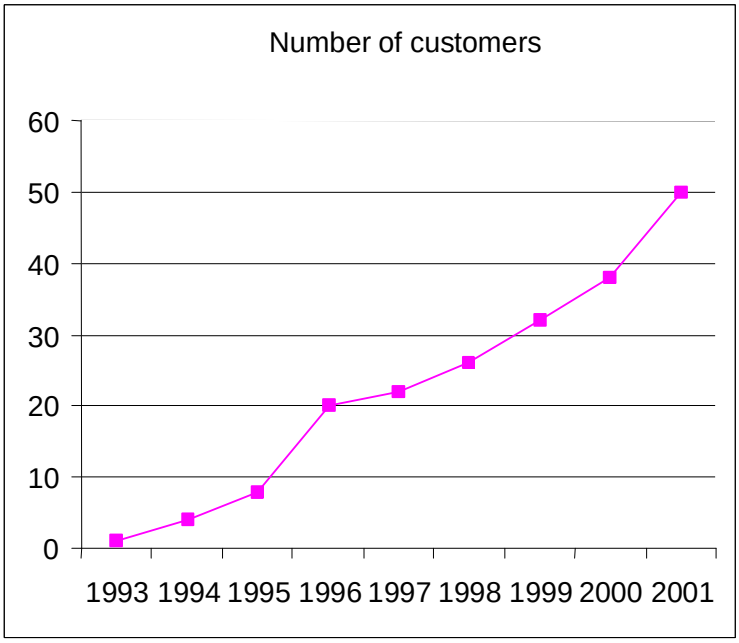

Figure 2: Number of customers of T.J.S. Consultants Co., Ltd since 1993

The number of customers for the Human Resource Management System software product of the case company steadily increased to 20 in 1996. In the beginning, customers required plenty of system modifications to fit their specific needs. Later, the system was developed as a set of standard modules to minimize the need for customer specific modifications. The company has since concentrated on providing this software product and offering implementation services. The sales of the case company, T.J.S. Consultants Co., Ltd, reached 30 million baht, which is about 0.6 million euros, in 2004.

The rapid development in computers and software technology enabled the case company to introduce new versions of its software product. The old version of the product, based on a character-based user interface, was reprogrammed in 1996 in order to implement a graphic user interface. The latest version, which was introduced in 2003, included a www support feature based on Oracle’s technology.

Currently, the case company uses its customer references extensively. For example, customers' comments are included in the company's marketing material. The case company has around fifty important reference customers according to its marketing material. The list includes companies that have been customers since the post start-up phase.

The important thing about customer references is that they add credibility to the company as a whole, not just to a specific product of the company. This was illustrated by one of the potential customers. The potential customer evaluated the vendors of a new human resource management system. Selection criteria were classified into categories concerning product and price, experience and skills, and customer references. The case company and its rivals used their customer references not only to substantiate the functionality and business benefits of their products, but also to provide evidence of their experience, existence of right skills and ability to take care of relationships. The number and size of the completed projects were also used for comparing the vendors. The size of the reference customers was not highlighted. Since the products of the companies were similar the real criteria for selecting a vendor were non product-related.

The case company also uses existing reference customers to promote newer versions of the product, to get short-listed by potential customers as the above example shows and as a way of keeping in touch with them. Customer references are collected to support the marketing effort. One is left in no doubt of their purpose, when one sees the number of customer testimonials on the company website, as the following quotation illustrates: "Judging by the number of customer references on the website, which are all from large companies, the company must be quite something."

LESSONS LEARNED

All three cases demonstrate the use of factors relating to the basic descriptive framework. The benefit of the longitudinal approach is that the iteration of related variables can be followed over a long period. The development of the following factors, in particular, is followed from case-to-case: how social capital helps get the first customer reference; what the focus of learning was in the customer cases; how the entrepreneur's experience, skills and background evolved; and how the commitment of the customer changed. The market value of the reference customer is also discussed. The case-variable matrix in Table 3 gives the overview of the evolvement of the variables in the time horizon.

