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OUTSOURCING INNOVATION: FACTORS INFLUENCING FIRMS' DECISION TO OUTSOURCE IT DEVELOPMENT TO CONSULTING ORGANIZATIONS

Author: Ricardo Ortigoza Monroy

Supervisor: Thomas Hellström

LUND
UNIVERSITY

Abstract

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THESIS PURPOSE: The present thesis aims to describe and generate new insights about the factors that foster or inhibit the decision to outsource IT development services in addition to the factors considered to decide the extent and form of an outsourcing initiative in Sweden. Furthermore, this study aims to determine the differences in outsourcing practices across various proposed company categories.

METHODOLOGY: A qualitative small-n case study framework is used in addition to a quantitative analysis performed from historical purchase records from an IT consultancy case company including records from 307 companies over one year.

THEORETICAL PERSPECTIVES: Available theory in the topic of the outsourcing phenomenon is presented starting with an account of the changes in use and development of outsourcing activity from the *conventional wisdom* to *transformational outsourcing*, followed by different perspectives regarding the outsourcing decision and assessing theories such as *value* and *transaction cost economics*; finally it is included a collection of different authors' accounts of outsourcing drivers, pros and cons.

CONCLUSIONS: Several factors have been identified during this study, for example Lack of Resources, Project Scoping and Planning Requirements, Access to New Competencies, Special Regulations etc. In addition, research yielded two main types of outsourcing; development projects and specialist consulting —which appears to be most widespread. This distinction resulted essential as the study established a difference in the effect of the identified "drivers" depending on the outsourcing offer type.

In addition, Special Swedish Regulations appear to have an effect on the propensity to outsource in terms of resources, however the effect on development projects or entire activities was impossible to infer with the available information, leaving it as a candidate for future research.

Finally, quantitative analysis demonstrated that small and young companies have different proportion of outsourcing types, which in addition suggests these are affected differently by the outsourcing drivers.

Table of Content

Chapter 1 - Introduction

1.1 Background

Outsourcing is nowadays a commonly used term for purchasing goods or subcontracting services from an outside supplier (Dictionary.com, 2012). This transaction is no longer used only in its traditional sense in low-level manufacturing services purely motivated by costs minimizing (Moskowitz, 2009); or in services like call centers. In addition it is no longer exclusively used by large or small companies; or within partner companies. In fact, nowadays it is all too common to hear that Samsung and Sharp develops and supplies components for Apple's iPhone (Osawa, 2011), to find a Toshiba DVD burner in an HP laptop or that more than half of new product ideas at Procter & Gamble are generated in collaboration with outside innovators (P&G, 2012); this phenomenon has even spun into terms such as "crowd sourcing" used for example by Apple and Google to develop "Apps" for iPad and Android devices.

1.2 Problem Discussion

These previous examples aim to demonstrate how outsourcing practices have been on the rise for years and authors seem to agree that this trend will continue in the future (Calantone & Stanko, 2007; Engardio & Einhorn, 2005; Piachaud, 2005). In the meantime, many studies have been performed about outsourcing in general (Linder, 2004); the technology outsourcing decision (Chesbrough & Teece, 1996), its outcomes (Kessler, Bierly & Gopalakrishnan, 2000) and its drivers (Calantone & Stanko, 2007) to name a few.

In Stanko and Calantone's (2011) review and synthesis on the subject of innovation outsourcing research consensus is established regarding the following drivers for outsourcing innovation; behavioral uncertainty, well protected intellectual property, outsourced activity is not critical to the path to developing competitive advantage, cut cost is only secondary concern and finally that large firms have a greater tendency to outsource.

However, much like the understanding of the outsourcing phenomenon, the strategic applications and the different offerings from service consultancies have changed rapidly throughout time, leaving room for a study regarding the current motivations a firm has to outsource innovation from third parties, and for this particular study, from IT consultancy companies.

Moreover, Sweden possesses a particular environment where resource consulting is used very commonly and by most companies within the country. Whilst the situation appears to grant easier access to IT consulting service providers like Prevas AB, Combitech AB, or Epsilon AB into host companies, it is unclear if it influences a company's propensity to outsource multiple offerings including innovative development projects.

1.3 Research Question

This paper aims to examine a small number of cases in the Swedish business environment, describe the current situation and ultimately extend the theory in regards to the outsourcing decision by addressing the following research question:

What factors influence the decision to outsource innovation to IT consulting organizations?

Derived from the main research question, the following sub-questions are addressed:

- In what different ways are outsourcing IT consulting services utilized in the Swedish business environment?

- For what reasons do companies move forward with a given IT consulting service offering?

1.4 Value of the Study

In the context described under Background and Problem Discussion (Section 1.1, & 1.2), IT consultancy companies seek sustainable growth through the supply of development projects, opening development facilities in to Low Cost Countries (LCC) and offering consulting resources to third party companies among others, making it essential to understand the motivations for outsourcing different type of offerings in

order to set a successful strategy, better market its offerings and target customers more effectively.

A study of the drivers and reasons to adopt different modalities of outsourcing could be beneficial as well from a purchaser's company perspective, as a type of *Benchmarking* in an effort to compare its own decision process and strategies to industry bests or best practices from other industries, thus being able to plan better by recognizing situations where other companies may consider outsourcing in one way or another.

Chapter 2 - Frame of reference

The following chapter represents the available theory in the topic of the outsourcing phenomenon which is then used as a frame of reference for the entire study. Starting with an account of the changes in use and development of outsourcing activity, followed by different perspectives regarding the outsourcing decision and concluding with its drivers, pros and cons.

2.1 Outsourcing

Outsourcing is defined by the Encyclopedia of Business In Today's World as a process by which companies hire a third party company, to perform a job which traditionally were low-level manufacturing services with the motivation to minimize its costs as well as increasing its revenue and productivity, hence gaining advantage over other firms (Moskowitz, 2009). It was until the 1970's when outsourcing global trends shifted from comprising exclusively manufacturing services to including information technology services such as help desk or database administration etc., and later, business process outsourcing services like call centers, finance or human resources administration among others, now two of the fastest-growing outsourcing sectors (Moskowitz, 2009).

2.1.1 Beginnings and Conventional Wisdom

Conventional wisdom is explained by the notion that to achieve the highest performance, an organization must focus on doing few things well (Linder, 2004). Thus, after the identification of these firm's so called "core competencies", everything besides them is, in a sense, considered as a distraction from the best use of the firm's time. Furthermore, what is not considered core activities by a given firm may be core to an outsourcing provider that could offer the efficiency and effectiveness that the firm cannot. By this logic, Linder (2004) lists the advertised benefits of this conventional form of outsourcing as follows:

- Cost savings from 25 to 30%

- Service improvements, e.g. responsive call centers or fast problem resolution in outsourced noncore activities

- Improved executive focus on core competencies, leading in theory to performance improvement

2.1.2 Shift in Opportunity and Transformational Outsourcing

Linder (2004) differentiates types of outsourcing based on the objective and expectation of the activity to be outsourced. When managers followed the conventional wisdom to outsource, only activities requiring little management attention and without the objective to change other than the expense line and the use of the firms time, thus as expected, yielding benefits but only minor. In other words, even if the firm's canteen became much more efficient through outsourcing, there would be no expectation of the improvement to have a visible effect in the firm's bottom line.

Outsourcing is not as simple as it used to be, Linder (2004) argues that this is the result of executives applying the tool and gaining experience with outsourcing, thus they also start to apply it to more complex opportunities and expect even more benefits.

In fact, during the '80s and '90s when Western firms began selling their factories in order to improve efficiency and focus, most maintained that important R&D would remain in-house, however this promise is nowadays outdated; "today, the likes of Dell, Motorola, and Philips are buying complete designs of some digital devices from Asian developers, tweaking them to their own specifications, and slapping on their own brand names" (Engardio & Einhorn, 2005) exemplifying the next step in outsourcing : outsourcing innovation itself, which appears to be spreading to just about every industry.

Subsequently, the introduction of the term "transformational outsourcing" entailing to make a big impact on the firms performance by changing aspects that really matter. As Linder (2004) suggests, companies undertake improvement initiatives every day that while useful they are not transformational. Improving staff's skills through training or adjusting compensation benefits to line up with corporate targets will not yield a perceptible benefit to firm's results in the short term.

Transformational outsourcing is different to previous conventional understandings of the outsourcing activities in the sense that it is appropriate for any type of activity related to the performance and growth of the firm and it seeks more value than solely cost savings. Instead it aims to change the track of the firm with a rapid improvement on the firm's performance (Linder, 2004).