The meaning of social capital according to the longitudinal case study

The initial contacts with the customers were created through different social channels in the first two cases. In the first case, the contact was an old school friend. The contact was essential in getting this customer case. In the second case, a student colleague helped the entrepreneur establish the business contact. It can also be assumed that the contact was critical. The two cases demonstrate well the benefit of the social capital highlighted by several scholars, for example, by Birley (1995) and by Eisenhardt and Schoonhoven (1996). The meaning of social capital is also well demonstrated in the third case. The first

customer reference of the second case was lost and the first customer reference had to be found again on the open market, which turned out to be difficult as was reported by a survey carried out by researchers from an Asian and a European University in the beginning of the 1990s. The entrepreneur also confirmed that finding the new first customer reference was difficult: she did not have the right contacts or a customer reference.

After successful implementation of the third case, the next customers were more easily found. The entrepreneur also stated that customers' confidence in her team increased. The history of the case company clearly demonstrates the importance of social capital in acquiring customers in the initial phase of the start-up technology company, but it also clearly demonstrates the decrease in the need for previous contacts for next potential customers after getting the first reference customer. The reason why social capital is unimportant for getting customers in the later phases could be that the work done for the first customer reference starts to speak for itself: the potential customers can visit the reference site and can listen to the reference customers' experiences (Salminen and Möller, 2004).

Maturing through learning – objective versus experimental knowledge

None of the three first customer reference cases include elements in which the entrepreneur could have used her primary objective knowledge in mechanical engineering. It can be argued that in this respect, none of the cases represented an optimal first customer reference. The entrepreneur had a product development background. She understood how to work systematically towards a complex objective. The knowledge and experience gained from working for an oil company as a programmer had helped her produce and implement the software packages in all three cases.

The entrepreneur felt that the first case demonstrated that she knew least about marketing and selling. She did not know how to develop effective sales arguments. The arguments should have been tested early on in the development work in order to find the sales arguments which would have made sense to the next potential customers. The customer of the third embedded case was found from the open market after putting an effort into sales activities. The company learned sales arguments and how to use them to look for a new potential customer case.

The second case showed her that she did not know enough about managing large projects and product management before the case. She learnt the necessary project management skills whilst carrying out the projects. The entrepreneur also felt that the case company did not have enough technical knowledge. She had to hire new inexperienced staff for the second case. The first two cases were used by the company to learn major skills relating to technology including system definition skills. The project of the second case was delayed because of the lack of the requisite skills mentioned previously. It can be assumed that if the case company had few technical skills and the project was delayed, customer dissatisfaction increased because of that.

The most remarkable thing from the case company's point of view was that the entrepreneur learnt with the help of the first two cases to transform the case company into a company which could develop and deliver human resource management systems. This longitudinal case study shows how the entrepreneur succeeded in accumulating knowledge from the cases over the follow-up period.

The basic descriptive framework states that start-up companies should focus on developing sales arguments and avoid testing the technologies with the help of the first customer reference. All three cases demonstrate the effect of the combination of these two variables. In the third case, the focus was on finding the sales arguments in a situation where the technology expertise was on a level that caused no major problems. In the previous two cases, one or both of these were missing. Johansson and Valhne (1977) emphasises the importance of experimental market knowledge which can be used to perceive concrete opportunities. They also state that "especially in the marketing of complex and software-intensive products, experimental knowledge is crucial."

This present case study also demonstrates how the business knowledge of the entrepreneur has developed since starting the company. The case also demonstrates the role of objective and experimental knowledge, both of which are needed: Objective knowledge and previous work experience are needed before starting to enter the market. The experimental knowledge learned through customer cases is needed to gain the market specific knowledge relating to the product.

The commitment of the first reference customer

The commitment of the customers varied from case to case. In the first and third cases, the customers were committed to the success of the case company in different ways. In the first case, the commitment happened mainly through friendship, but also through paying part of the development cost, and in the third case, mutual commitment was achieved by sharing the costs. In the second case, the customer's commitment was lacking: the development costs were paid by the customer and the customer might have felt that it owned the intellectual property rights of the product and that was surely not in the interests of the case company. The case company had no close contact working for the customer who would defend the interests of the case company. The three cases demonstrate on one hand the consequence of the iron-hand approach of the customer, but on the other hand the importance of customer commitment from the start-up company's perspective. Similar consequences, as reported in this study, of the both approaches are reviewed in the literature (Spekman, 1989; Keough, 1993).

In the second case, the approach of the customer nearly caused the failure of the project and insolvency of the case company. The customer approached the case company in the traditional way in order to gain significant benefits. The customer had no interest in helping the case company survive. This was proved when the customer stated that it owned the intellectual property rights.

The market value of the reference customer

In all three embedded cases, the customers were large, established enterprises. In the first two cases, the customers belonged to the key industrial cluster of Thailand. In the third case the first real customer reference did not come from the key Thai industrial cluster as the framework proposes. It was thought that those customers which operate in key industrial clusters of the country might have valuable and competitive business practices to teach the start-up technology company. However, this research was not able to clearly support the statement of the importance of the market value of the reference customer.

Having a large enterprise as a first reference customer did not necessarily make it easier to get further customers as was recommended by Beard and Easingwood (1988). On the contrary, large enterprises are capable of ruining the business of the start-up technology company if they so desire as the second customer case with the car part manufacturing company nearly demonstrated. One of the entrepreneurs in Thailand reported that it is enough if the first reference customer is a small or medium-sized company with a good reputation. According to Wilkinson *et al.* (2005) companies seek business partners similar to themselves. There is a tendency for big companies to select big companies for their partners instead of small companies. Wilkinson and Bernett (1987) illustrate this well by referring to a small Australian exporter who stated that the company deliberately sought smaller companies as distributors because they stayed on the same wavelength.

Describing iteration of the multivariate system

The purpose of the current research was to test the basic descriptive framework in the light of the sequential cases. The longitudinal case study demonstrates how the variables iterated from case-to-case towards the state in which the business eventually took off. This present research and the Uppsala Model (Johanson and Vahlne, 1977) emphasize the iterative nature of the companies' entry to new markets. As was earlier postulated, the description of the iteration can be built by using following the notation {Q}S{R}. In this present research each customer case represents one iteration step, S', and S represents building the ability to enter the market through one or more sequential customer cases, in other words, one or more iteration steps. Q represents precondition, which is needed to be satisfied before starting the iteration. R represents the post-condition, which is needed to be satisfied in order to exit the iteration. When carrying out S the related variables and resources can be altered as the end result of each iteration step, S'. In other words, completion of a customer case can change the state of the system in question. Using the classification as proposed the results of this present research can be illustrated as follows:

- The precondition, Q, to start the iteration process for building the first customer references to support growth through one or several customer cases, consists of the following elements: previous work experiences and education are needed for building the customer reference and the redevelopment of the product if needed. Previous work experience and education can be static variables in the process, for example, they were unchanged during the realization of S in this present research.

Previous contacts to customers are emphasized by this present research. The contacts were needed for getting the potential first customer reference.

- The necessary post-condition, R, for exiting the iterative process consists of the following items: solid marketing and sales arguments are needed in order to get subsequent customers; the focus should not be on testing the product technology while building the first customer reference; and the commitment of this customer to the start-up technology company is also needed. Other exit criteria may be related to exhaustion of resources such as financial and social capital. If no resources are available then in most cases goals cannot be achieved.
- Each iteration step, S', can change the variables and the state of the system through the fact that in each iteration round, during the completion of a customer case, start-up technology companies can learn experimental knowledge, such as sales arguments and technology related issues, from the customer cases. Resources are either gained or lost, and, therefore, for example, before completing a new customer case social and financial capital is usually needed to be checked before taking a new iteration step.

The precondition and post-condition concretize the meaning and the role of the variables of the basic descriptive framework. Some of the variables are needed for fulfilling the precondition for starting carrying out S, while the others are needed for fulfilling the post-condition in order to stop carrying out S. Table 3 illustrates the business taking off after all the post-conditions were satisfied. There can be other variables, which might affect business success, but this present research proposes the variables studied in combination can affect success in entering the market. Gries (1983) promotes using the weakest precondition in order to prove the rationale. Other preconditions might ensure the success of the program, S, but the rationale behind the program carrying out the iteration steps is hard to validate.