This situation has resulted in outsourcing providers to upgrade their offerings and in some cases to just change their advertising campaigns to transformational outsourcing or innovation outsourcing. For this reason Linder (2004) indicates that it is important to keep in mind that although transformation outsourcing often requires the implementation of new technologies, the defining factor of transformational outsourcing is its purposeful use.

2.2 Decision to Outsource Innovation

Whenever a transformational activity is to be implemented, Linder (2004) proposes that the best choice is outsourcing, because it delivers reliable execution and speed, while in every other option the firm would encounter nearly impenetrable barriers. A summary of his argumentation is presented in Figure 1.

	How long will your partner work with you?	Are new capabilities integrated?	Who's managing the critical new activities?	Who's calling the shots?
Outsourcing	For the term of the contract	Integrated	Experts from the skilled partner	You
Do It Yourself	N/A	Integrated	People who lack the right expertise and culture -- You	You
Acquisition	"Permanent"	Integrated	The controlling partner	You
Joint Venture	"Permanent"	Segregated	Experts from the skilled partner	Shared with partner
Strategic Partnership	As long as it suits them	Coordinated	Experts from the skilled partner	Shared with partner

Serious impediment to effective transformation

Figure 2.1.Outsorcing works better for transformation than any other option. (Linder, 2004)

In the meantime, Chesbrough and Teece (1996) approach the technology outsourcing decision firstly by the type of innovation in question, distinguishing between autonomous and systematic innovation. Autonomous innovation is that which can be developed on its own, such as the development of a new automotive engine would not require the redesign of a complete car. In contrast, systematic innovations can be only realized in combination with related complementary innovations, for example lean manufacturing imply changes in product design, supply chain, information technology, etcetera.

Since the wrong organizational design choice can be costly, it is desired to organize based on the type of innovation. As described in Figure 2, it is possible to manage development of autonomous innovation quite well in a virtual setting, this means, outsourcing is viable. Instead systematic innovation is recommended to be integrated in-house reducing the dependency of other "uncontrollable" members or outsourcing providers. Chesbrough and Teece, (1996) conclude based on business history that just like in the industrial revolution, well managed firms that commit the right resources to develop their own capabilities and innovation will shape the markets of the future.
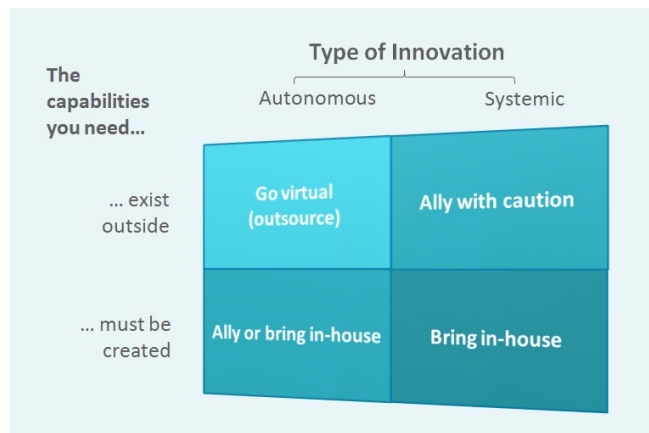
Figure 2.2 Matching organization to innovation. (Chesbrough & Teece, 1996)

In order to make a better decision about outsourcing, firms must also understand the origin of the intended enhanced value, where will it come from. For this reason Alexander and Young (1996) recommended to reflect on the "real cost" outsourcing and in particular the fact that external suppliers objectives may not in every case correspond to the ones of the organization, thus leading to a conflict of interest of sorts, where value creation and value appropriation do not always balance out, moreover in the scenario where a vendor retains all the created value without sharing it, the buyer may result in disadvantage to for instance change provider (Alexander & Young, 1996).

Also to be considered, Alexander and Young (1996) propose that due to the erroneous assumption that jointly owned units will automatically work and contrary to popular belief, transaction costs (See Section 2.2.1) are not always higher when it comes to using external suppliers and that managers seem to prefer dealing with outsourcing providers instead of dealing with internal politically loaded issues.

2.2.1 Transaction Cost

Transaction Cost Economics is defined as the cost that is associated to trading. This could include the salary that is spent on the employees negotiating a trading contract or the money spent on setting up a strategy for adapting to changing economic conditions. Minimizing these costs is an important factor in organizational design where Williamson (1975, 1989) concludes that vertical integration is more likely to take place when transactions costs are high. Vertical integration is the make-or-buy decision that producers face in the process of developing and producing their products. Either they 'make' the part in-house or 'buy' the part from an external supplier. Each decision comes with transaction costs of their own. A key concern is that buying from an external supplier could involve high transaction costs, thus production in-house of some components is more cost effective as their complexity would increase the transaction cost from writing fully-specified contracts. However, while using in-house supply may provide a component at a cost-plus, there are still transactions costs involved in managerial mechanisms for internal coordination and control (Bozdogan et al., 1998).

2.2.2 Sources of Value

When it comes to increasing value there are several ways to succeed, herewith a summary of proposed sources of value creation by Alexander and Young (1996):

- The first instance is to appropriate value from others. In other words one unit gets designated value that was taken from another unit; however this does not create more value in total.

- Other examples of sources of increasing value is the change management approach and skills, through the use of bench-marking and improved target-setting to promote best practices as well as staff training and development. In the case of staff in non-core activities, outsourcing, thus becoming central to the external organization.

- Risk management entailing that organizations want to disperse risk to their suppliers in an effort to generate more value for themselves or appropriate value from the supplier.

- Removal of current value destruction, which as the concept suggests is implemented by taking out units or processes that are disruptive to the business generate as much value creation in the units that remain within the organization as the ones that are outsourced.

All these approaches are theoretically possible without moving to outsourcing, but without any major motivation it appears that it is very problematical in practice. However, Lacity and Hirschheim (1995) concluded that once an internal unit realized they were competing with outside suppliers it was often able to accomplish adjustments that were considered unachievable in the past, thanks to a considerable change in approach. Additionally an outsourcing review can generate a new understanding of the actual costs of internal processes compared to previous understanding (Alexander & Young, 1996).

2.3 Drivers to Outsource Innovation

By using regression analysis models, Calantone's and Stanko (2007) suggests drivers for outsource innovation and it provides its implications for both sides of the outsource innovation process in the intent to close the found/perceived gap of business to business marketing, thus easing clients planning activities and providing pointers for vendors to better target customers.

The variables found to be related to the organization propensity to outsource innovation activities are; exploratory research, the firm's profit margin and finally the inventory turnover with a negative relation.

Consequently, in the author's review and synthesis on the subject of innovation outsourcing research (Stanko & Calantone, 2011) drivers of innovation where consensus seemed to be established lists low behavioral uncertainty, well protected intellectual property, activity to be outsourced is non-critical to the path to developing competitive advantage, cut cost is solely a secondary concern and finally that large firms have a greater tendency to outsource.

Additionally, Howells, James and Malik (2003) have analyzed the sourcing of technological knowledge in UK organizations, with the added dimension of time span by suggesting the short and long term effects of different categories of technology sourcing. Interestingly, the study argues that the increasing number of technologies per

product (TPP) and its impact on the rising the of R&D costs result in an unattractive environment for innovation without "partners", thus increasing the propensity of innovation outsourcing.

With the use of a UK survey about R&D contracting services, Howells et al., (2003) observe that the most common reason to outsource is to "gain specialist expertise", "access to specialist techniques or equipment" and the "need to tap additional manpower".

2.3.1 Pros and Cons of Outsourcing

Antonucci, Lordi and Tuckers (1998) focus on the pros and cons of IT outsourcing, they explain that as IT development and maintenance costs have "exploded" companies consider more and more to outsource since, for example, outsourcing gives companies access to the latest technologies. As the authors focus on IT this especially applies since the rapidly changing world of information technology can quickly make IT skills outdated, with outsourcing companies relying on suppliers to be up-to-date (Antonucci, et al., 1998). This in turn could present the company with cost savings and improved quality as the supplier employs the necessary IT specialists while at the same time the supplier have to deliver to the satisfaction of the customer, in addition to gives the company the ability to concentrate on core competencies (Antonucci, et al., 1998). Another benefit of outsourcing that the authors discuss is the fact that if the company's IT function is outsourced to a supplier with a wide range of IT specialists, it has more flexibility to adapt to the ever changing business environment (Antonucci, et al., 1998).