Table 3: **Pattern matching-matrix describing and comparing each iteration round**

Variables / Condition type	**Case 1: 1986-…**	**Case 2: 1988-…**	**Case 3: 1992-…**	**After: 1994-...**	**Longitudinal pattern matching outcome:**
Prior contacts with the customer **Q: Precondition**	The customer's company was owned by a friend	A student colleague	*No contacts: major difficulties in finding the first customer reference was reported*	Need to use previous contacts for finding new customers decreased	Finding the 1st customer reference without social capital was problematic
Education and previous work experience **Q: Precondition**	PhD in Engineering, work experience in software engineering	PhD in Engineering, work experience in software engineering	PhD in Engineering, work experience in software engineering	PhD in Engineering, work experience in software engineering	In all of the cases the implementations were successful
Customers belonging to a key industrial sector **Q: Precondition**	First reference customer operated in one of the key industry clusters	First reference customer operated in one of the key industry clusters	*First reference customer didn't* operate *in one of the key industry* clusters	Variety of business sectors	No clear evidence of the significance of the first customer market value
Learning focus not on technical skills: **R: Post-condition**	*Learning how to develop technical systems*	*Learning to use the technology was one of the major efforts of the team*	Technical competence was already gained with help of Case 2	Case 3 proved that the basic competence existed; new technologies to be learnt	In failed cases focus on technology; accumulation of technological knowledge occurred.
Learning focus on sales arguments: **R: Post-condition**	*Insufficient focus on learning sales arguments*	*Focus not on sales arguments*	Focus on sales arguments – the need for developing the sales arguments to get Case 3	Sales arguments and the references exist to support sales argumentation	In the last, successful case, the focus on developing sales arguments
Mutual commit-ment through sharing cost **R: Post-condition**	Cost shared, customer was committed due to friendship, no issues raised over IPRs	*Cost not shared, customer was not committed, issues* raised *over the IPRs*	Cost shared, significant discount was given, customer committed, no issues raised over the IPRs	No major difficulties except in exporting	In one failed case no customer commitment
Cross variable pattern matching outcome:	Case1 failed: two post-conditions not fulfilled *(italic font)*	Case 2 failed: three post-conditions not fulfilled (*italic font*)	Case 3 succeeded: all post-cond. fulfilled; two precond. not fulfilled; (*italic font*)	References, sales arguments and skills in place	

CONCLUSION AND DISCUSSION

While the conclusions of any case study research may be and often are limited for their external validity due to the limited sample size, the cases introduced here do point out potentially contributory conclusions and future research topics. The company case and the three embedded cases demonstrate the basic descriptive framework in practice. The previous contacts for the customer are often needed in order to convince the first reference customer. It is proposed that the focus should not be on testing technology if the primary intent is to use the first customer reference to support the growth of the start-up company. Concentrating on developing sales arguments, which are often the verified business benefits of the customer reference, can help get further business. The start-up technology company should also ensure the commitment of the customer to its business, for example, no problems with Intellectual Property Rights. Objective knowledge and previous work experience are usually needed for creating the customer reference. The successful use of the first customer reference forms a multivariate system, the practices of which were described in the basic descriptive framework.

However, it can be concluded that the basic descriptive framework only gives a limited view of the start-up technology companies' market entry. This present research indicates that market entry can also happen through several customer cases. In practice this means that the identified factors and variables should be divided into post-conditions and preconditions as has been done in Table 3. Preconditions are to be met before starting the iteration and post-conditions are to be fulfilled before stopping the iteration. In order to improve the basic descriptive framework the following proposition could be made:

1. *The start-up technology companies' entry* in*to the market is a stochastic iterative process, S, which satisfies preconditions, Q, and* post-conditions*, R, and consists of one or more iteration steps, S'. Activities of an iteration step can change the current state and the next state depends on the current state.*

One problem with the basic descriptive framework is that it does not clearly highlight the iterative accumulation of knowledge. For example the basic descriptive framework proposes that the business knowledge provided by the key industrial clusters of the country could be useful. The present research shows that the first two cases could have provided the knowledge but not the third case. If the prediction had been done based on the third case then it could have given false results. This means that the status of the variables should be followed-up over the iteration steps. Actually this is interesting because it means that the whole history of the start-up technology company should be considered if it is evaluated. It also means that every customer case, even failed ones, should be studied in order to see if a start-up technology company has acquired the necessary competencies. The building of the market entry could be analogical to building a puzzle: pieces need to be in place before the picture is ready, but some of them can be put in place in different order and at different points in time. In order to enlarge the basic descriptive framework to be more dynamic this factor should be taken into account. The following proposition can be set:

2. *In order to evaluate a start-up technology company's capability to deliver, its whole customer history is worthy* of study including *failed cases. This can mean that from the competence marketing point of view there are no failed customer cases if experimental knowledge has been gained.*

The problem with the iterative market entry is that it can take a long time. Each step can last several years and it consumes resources that the start-up technology company might have in short supply. Further development could aim at minimizing the number of iterations needed for finding the right set-up of the factors. It seems that if the company's technological base is broad and solid enough to support the customers' problem solving, the focus on the implementations could be on the generation of marketing and sales arguments. It is also assumed that the customers' commitment would be in place. In order to promote research, the following proposal is made:

3. *The number of iterations can be reduced by building* a *solid and broad foundation of technological know-how into a start-up technology company before starting completion of the customer cases and getting the customers' commitment to the business of the start-up technology company.*

An interesting market entry design point of view is that an entrepreneur could plan how many steps he or she might need. One of the design parameters could be the amount of social capital the entrepreneur has. And the other design parameter could be the knowledge which is needed to be gained. A good example of the exhaustion of social capital was the case in which the case company had no suitable previous contacts left for getting the next customer after the second customer case. A good example of using up the stock of financial capital, which nearly caused the company's insolvency, occurred in the second case. The problem with designing market entry is that very seldom a customer can be picked. It can be a big effort for a start-up technology company even to sell its product to one customer.

The basic descriptive framework has been developed and tested by the past cases. In constructing software or other high technology business based on the use of first reference customers, several aspects must be taken into account beforehand. For example, the lack of technological expertise can be easily verified afterwards, but the problem is how to measure adequacy beforehand. The key question for entrepreneurs also is how they can know if their social capital supports them well enough to start their own business, for example, if it helps them to find their potential first customer references. Potential avenues for future research include testing and further developing the basic descriptive framework with a view to finding out how the first customer reference cases should be designed and selected beforehand to achieve a successful outcome.

The idea of using an approach based on programming science in order to study topic-related business can be called construction of a business program. The cycle time of an iteration step in a business program can last years or even decades, for example, learning to use new sales arguments can take years. It should also be emphasized that a business program is stochastic rather than deterministic by nature.

Comparing the results with the aspects of networking

Network theory has been employed to explain the success of the companies in business (for example Ford et al, 2003; Håkansson and Snehota 1995). This longitudinal case study demonstrates some of the three network paradoxes which have been presented by Ford and Redwood (2005). The first paradox deals with working within existing relationships. It states that a company's relationships are the basis of its operation and development. This present study points out that the longitudinal case company used up its pre-existing network resources without any success in entering the market. The first real customer reference was found from the open market based on direct sales work, which Thai entrepreneurs tend to call foot work, instead of using previous contacts. However, the two first customer cases, which were gained with the help of the previous contacts, provide opportunities to gain experimental knowledge, which could not have been otherwise available. The first network paradox also states that the company may also tie to its current way of operating and changes do not occur. It could be argued that the acts of the customer of the second case were aimed at preventing this change to happen.

The second network paradox states (Ford and Redwood, 2005): "A company's relationships are the outcome of its own decisions and actions; but the company itself is equally the outcome of its relationship and what has happened within them." This paradox can be demonstrated by the second customer case. The start-up company with limited technology knowledge was in a situation in which it had to take a risk and to start a project with a challenging customer. The consequences of the limited technology knowledge and the attitude of the customer were that the longitudinal case company nearly faced insolvency due to the measures taken by the customer.