Antonucci, et al. (1998) argue that the limitations of outsourcing starts with the fact that the expectations of IT outsourcing is considerably higher than the actual benefits as illustrated in Table 1. It is also argued that with the long-term benefit of sharing the risk through outsourcing it can create loss of control as the supplier is not under the same management. It can also create less flexibility as the supplier will provide what is stated in the contract using the tools that they consider appropriate. This could possibly lead to inefficiency and the usage of technical platforms for example that are not ideal to the business (Antonucci et al., 1998).
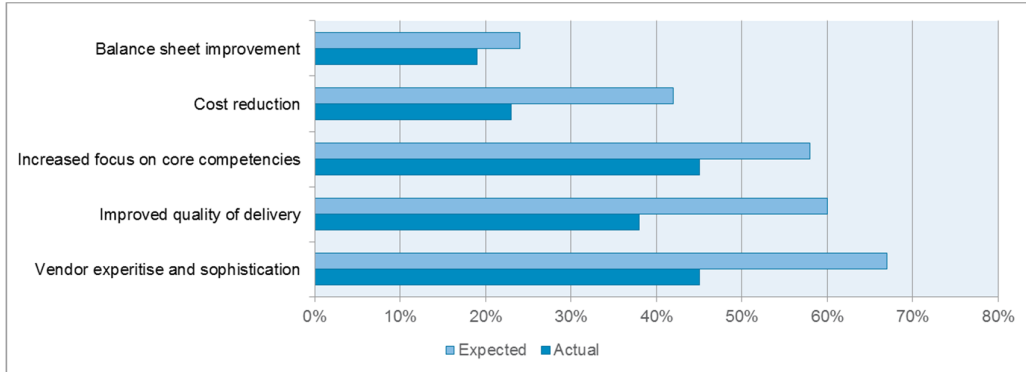
Table 2.1. Expected vs. Actual Benefits of IT Outsourcing (Antonucci et al., 1998)

Ketler and Walstrom (1993) discuss the factors for making the decision to outsource within the IS field. They define in depth areas to consider for outsourcing but also mention that some variables can be viewed as an advantage by the proponents of outsourcing and as a disadvantage by others. The following variables are further examined in their research; personnel, financial, control, data characteristics, organizational characteristics and vendor and contract characteristics. Each variable lists the advantages and disadvantages, for example under the personnel variable the article mentions as an advantage that external suppliers offer a wide variety of expertise (Ketler & Walstrom, 1993). As a disadvantage Ketler and Walstrom (1993) suggest that outsourcing leads to in-house IS staff losing ground among others; Ketler and Walstrom's (1993) discussed pros and cons are listed in the table below.

Pro	Con
Increased knowledge & expertise	Loss of in-house expertise
Cost savings	Outsourcing bills higher than expected because of miscalculations
Focus attention on strategic segments	Misjudgment of what is strategic may put a bigger strain on the organization
Share the risk	Loss of control
Outsourcing weaknesses enables the organization to concentrate on Core Activities	Unsatisfactory customization of client needs

Table 2.2 Pros and Cons (Ketler & Wahlstrom, 1993)

All things considered the Ketler and Walstrom (1993) argue that if the IS function is working efficiently, it is recommended to keep it in-house – "if it isn't broken, don't fix it", while indicating that the severity of in-house problems could be unknown to organizations unless alternatives such as outsourcing are explored and once the decision to outsource has been taken it may be difficult to reverse.

Chapter 3 - Method

3.1 Research Approach

The present thesis aims to generate insights about the factors that foster the decision to outsource IT development services by companies in Sweden with the use of a qualitative approach. This approach is selected after the exploratory nature of the study, in fact qualitative strategy is generally related to the development of new theories, opposed to the quantitative approach, which starts with theory and is generally used to test defined hypothesis with the use of figures, numbers etc. (Bryman & Bell, 2007).

3.2 Research Design

A small-n case study design frame is selected due to its characteristic purpose to gain rich understanding of a particular scenario, in this case, an IT consulting company, in addition to a small number of companies outsourcing IT services in Sweden. However, it is important to keep in mind the study boundaries, since the higher level of detail accomplished by this type of study is commonly at the expense of the possibility to generalize to a broader scenario (Thomas, 2009).

In order to maximize the potential findings for the presented exploratory purpose and to achieve a deeper understanding of these outsourcing decision process within Sweden, this case study utilizes two different angles of the decision process. That is, the perspective from a provider of IT development services in addition to first hand interviewing of companies that use or potentially could outsource IT services.

Finally, quantitative analysis of the IT supplier sales records, which include 307 companies procuring development services throughout 2011.

3.3 Setting

To best address the research question, the following strategy is employed. First, in order to gather a better pre-understanding of the subject, on site participative observations and initial unstructured interviews are conducted on an IT consulting case company. As a provider of development projects, consulting resources, training among others for over twenty years and with ca. 600 employees in Sweden, this case company should provide essential insights for the case in study.

Second, a semi-structured interview is carried out to the selected participants. The structured section is to provide a frame and theme during the interview, in addition to address previously determined questions. In the meantime, the unstructured portion of the interview is intended as a tool to capture additional information from outsourcing specific initiatives by giving the freedom to raise relevant follow up questions, examples and experience of interviewees (Thomas, 2009).

Finally, to identify segment characteristics and potential differences, a quantitative data is gathered within the case company's information system. The study of their customer base and historical behavior should raise interesting questions to present to current and potential customers.

3.4 Data Collection

Data in a research study is often divided into primary and secondary data. Primary data corresponds to the data collected by the researcher or the research team to fulfill the objective of the project, while data gathered by others, for different purposes than the specific study is called secondary data (Bryman & Bell, 2007).

3.4.1 Primary data

Different sources of primary data are utilized in the present study; firstly participative observation and initial unstructured interviews to a provider of resource consulting and system delivery projects for over twenty years and with ca. 600 employees in Sweden. Unstructured interviews were selected in order to first approach the topic, allowing the interviewee to determine the issues to be covered within the defined frame (Thomas, 2009).

The second source of primary data for this study is the semi-structured interview performed to a series of interest companies that could potentially outsource IT services. Semi structured interviewing is selected since it allows for a list of issues to be discussed while it gives the freedom to follow up additional issues if necessary (Thomas, 2009). For this study, semi-structured interview was utilized as a safeguard in order to capture any additional relevant information that could be missed during the initial interview guide or due to the particular case of the interviewee.

Both series of interviews were recorded whenever possible, additionally they were always documented by simultaneous note taking.

3.4.2 Participants in Brief

In order to better understand the factors that foster the decision to outsource IT development by companies in Sweden, this case study benefits from the perspective of a Nordic provider leader in developing intelligence in products and industrial systems. With over 20 years of experience and 600 employees, the case company has helped developing over 2000 products, providing resource consulting, training and different modalities of system delivery projects.

Since its foundation in 1985, this innovative IT Company has identified itself as an innovation partner to companies in industries such as life science, telecommunication, automotive, defense, and energy. The rich spectrum of customers allows for a better understanding of the IT outsourcing decision regardless of the industry of the customer that may be subject of specific conditions.

In addition, this study includes interviews to R&D Managers / Directors within seven different firms that have experienced an outsourcing decision process. These are:

- Company A is a global medical technology company with 7500 employees and in business for almost 50 years. Its core competencies include the development and manufacturing of products and therapies for Kidney and Liver dialysis, Myeloma Kidney Therapy among others.

- Company B is a young, small specialized company which core competencies are in IT development for coding and decoding data and its applications for digital pen and paper.

- Company C is a medium sized, global company with core competencies in the design and manufacturing of machines and software for cash handling, where IT figures within its product's embedded systems and as separate PC software solutions for handling cash in large centers.

- Company D is a small family owned business which specializes in diesel engine maintenance machines and methods.

- Company E is a large established company which manufactures fuel dispenser equipment. The company was bought by a major global energy cooperation a

little more than year ago and is now part of an organization with 330'000 employees. The business unit in this study has about 2'000 employees out of which around 150 people work in R&D spread out in EMEA (Europe, Middle East, Africa market), China and the US.

- Company F is a small company, their core competency being image analysis and medical technology with about 60 employees worldwide.

- Company G is the Swedish division of a company leader in power and automation technologies, with more than 135,000 employees operating in around 100 countries.

3.4.3 Secondary data

Secondary sources of information are used for the quantitative portion of this study, which takes as foundation the case IT Consultancy sales records gathered from its Customer Relationship Management software. Once the sales records were obtained, additional company specific characteristics were obtained from corporative official websites with the purpose of profiling and analyzing the firms' outsourcing practices according to age, size, and business sector.