The third paradox can also be illustrated by the same customer case. According to Ford and Redwood (2005) the third paradox states that the companies try to control the network but the more they control the less innovative the network is. In the second case the customer tried to get the Intellectual Property Rights of the products and cause the bankruptcy of the company. The dead company does not really innovate. However, that can be the purpose sometime. In other words, the customer's business case could include getting ownership of Intellectual Property Rights of its supplier for a reason or another.

Ford and Redwood (2005) propose that a new business does not start with a blank sheet. The embedded cases of this present research illustrate that the pre-existing network can help the start-up technology company in some extent. In addition, this research proposes that the previous contacts can be viewed as resources, which can be used-up. The question is if the companies can transfer the employment of the pre-existing network for something valuable that can be used for starting business as this case study demonstrates.

Managerial Implications

The first implication is that awareness of the topics presented in this paper should be increased among software and other start-up technology companies and especially among those that can be identified as reference-driven start-up technology companies. Awareness can be built up through education. Huang and Brown (1999) write that there are clearly opportunities for market programs and courses to educate the entrepreneurs of small enterprises. The present author supports the statement of the scholars above.

Another key implication is that software and other start-up technology companies should focus on solid technological expertise before starting with the first customer reference in order to be able to respond to problems raised by the customer. This and earlier research (Ruokolainen, 2005) demonstrate the effect of forgetting the development of sales arguments and putting too much effort into learning and testing technology in customer cases.

Not all possible problems concerning initial commercial products can be predicted and they can be hard to avoid. The recommendation is that venture capital financing should be employed to increase the maturity of start-up technology companies instead of rushing to design the product. The funding can also be used to boost social capital, the relationship-building capabilities of the entrepreneurs and to improve the entrepreneurs' knowledge of commercial and marketing skills. The recommendation is to assess the maturity of the technological knowledge, the strength of social capital, and usability of the sales and marketing arguments from time to time.

According to Johanson and Vahlne (1977) lack of knowledge is one of the main obstacles of internalization. Knowledge can be divided into two classes i.e. objective and experimental knowledge. Objective knowledge is gained through education and experimental knowledge through personal experience. Johanson and Vahlne say that market-specific knowledge can be gained mainly through experience in the market and therefore this experimental knowledge is not generally easily available. In my point of view, based on this research, the same can be said for market entry of start-up technology companies. Without learning, in other words, without gaining experimental knowledge the iteration towards market breakthrough might never reach a successful conclusion. Therefore, it is recommended that start-up technology companies use their first customer cases for learning especially about market-related questions.

One interesting observation was that in several cases the Thai entrepreneurs emphasized the role of their software start-up company in developing and bringing technology-related new business practices to their customers in the long run. At the beginning, small start-up companies learn business knowledge from their customers through the customer cases. The start-up company can be seen as a centre for gathering, developing, and accumulating knowledge coming from different sources including customers and transferring the knowledge to sellable systems or products. In the long run, start-up companies can also disseminate new business knowledge back to the industry. This role change can be called 'marketing and selling maturation of the start-up company'. Customers should regard partnerships with small start-up companies as a long-term investment to guarantee their own business. Such an approach is supported by the partnership theory.

REFERENCES

Aldrich, H. and Zimmer, C., (1986) “Entrepreneurship through social networks”, In: Sexton. D., Similor, R. (Eds), *The Art and Science of Entrepreneurship*, Ballinger, New York, USA, pp. 3-23.

Ayala, F., (1970) “Teleological Explanations in Evolutionary Biology”, *Philosophy of Science*, 37, 1-15

Asmus, D. and Griffin, J., (1993) “Harnessing the power of your suppliers”, *The McKinsey Quarterly*, Vol. 3, pp. 63-78

Bank of England, (2001) “The financing of technology based small firms”, *Quarterly Bulletin*, Domestic Finance Division, February

Bauer, R., (1967) “Consumer behavior as risk taking”, In: Cox, D. (ed.), *Risk taking and information handling in consumer behavior*, Graduate School of Business Administration, Harvard University, Boston, MA.