3.5 Data Analysis

This study utilizes the constant comparative method as outlined by Miles and Huberman (1994). The analysis aims to produce insights about the factors that foster the decision to outsource IT development projects through constantly comparing each component of the research with all the others, thus categories emerge that capture and sum up the entire data content. This resulting elements will be mapped in a theme mapping fashion derived from "construct mapping" developed by George Kelly in 1955 (Thomas, 2009).

Miles and Huberman (1994) constant comparative method implemented in this research is as follows:

- All the interview protocols were read with an open attitude to grasp the complete nature of the participants' accounts.

- Individual protocols were read and analyzed line by line while temporary constructs were attached to identified common sequences and important elements related to the question.

- The coded material was sorted in a grid and filled up with reference to where the constructs is evidenced.

- Temporary constructs that were not reinforced were eliminated.

- The resulting constructs were refined and after a third reading and corroboration that they represent the essense of the data, this constructs were labeled as "themes".

- Resulting themes were used for theme mapping and quotations were selected to illustrate the themes.

- The generalizations elaborated were then confronted with a formalized body of knowledge in the form of theories and prior research.

3.6 Reliability

Reliability refers to the extent to which the same research can be duplicated to receive the same results (Bryman & Bell, 2007). Therefore, it is essential to secure the study from unreliable factors, for the purpose of this research a semi-structured interview guide is performed prior to data gathering and opposed by peers with the intention to produce clear questions and avoid misunderstandings. Second, interviews were recorded and transcribed whenever possible with the aim to improve the quality of protocols for the analysis and ensure that none of the participant accounts were omitted. Third, the provisional analysis was provided to the participants to get confirmation of their accounts. Furthermore, this study employs the recognized constant comparative method for qualitative data analysis.

Similarly, in the effort to increase reliability of the study, secondary data sources were carefully selected from firm's official websites and the most reliable sources available as described in Section 3.4.3 Secondary data.

3.7 Internal and External Validity

Internal validity is defined by Bryman and Bell as "the match between researcher's observations and the theoretical ideas they develop" (2007). In other words, it is the degree to which the research results represent the reality. Thus, in order to reach a high level of internal validity, this research utilizes the concept of triangulation, satisfied through the combination of different data sources, including the frame of reference, the empirics collected at the IT project developer and the several interviews performed. Furthermore, since the interviews will be documented and presented to the participants the validity of the data is ensured (Bryman & Bell, 2007).

With the purpose of facilitate the potential for generalization to similar situations, also called External Validity or transferability, this study provides accounts about the participant situations and describes the results environment and context thoroughly.

Chapter 4 - Presentation of results

4.1 Factors Related to Outsourcing Discussed by the IT Supplier

Two interviews were conducted with an IT consultancy organization. These interviews are a valuable asset since a supplier of IT consulting and IT development projects they have witnessed outsourcing quotations and decision making from a large variety of customer firms. Following the methodology described in Section 3.5 Data Analysis, the data from the interviews were processed using the constant comparative method, and reinforced temporary constructs have been developed into the following themes representing factors related to the outsourcing decision.

4.1.1 Lack of Resources

According to Sales Manager, "Often companies outsource due to lack of time, or it is just that they have a big project, when they have a hundred employees, but they need a hundred and twenty employees during a period because they see this is a temporary state, and often this means resource consulting" (2012).

4.1.2 Need of New Competencies

A second reason for outsourcing according to Sales Manager is "when the company simply does not have the competency in-house and needs to outsource a specific task to a specialist consultant who possesses that specific competency" (2012).

Unit manager (2012) confirms a common reason to outsource is to "get new knowledge that they don't have themselves, to raise technical maturity and some use it to bridge a competency gap". Additionally "there is a shortage of specialized technical competencies" he adds, "people who have niche specialist competencies they don't take temporary employment because they are so attractive to the market, maybe the specialist competencies needed for projects might be only available as consultants".

4.1.3 Technical Maturity

Unit manager considers technical maturity as a driver to outsource IT development services, he explains "these are companies that don't really have experience within out field of embedded systems, for example one of our customers works with human health and have no knowledge of IT solutions in general, so we do much of their IT development" (2012).

4.1.4 Planning Requirements

A reason why companies are more likely to hire outsourced consultants to work on-site rather than buying projects is that companies tend to "man-up then organize". "When a customer takes resource in my experience, fifty percent of the cases they don't know exactly what specific tasks they are going to assign to the resources" comments Sales Manager (2012).

4.1.5 Difficulties Scoping Projects

"Sometimes it is difficult to scope projects, because it is not easy to describe something new" explains Sales Manager about projects; "the company needs to know more-or-less exactly what they want in order to get a good indication of what it will cost" (2012), he explains this may also lead to companies and suppliers to misunderstanding a specification, or even a quotation when comparing between suppliers "sometimes it is very complicated for a customer put quotes against each other and understand what is included and what is not in different offers" (2012).

In addition, "there are cases when a specification takes very long time to be developed (for a customer); I had one customer that took roughly one and a half *man years'* worth of work between their specification and two appendixes"(Sales Manager, 2012).

4.1.6 Time savings compared to hiring new employees

Sales Manager believe, a customer can save time by hiring consultants compared to hiring new employees, he explains "Our customers also have customers, and sometimes they need resources to satisfy their customers and to hire someone takes at least I would say two months, and then it takes more time before the new employee can start really delivering, so you would have a latency of let's say four months… instead they can call consultants and have them there two to four weeks" (2012).

4.1.7 Uncertainty in the Business Case

From the point of view of this provider's Unit Manager, one reason why companies would chose not to outsource in the form of project "is uncertainty in the business case, volume and so on is unknown and they can only see the actual cost, so companies don't manage to see the value of the investment" (2012).

4.1.8 Swedish Labor Law

As a special reason for the abundance of consultants in Sweden compared to Denmark is according to Sales Manager that "in Sweden you don't want to hire somebody really fast, because if you get somebody whom is not right for the work, it could be very difficult to lay them off, it becomes a problem" (2012).

Similarly Unit Manager comments "Swedish law makes it harder if you want to downsize, so if you want to ramp up quickly, it is easier to use consultants, because you can also downsize much quicker when you need to" (2012).

4.2 General Findings from Customer Interviews

Seven interviews with different customer company representatives have been conducted in the effort to grasp the customer perspective of the outsourcing phenomenon and their outsourcing decision process. In addition, all customer representatives had the appropriate job position within the host company for putting forward initiatives and purchasing both IT consulting projects and services.

4.2.1 Structure of the Company

All the interviewed companies are structured in a way that results with all new product development concentrated within a specific department, in most cases identified as R&D department. Interestingly, consulting resources are considered "outsourcing" among all contacts and are in fact commonly used in different proportions.

Most of Company A (2012) innovation is "made in-house and it is done together between employees and consultants in the R&D department" which comprises approximately one third consultants out of 300 R&D employees.

Company B (2012) and Company C (2012) innovative efforts also derive from their R&D team which handles "hardware and software development" and "drive product development" respectively. In both cases the department consists of approximately 30 employees including project managers and test engineers while at any time there is between 10-20% engineering consultants.

In company D (2012), "new products are developed at the technical department in Malmö", which consists of 7 full-time employees and only a minor percentage of consultant workforce, estimated as "10% at any time of the year". Similarly in

Company F (2012), innovation is "based around the R&D department" where about 60% of the employees "work within software development" therefore only employ 10% consultants as main type of outsourcing.

Finally Company G (2012), which includes consultants as part of its outsourcing strategy, however only for tasks like embedded system development and testing in house within R&D department.

4.2.2 Consulting Services

When approached with a question regarding outsourcing parts or modules of innovative efforts in the company, all interviewees mention the application of resource consulting services as part of their outsourcing initiatives, but only few exploit projects.

In fact Company B mentions that they run everything in-house with the help of one third or the R&D department being specialist consultants and leaving only as exception "few software maintenance projects outsourced as projects" (2012). Meanwhile, a small company such as Company F (2012) employs on average one consultant employed throughout the year. In general, all interviewees use resource consulting ranging from 10 to 33% of the workforce in their development departments in different functions.

4.3 Factors Related to Outsourcing Discussed by the Customer

Following the methodology described in Section 3.5 Data Analysis, the data from the customer interviews has been processed using the constant comparative method, and reinforced temporary constructs have been developed into the following themes representing factors related to the outsourcing decision.

4.3.1 Control

Companies interviewed are very cautious about giving away too much control over the products that they develop. For example, Company B comments they run everything in-house, because "we want to keep full control of the core technology" (2012), representative added "losing the knowledge behind the product is a big risk that they're not willing to take" (2012).

Control over development has being reinforced as an important topic in combination with other terms, mainly together with "core technologies", as a risk of outsourcing complete projects, and becoming a benefit of only purchasing resource consulting to

work in-house; for example Company C (2012) comments on their decision to use resource consultants, that their model works better because it gives them "more control" over the final delivery, which is desired since they "will have to live with it".

4.3.2 Determination and Focus on Core Competencies

For the interviewed companies, it is very important to make a distinction about the different core competencies they possess, and their desire to maintain them in-house "It [outsourcing] would not be done with core competencies" (Company F, 2012). In the same way, Company A comments "we outsource software supporting the testing procedures or support systems mainly because it is not our core competency" (2012).

"So far no projects or core competence has been outsourced" (Company F, 2012). In short their R&D strategy is to keep core competencies in-house and source non-critical development externally. "It simply doesn't make sense to outsource what we are good at" says Company F representative; however "by outsourcing for example, hardware development, we can focus on our core competencies" (2012).

4.3.3 Lack of Resources - Workload

Company A representative say "the most common reason to outsource is lack of resources in house" (2012), sometimes he adds, there is situations where "if we want to develop a project we have two options, we can either hire lots of new employees and consultants, or we can outsource a project" (2012).

As the representative from Company B explains "the decision to outsource is usually taken when the company is missing something for example specialist competences or resources" (2012) similar to Company C, which employs approximately 10% consultants, representative comments "they facilitate heavy workloads or are used for special competencies" (2012).

Similarly, Company D says when there is too much work they may opt to "outsource to ease the workload" (2012). Likewise, "when there is a peak in the workload, we may take in a consultant on the software side as well but it is all done in-house" says Company F (2012) representative, "typically it's about us wanting to do a project and we don't have the right amount of resources needed and we use outsourcing to bring the extra couple of heads in-house to cover the gap" (2012).

4.3.4 Project Specifications are Difficult to Scope

The degree of specification necessary for both project contracts and specific nature of the products was a recurrent theme, for example, for Company A "the Risk is the scoping, because you only get what you scope, so if you describe something wrong, you will have to live with it, or spend more asking for changes" (2012). The representative also comments "when a project is done in house scope always changes, because you have close contact with developers and project managers, but if you outsource a project you don't get that chance, they are out of sight maybe in a different company or even different time zones" (2012).

Company B (2012) explains that because their products are so new and deviate so much one from another, scoping and defining the requirements to a supplier would take a lot of time and effort, they would end up needing to "support to such a high degree", that they feel "we may just as well do it ourselves" (Company B, 2012).

Company C representative explains "when you start a product development project, you have an idea of what you want, but you have no idea at all of how you are going to get there" (2012). "It's one big discussion with decisions being made all the time, so it's not really possible to write a specification, leave that to someone and say *come back when you are ready!* it would never work" (2012) he also believes that they "would have to specify everything so in detail and it is quite a lot of work" (2012) and even then, there is the risk that "suppliers don't share the vision and knowledge" (2012) which could result in a product different to the rest of the line, the representative adds "it's better to just have the resource instead" (Company C, 2012).

The interviewee from Company D believes that "it is tricky to scope a project because normally when you get to the pre-study is at an early stage" (2012). "It's difficult to know what options are available and what the benefits for the different options are, we have quite a good idea of what we would like to achieve, but the user interface and the practical solution need to be tried out so it could be quite difficult" (Company D, 2012).

4.3.5 Learning Curve

Some of the interviewed company representatives consider time as an important factor before purchasing projects or hiring resources from an IT consultancy. In the case of Company C, they chose not to outsource projects because the machines they make are

so complicated that "it's unlikely that anyone from the outside would be able to come in quickly and lift the workload" (Company C, 2012), so they feel "it's better to just have the resource" instead.

In Company B, they always want the very experiences engineering consultants, since "some of them star working efficiently from day one, depending on the task" (2012) as well as using the same suppliers whenever possible is in an attempt to keep a "short and steep learning curve" (Company B, 2012).

"One needs a lot of knowledge about our products in order to contribute" says the representative from Company E (2012), "it would take too long to train an outsourced supplier", "it takes time to build product knowledge and responsibilities and the business is very sensitive to margin, so we simply cannot afford doing that" (Company E, 2012).

4.3.6 Access to New Competencies and Knowledge

One benefit of outsourcing is to "cover competencies that we don't have in-house" says Company B (2012) representative "such as radio and antenna performance, these are such specialized competencies that are not needed in-house so the company has chosen to outsource that" (2012).

For this reason, Company B (2012) representative adds "the decision to outsource is usually taken when we are missing something, either we do not have the competencies or we do not have the resources", in the case of radio and antenna performance, is outsourced because they "don't have the competency or the equipment in-house" (Company B, 2012).

Knowledge and competencies are also discussed both, as a benefit and as a major risk of outsourcing for Company B, in the sense that "NDA's don't cover knowledge, so the suppliers gain knowledge in general electronics and software and for some applications this company doesn't want to spread that specific knowledge" (2012). "On the other hand it is desirable that outsourcing suppliers learn from other companies so that this company can take advantage of that as well [getting] new information, new knowledge and new methods" (Company B, 2012).

However, Company C comments, about the knowledge gained by consultant that "when the consultants leave the company, they take the knowledge with them" (2012).

In the case of Company D (2012), although they can normally solve small problems in-house they prefer to hire consultants for IT development or re-development due to their "more up to date competencies". Representative explains that since IT is not a major part within their products, "There's not really any interest to build IT knowledge in-house, a consultant is more up-to-date with the general development of the IT market and so the company benefits from the latest knowledge in IT" (Company D, 2012).

Consultants are not used for the core business in Company F (2012), in order to "prevent loss of knowledge". They have thought about outsourcing entire projects such as supporting software like infrastructure for networking and database handling but have not tried so far. However they realize their product is extremely complex and high-tech; it requires a lot of knowledge in many different areas, but only develop a new product "every 5 years", therefore "it is not sustainable to have all the competencies all the time".

Finally, representative from Company G (2012) comments about competencies as a reason not to outsource projects: "We do not outsource whole projects, but do use consultants in house, in order to get the certificates we want for our products, we have to follow strict procedures and few external companies can live up to this", in addition "some roles require high product knowledge" (Company G, 2012).

It was important for Company C representative to point out that in his experience, outsourced projects or consultants are not "a long-term fix" because "when the project is finished or consultants leave the company, they take the knowledge with them and are not there to answer questions that the company may have". (Company C, 2012)

4.3.7 Quality

In their industry, quality is very important, comments representative of Company A (2012) "our product is very special, almost like artwork", and "the competition is about quality, maybe now it will start changing to be price", but it still has to "follow very strict regulations as a medical device" (Company A, 2012).

"Another risk with outsourcing is that you have to make sure that the supplier provides the software at the right quality level according to the rules and values of the buying company" says representative of Company E (2012).

Representative from Company C (2012) explains, quality is essential in its products due to its "long product lifecycles", "it is quite different if you make some products that live for one year or so, we have to be quite right, because you can't really change it". Due to his experience, in-house consultants are preferred, he speaks about projects: "the result was sometimes not that good, because it was *made to work*, but the code was not structured in a way that you can build on it, live with and take care of all the issues in the running production and maintenance".

4.3.8 Proximity

Within the interviewed companies, there was a clear preference for contracting in-house services rather than specifying a project, it appears that proximity is an important factor; "So far we've chosen in-house software development because it requires proximity to other engineers and a lot of testing and validation, therefore it would be difficult to outsource part of the project" says Company F representative (2012). Likewise, Company C (2012) says "we prefer to have the resource consultants here" because "the machines we do are quite complicated systems of mechanics electronics and software that work together" and "even if we outsourced we would have to have someone working here with the complete system", "you would have to include people from here anyway".

Proximity as a benefit is also discussed by Company A representative (2012); "when a project is done in house scope always changes, because you have close contact with developers and project managers, but if you outsource a project you don't get that chance, they are out of sight maybe in a different company or even different time zones". In fact, he says, "communication under different time zones is a major challenge".

Company G (2012) strategy also states proximity as factor to outsource; "it is important to have people on site during build up" this is true even when it speaks about sending work packages to lower cost sites within the company.