Beard, C. and Easingwood, C., (1992), “Sources of competitive advantage for the marketing of high-tech products and processes in the UK”, *European Journal of Marketing*, Vol. 26, pp. 7-20

Beard, C. and Easingwood C., (1996), “New product launch - marketing action and launch tactics for high-technology products”, *Industrial Marketing Management*, Vol. 25, pp. 87-103.

Bidault, F. and Cummings T., (1994) “Innovating through Alliances: expectations and Limitations”, *R&D Management*, Vol. 24, pp. 33-45

Birley, S., (1995), “The small firm – set at the start”, In: Ronstadt, R., Hornday, J., Petersen, R., Vesper, K., (Eds), *Frontiers of Entrepreneurship Research*, Badson College, Wellesley, MA, pp. 267-280.

Block, F., (1990). Postindustrial possibilities: A critique of economic discourse. Berkeley: University of California Press, 1990.

Blomqvist, K.,(1997), “The many faces of trust”, *Scandinavian Journal of Management*, Vol. 13, No. 3, pp. 271-286.

Bruce, M., Leverick, F., Littler, D. and Wilson, D., (1995), “Success factors for collaborative product development: A study of suppliers of information and communication technology”, *R&D Management*, Vol. 11, pp.134-145

Bygrave, W., (1997). The portable MBA in entrepreneurship, John Wiley & Sons, New

York.
Davidsson, P. and Honig, B. (2003) 'The Role of Social and Human Capital Among NascentEntrepreneurs', Journal of Business Venturing, Vol. 18 No.3, pp. 301–31

Dodge, H., Fullerton, S. and Robbins, J. (1994). Stage of the organizational life cycle and competition for small businesses, Startegic Management Journal, Vol. 15, pp. 121-134.

Doney, P. and Cannon, J., (1997), "An examination of the nature of trust in buyer-seller relationships", *Journal of Marketing*, Vol. 61, pp. 35-51.

Eisenhardt, K., (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14, No. 4, pp. 532-550

Eisenhardt, K. and Schoonhoven, C., (1996), "Resource-based view of strategic alliance formation: Strategic and social effects in entrepreneurial firms", *Organization Science*, Vol. 7, No. 2, pp. 136-150.

Freel, M., (1998), "Evolution, innovation and learning: evidence from case studies", *Entrepreneurship and Regional Development*, Vol. 10, No. 2, pp. 60-80

Freeser, H. and Willard, G., (1990), "Founding the strategy and performance: a comparision of high and low growth high tech firms", *Strategic Management Journal*, Vol. 11, No. 2, pp. 87-98

Ford, D., Håkansson, H., Gadde, L. and Snehota, I. (2003), Managing business relationship, (2nd edition), Chichester: John Wiley and Sons.

Ford, D. and Redwood M. (2005), "Making sense of network dynamics through network pictures: a longitudinal case study", *Industrial Marketing Management*, Vol. 34, pp. 648-657.

Fukuyama, F., (1995), Trust: The social virtues and the creation of prosperity, Hamis Hamilton, London

Granovetter, M., (1973), "The Strength of Weak Ties", *American Journal of Sociology*, Vol. 78, No. 6, pp. 1360-1370

Granovetter, M., (1985), "Economic Action and Social Structure: The Problem of Embeddednes", *American Journal of Sociology*, Vol. 3, pp. 481 – 510.

Gries, D., (1983), The science of programming, Springer-Verlag, Berlin

Gummesson, E., (1987), "The new marketing – developing long-term interactive Relationships", *Long Range Planning*, Vol. 20, pp. 10-20

Hakansson, H. (1982), International marketing and purchasing of industrial goods: an interaction approach, John Wiley, Chichester.

Herbig, P. and Milewicz, J., (1993), "The relationship of reputation and credibility to brand success", *Journal of Consumer Marketing*, Vol. 10, No. 3, pp. 18-24.

Herstatt, C. and von Hippel, E., (1992), "Developing new product concepts via the lead user method: a case study in a "low-tech field"", *Journal of Product Innovation Management*, Vol. 9, pp. 213-221

Huang, X. and Brown A., (1999), "An analysis and classification of problems in small Business", *International Small Business Journal*, London, Oct-Dec, pp. 73-85

Hutt, M. and Speh, T., (1992), Business marketing management: A strategic view of industrial and organizational markets, fourth edition, The Dryden Press Chicago

Holmlund, M., (1997), Perceived quality on business relationship, Hanken Swedish school of economics, Helskinki/CERFS, Helsingfors.