4.3.9 Cost

Cost benefits are discussed for example by Company D representative (2012), while explaining that the company does not have enough tasks to hire another full-time employee to focus only on IT development. He explains that "they would only be used for 2-3 months per year", thus "the benefit of hiring a consultant versus hiring a new full time employee is that the company only pays for what it needs".

On the other hand Company C (2012) mentions, the choice to hire consultants is not to be taken lightly as he believes "it is too expensive", which is reinforced by comments from Company E (2012) which has access to resources in lower cost countries; "[The company] would consider outsourcing for example a piece of code within Sweden if it needs a specific competence and the price is acceptable".

Finally Company B (2012) representative comments about cost as a driver to outsource "maintenance tasks", however for development even if in-house resource consulting is sometimes more expensive than outsourcing a project, they make that trade due to the desire to "keep full control of the technology".

4.3.10 Special Regulations

A benefit to have resource consultants over projects or 100% full time employees is as explained by representative of Company B that "when we have a period where we don't require many resources, we can let go of consultant engineers quite easily, this is not possible with employees, so we want to have an employee buffer". In addition, Company C representative believes that the amount of consultants in the company "is maybe the Swedish model on how you employ people and regulations around that".

4.4 Outsourcing IT services –Analysis of Purchasing Records

The quantitative part of this study comprises 307 companies signing 765 purchasing orders for IT services to the case consulting company, which have been completed or in progress during 2011 calendar year.

For the purpose of the study, this information has been extracted from a the service provider case company and categorized using their own "project type" label included as information in the firms Customer Relationship Management software (CRM).

Once obtained the complete list of customer names and orders, information for profiling was gathered using independent internet sites that provide official company information available for the public such as; allabolag.se for Sweden, krak.dk for Denmark, gulesider.no for Norway in addition to the particular company official homepages.

Not Determined (N/A) was indicated in those cases when the company was not found in the different search engines stated above or official website was not found. This suggests that the majority of these companies are either small young companies or registered outside Nordic boarders.

The customers have been categorized in three different ways to investigate outsourcing practices and preferences.

4.4.1 Categorization by Size of the Customer

The first categorization was performed according to company's size which in this study is determined by company number of employees. EU directives has been used as a guidance to determine the variables of size, definitions only exists for Small and SME and everything above that is regarded as Large (Tillväxtverket, 2011), however in order to allow for more detail, *Multinational* was also included, resulting in the following categories:

- Small <50 Employees
- SME (Small Medium Sized Enterprise) 51 to 250 Employees
- Large 250 to 999 Employees
- Multinational >1000 Employees
- Not Determined (N/A)

Resultant information is entered in table 4.1 below, which illustrates the number of purchasing orders (Line Items) per category; the percentage of the total revenue; a division of the number of purchases by project (No. Project) and resources (No. Resources) as well as a calculated percentage of the total purchasing orders of each category (Projects % and Resources %) and a percentage of revenue acquired by each offer (Project Revenue % and Resources Revenue %).

	Line Items	Revenue (%)	No. Project	No. Resources	Projects (%)	Resources (%)	Project Revenue (%)	Resources Revenue (%)
Multinational	280	53%	49	231	17%	83%	34%	66%
Large	127	15%	31	96	24%	76%	17%	83%
SME	115	13%	20	95	17%	83%	11%	89%
Small	139	9%	35	104	25%	75%	48%	52%
N/A	104	10%	44	60	42%	58%	63%	37%
Total	765	100%	179	586	23%	77%	33%	67%

Table 4.1 Categorization by Size of the Customer

The data reveals that Multinational companies have both contracted the highest number of services (280) and have resulted in the group generating the highest proportion of revenue (53%) to the IT consultancy. The relation between number of orders by the different groups divided between resources and projects can be seen below (Figure 4.1).
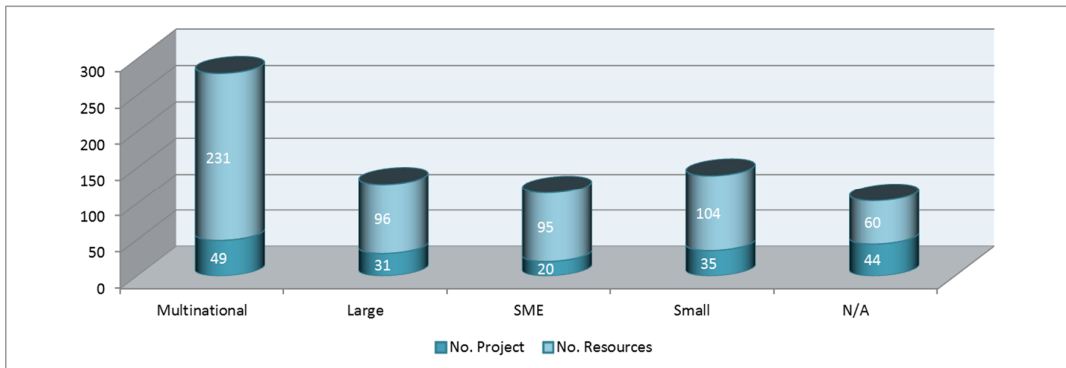

Figure 4.1 Number of orders by Size of the Customer

However, every order has a different value, for this reason an additional figure 4.2 below illustrates the expenditure ratio between projects and resources. In this case, data strongly indicates that Small companies have invested the most in terms of projects reaching 48% of their total investment. This findings could be reinforce if considering that most of the companies in the Non Determined (N/A) group are presumed to be small companies and for that reason they did not figure in the search engines utilized or have an official website.
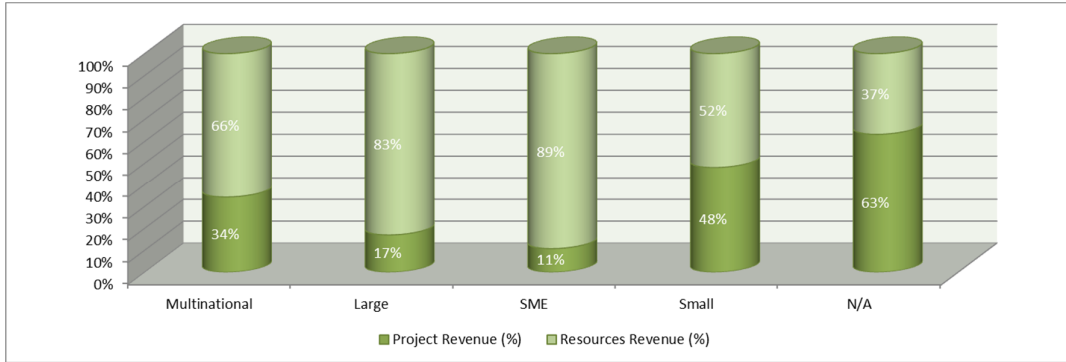
Figure 4.2 Expenditure Ratio (Projects to Resources) by Size of the Customer

4.4.2 Categorization by Age of the Customer

The second categorization was performed according to the company's age; based on the foundation date and resulting in the following groups:

- Less than 10 years old
- 10 to 24 years old
- 25 to 49 years old
- 50 to 100 years old
- More than 100 years old
- Not Determined (N/A)

Resultant information is summarized in Table 4.2 below, which utilizes the same setup as described in section 4.4.1.

	Line Items	Revenue (%)	No. Project	No. Resources	Projects (%)	Resources (%)	Project Revenue (%)	Resources Revenue (%)
Less then 10 years old	66	8%	19	47	29%	71%	51%	49%
10 to 24 years old	141	14%	22	119	16%	84%	10%	90%
25 to 49 years old	207	26%	49	158	24%	76%	20%	80%
50 to 100 years old	199	35%	43	156	22%	78%	41%	59%
More 100 years old	57	8%	7	50	12%	88%	24%	76%
Not Determined	95	9%	39	56	41%	59%	61%	39%
Total	765	100%	179	586	23%	77%	33%	67%

Table 4.2 Categorization by Age of the Customer

In this case, data demonstrates that "50 to 100 years old" group is the main contributor to the supplier's revenue with 35%. Plotted in Figure 4.3 below, data illustrates that "25 to 49 years old" is the group that has retained outsourced services the most occasions with a total number of 207 orders, followed closely by "50 to 100 years old" group with 199 orders active during 2011.
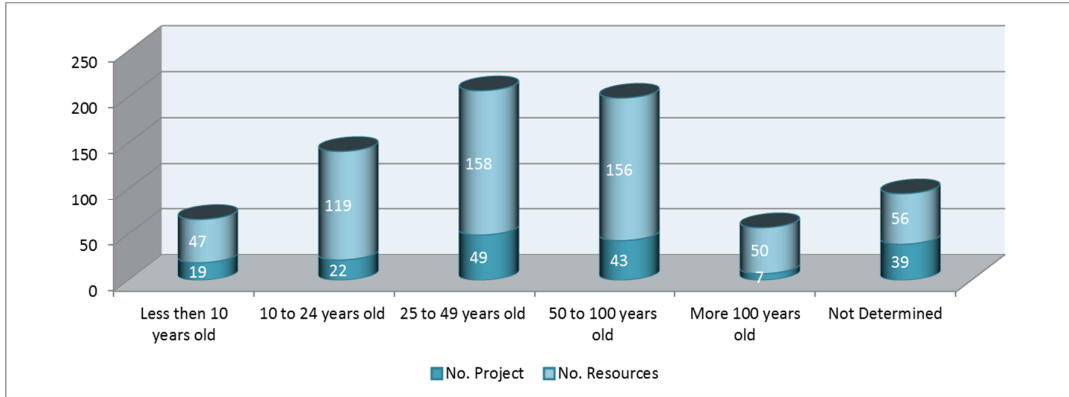
Figure 4.3 Number of orders by Age of the Customer

Figure 4.4 illustrates the calculated expenditure ratio between projects and resources by age of the customer in, which reveals that "Less than 10 years old" group applies the highest percentage of their spending in this particular IT service consultancy in outsourced projects, reaching 51%. Once more, this finding could be further supported if considering that most of the companies in the Non Determined (N/A) group are presumed to be small young companies that did not figure in the search engines utilized or do not have an official website.

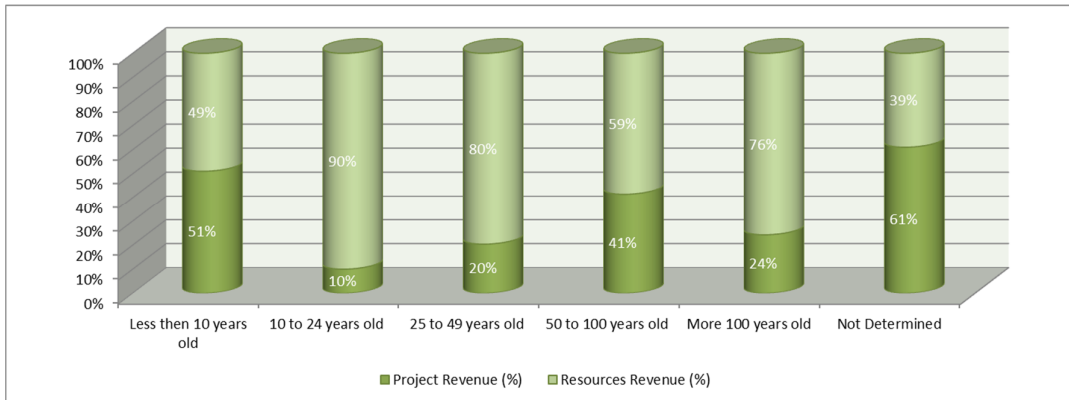*Figure 4.4 Expenditure Ratio (Projects to Resources) by Age of the Customer*

4.4.3 Categorization by Sector of the Customer

The third and final categorization was performed according to the company's business sector. The resulting categories remain similar to those in the search engines utilized for gathering information (allabolag.se), resulting in the following segments:

- Biotechnology Industry
- Communication Industry

- Computer Industry
- Consultancy Industry
- Electronic Industry
- Machine Manufacturing Industry
- Medicine Equipment Industry
- Non Categorized (Assorted)
- Transport/Military/Space Industry
- Non Available (N/A)

	Line Items	Revenue (%)	No. Project	No. Resources	Projects (%)	Resources (%)	Project Revenue (%)	Resources Revenue (%)
Biotech	32	4%	3	29	9%	91%	6%	94%
Communication	27	4%	4	23	15%	85%	10%	90%
Computer Ind.	66	9%	15	51	23%	77%	36%	64%
Consultancy	74	7%	18	56	24%	76%	18%	82%
Electronics	205	24%	28	177	14%	86%	13%	87%
Machine Manufacturing	102	14%	28	74	27%	73%	49%	51%
Medicine Equipment Ind.	71	13%	12	59	17%	83%	27%	73%
Non Categorized Industry	31	4%	16	15	52%	48%	51%	49%
Transport, Military, Space	62	13%	14	48	23%	77%	55%	45%
N/A	95	8%	41	54	43%	57%	63%	37%
Total	765	100%	179	586	23%	77%	33%	67%

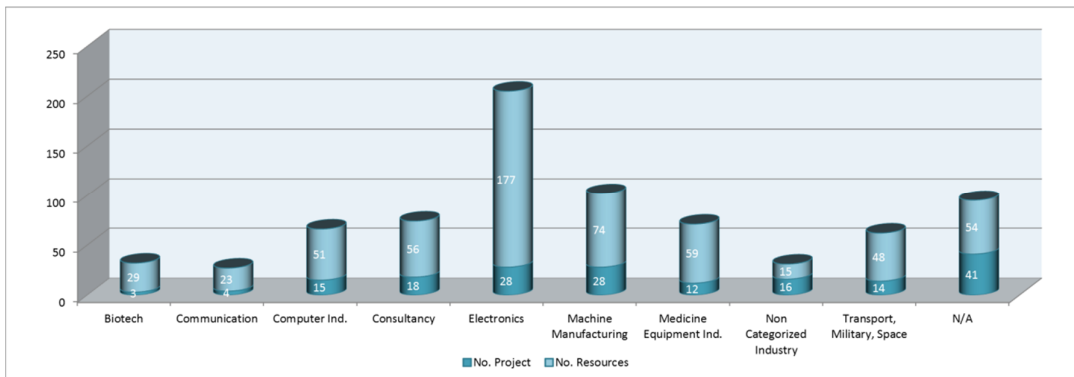*Table 4.3 Categorization by Sector of the Customer*

Figure 4.5 Number of orders by Sector of the Customer

Table 4.3 above summarizes the resultant information, using the same setup as previous sections. This categorization presents the Electronic industry as the sector making the highest amount of purchases and contributing the most to the total revenue of the IT consultancy participating in this study.

Chapter 5 - Discussion

During the interviews, it became apparent that in some cases the same factor could be discussed both a positive or a negative relationship to the propensity to outsource due to the perceived large differences between outsourcing IT development to consultancies when it is scoped as an in-house resource compared to when it is out of the company boundaries as project. Moreover, the perceived benefits and drivers to contract one service or another demonstrated to be different. For these reasons, the factors are discussed in the small groups derived from the collection of all obtained themes from customer and IT supplier interviews and the grouping by strongest affinity as illustrated in figure 5.1 below which is color coded according to the element's origin and further displays index numbers from 5.1 to 5.7 corresponding to the discussion sub headings.
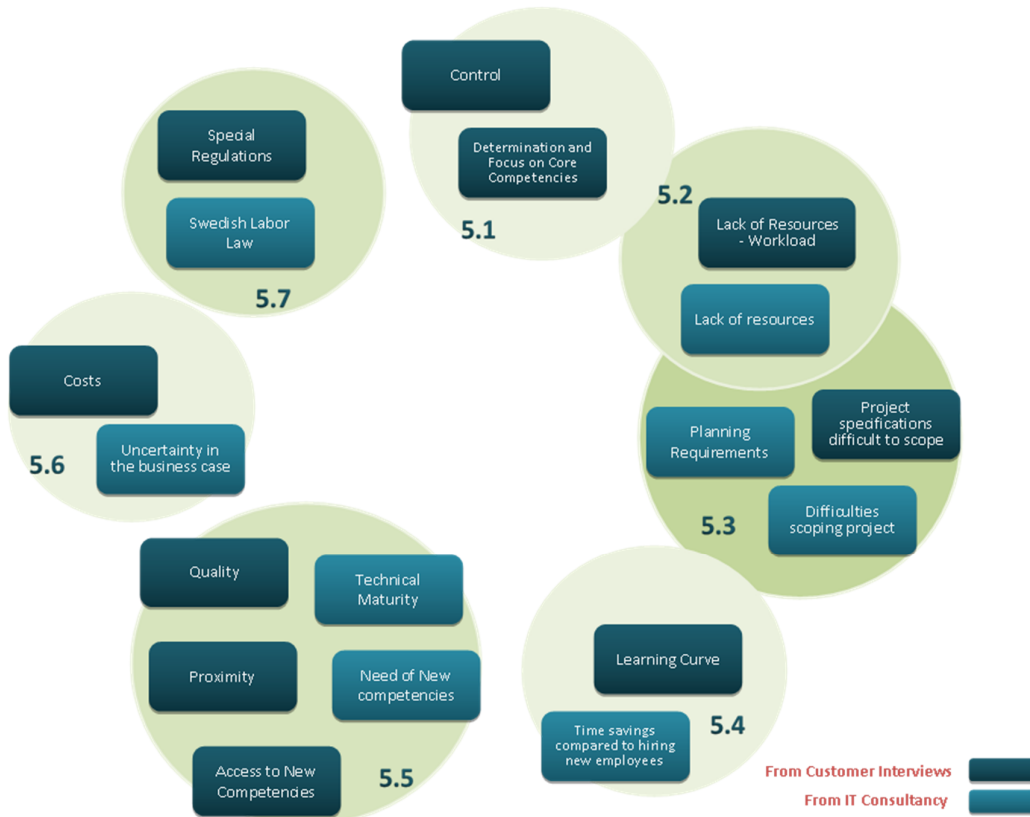
Figure 5.1 Affinity between identified factors - Discussion guide