Håkansson, H. and Snehota, I. (1995). Developing relationships in business networks, London: Routledge.

Jae, H. and Jung, S. (2006), "Technology advancement strategy on patronage decisions: the role of switching costs in high-technology markets", *Omega*, Vol. 34, No. 1, pp. 19-27

Jessop, B., (1990), "Regulation theory in retrospective and perspective", *Economy and society*, Vol. 19, No. 2, pp. 153-216.

Johanson, J. and Vahlne, J., (1977), "The internationalization process of the firm–A model of knowledge development and increasing foreign market commitment", *Journal of International Business Studies*, Vol. 8, No. 1, pp. 23–32.

Leonidoy, L. and Katsikeas, C., (1996), "The export development process: An integrative review of empirical models, Journal of International Business Studies", Vol. 27, No. 3, pp. 517-551.

Levitt, T., (1967), "Communications and industrial selling", *Journal of Marketing* 31, April, pp. 15-21.

Keough, M., (1993), "Buying your way to the top", *The McKinsey Quarterly*, Vol. 3, pp. 41-62.

Maes, J., (2001), "Small Business Performance: exploring the link between management practices and the financial performance of small and medium sized Belgian construction company", In *Rent XV, Research in Entrepreneurship and Small Business*, Turku, Finland, 22-23 November.

Moriarty, R. and Kosnik, T., (1989), "High-tech marketing: concepts, continuity and Change", *Sloan Management Review*, Vol. 30, No. 4, pp. 7-17

Otsgaard, T. and Birley, S., (1994), "Personal networks and firm competitive strategy- a strategic and coincidental match?", *Journal of Business Venturing*, Vol. 9, pp. 281-305.

Putnam, R, (1993). Making Democracy Work: Civic Traditions in Modern Italy, Princeton University Press, New Jersey

Ruokolainen, J. and Igel, B., (2004), "The factors of making the first successful customer reference to leverage the business of a start-up software company-multiple case study in the Thai Software Industry", *Technovation*, Vol. 24, No. 9, pp. 673-681

Ruokolainen, J., (2005), "Gear up your software start-up company by the first reference customer – nomothetic research study in the Thai Software Industry", *Technovation*, Vol. 25, No. 2, pp. 135-144

Ruokolainen, J., Kauranen and I., Igel, B. (2005), "'T.J.S Consultants' First Customer References – A Teaching case for IT Firms Entering Business, (includes teaching case and teaching notes)", *Management Case Study Journal*, Vol. 5 No. 2 : 51-68.

Salminen, R., (1997), Role of references in international industrial marketing – a theory-building case study about supplier's processes of utilizing references, Lappeenranta University, Lappeenranta, Finland

Salminen, R and Möller, K., (2004), "Use of references in industrial bidding – a decision process analysis", *Journal of Marketing Management*, Vol. 20, pp. 133-155

Shanklin, W. and Ryann, J., (1987), Essentials of Marketing High Technology, Lexington Books, Lexington, MA.

Sheth, J. and Ram, S., (1987), Bringing Innovation to Market, John Wiley & Sons, New York, 1987

Spekman, R., (1988), "Strategic supplier selection", Understanding long-term buyer relationship, *Business Horizons*, Vol. 3, (July-August)

Theoharakis, V. and Wong V., (2002), "Marking high-technology market evolution through the foci of market stories: the case of local area networks", *Journal of product innovation management*, Vol. 19, No. 6, pp. 400-411

Yin, R., (1994), Case study research: design and methods, Applied social research methods series, Sage Publications Inc.

Wilkinson, I. and Bernett (1987), "In search of excellence in exporting: An analysis of the 1986 Australian export award winners", *Austrade*, Australian Trade Commission

Wilkinson, I., Young., L. and Freytag, P., (2005), "Business mating: Who chooses and who gets chosen?", *Industrial Marketing Management*, Vol. 34, pp. 669-680.