5.1 Control and Focus on Core Competencies

As primary research demonstrated, companies are cautious to identify what they consider their core competencies, in addition every company agreed that outsourcing core competencies would not be a wise decision, in the words of Company F representative "It simply doesn't make sense to outsource what we are good at"(2012). Interestingly however, no company defined IT or software development as a core competency other than Company C, yet every company included IT within their centralized product development departments and chose consultants as their preferred type of outsourcing in quantities varying between 10 to 30 percent.

Linder explains the conventional wisdom that gave momentum to the outsourcing phenomenon by arguing that for an organization to achieve the highest performance, it must focus on doing few things well while everything besides those considered core competencies is a distraction from the best use of the firm's time (2004). In a sense, every company seems to accept this traditional convention in the fact that no company would think to outsource their core competencies, however in practice, companies appear to still endeavor to keep in house more competencies than those considered core, perhaps reducing the potential benefits that outsourcing IT development could yield; among them freeing time to concentrate on actual core competencies (Antonucci, Lordi & Tuckers, 1998).

This behavior could be explained by Chesbrough and Teece (1996) matrix regarding outsourcing innovation, which suggests that outsourcing or *going virtual* is only recommended when the type of innovation is autonomous and exist outside the firm. In fact, one could argue that the interviewed companies' products contain embedded systems and software, only as part of a systematic innovation, hence company's reluctance to outsource as entire development projects and preference towards IT development firms providing resources; all as an effort to maintain control over the final product since the firm "will have to live with it" (Company C, 2012).

Summarizing, control over core competencies in combination with the different perceived core competencies of a firm appear to have a negative relation to the propensity to outsource IT services, especially regarding complete outsourced projects.

5.2 Lack of Resources Relation to IT Development Resources

The confrontation between the theoretical frame of reference, the customer and the supplier of IT development services confirm *Lack of Resources* as an outsourcing driver.

Howells, James and Malik (2003) research delivered the "need to tap additional manpower" as one of the three most common reason to outsource. In fact, Company A representative affirms "The most common reason to outsource is lack of resources in house"(2012) which is supported by all companies during interviews, in addition IT development Supplier appear to understand this driver and believe under this temporary state of resources' shortage eventually result in the contracting of resource consulting (IT Consulting, 2012).

In this sense, a positive relationship between lack of resources and outsourcing development services as resource is confirmed. However it is unclear whether the relationship extends to include project outsourcing, implications lack of resources relation to outsourcing development projects is discussed in the following section.

5.3 Role of Customer's Lack of Resources in Project Scoping and Planning Requirements

The positive relation between *Lack of Resources* and the propensity to outsource IT Development Projects is put into question, due to the common reinforcement of the exhaustive planning requirements to execute a project quotation and specification.

As suggested in the frame of reference, Bozdogan et al. (1998) argues that buying from an external supplier could involve high transaction costs (Williamson 1975, 1989) due to the increased complexity of writing fully-specified contracts. In this respect Sales Manager of the IT Consulting firm mentions an example of a project quotation taking one and a half years' worth of work (2012) which is supported by most companies interviewed. In fact to get the project specification "right" is understood by all interviewees as critical step for the success of any initiative; "the risk is the scoping, because you only get what you scope" (Company A, 2012) and in order to accomplish a successful specification the company requires to invest a lot of time and effort (Company B, 2012) that at peak of workload may be unavailable. This perceived need

to "support to such a high degree" ultimately result in companies like Company B agree "we may as well just do it ourselves" (2012).

Moreover, when talking about outsourcing innovation, companies emphasize, it is especially difficult to produce a detailed specification for a new product (Company B, 2012); "(...) it's not really possible to write a specification, leave that to someone and say *come back when you are ready!* It would never work" (Company C, 2012). All companies agree, in order to make a project work, certain level of support in house in essential.

Altogether, these findings from primary research suggest that a firm is not likely to invest large amounts of resources to scope a project prior-to/while in need of additional resources, which further indicates that there are different reasons to source specialist consulting compared to development projects, perhaps due to projects being more of a "strategic" initiative.

Planning requirements added to the existing resource demands on the customer, clearly have an effect on the propensity and type of outsourced services used by a company; in the experience of IT Consulting Sales Manager, the reason why companies are more likely to hire outsourced consultants rather than buying projects is that companies tend to "man-up, then organize" (2012).

5.4 Time Savings and Learning Curve relation to Outsourcing

It appears to be consensus in terms of time savings being expected by a firm when acquiring the services of IT consultants. In many cases like in Company C (2012), the learning curve is a main concern which make them prefer resource consulting over the alternative project or temporary employees; In the experience of Company B representative, "some of them (consultants) start working efficiently from day one, depending on the task".

For these reasons, the supplier offers the resources to present at the customer site within two to four weeks (IT Consulting, 2012) while assuring engineering resources up to date with the latest IT developments.

5.5 Access to New Competencies, Quality Assurance and Proximity when Deciding Between Outsourcing Offers.

Numerous references about proximity have been mentioned to justify the companies' preferences for contracting in-house services similar to Company C representative, whom says "we prefer to have the resource consultants here" because "the machines we do are quite complicated systems of mechanics electronics and software that work together" (2012).

In addition proximity appears to ease communication of the involved parts since "communication under different time zones is a major challenge" (Company A, 2012) while allowing for scope changes to occur as the project develops.

However proximity appears to bring additional benefits, for example Company G (2012) strategy includes proximity as factor "it is important to have people on site during build up" applying to outsourcing in addition to sending work packages to lower cost sites within the company. This quote implies proximity as an enabler to transfer new competencies which are one of the strongest factors mentioned to influence the outsourcing decision during interviews as well as in Howells James and Malik (2003) research which suggest "gain specialist expertise" and "access to specialist techniques or equipment" as two of the three most common reasons to outsource.

For example, Company B representative comments that "the decision to outsource is usually taken when we are missing something, either we do not have the competencies or we do not have the resources" while during development of a new product, Company D representative would take in consideration that "a consultant is more up-to-date with the general development of the IT market and so the company benefits from the latest knowledge in IT" (2012) which is in line with Antonucci, Lordi and Tuckers (1998) while suggest that outsourcing gives companies access to the latest technologies.

In fact Unit Manager on the participant IT Consultancy coincides that a popular reason to outsource is to "get new knowledge that they don't have themselves, to raise technical maturity and some use it to bridge a competency gap" (2012), which in a sense is true for both major offerings projects or resources, however when outsourcing projects, it appears less likely that a customer companies could/desire to build new competencies in house. This is supported by Company B representative whom states

would outsource to "cover competencies that we don't have in-house" (2012) while adding "such as radio and antenna performance, these are such specialized competencies that are not needed in-house so the company has chosen to outsource that" (Company B, 2012); or as Company D representative explains "There's not really any interest to build IT knowledge in-house" (2012). In this type of cases, need of new competencies while the decision has been taken not to build competencies in house, appears to be related to the propensity to outsource IT development projects and reduce the need for proximity.

Knowledge and competencies are also discussed as a risk for the firm's competencies to be shared out (Company F, 2012), which is an undesired effect of the activity, however in many cases these concerns are either overpowered by the desire to learn "new information, new knowledge and new methods" (Company B, 2012) or mitigated by using consultants only on maintenance or supportive tasks (Company F, 2012).

Finally Interviewed companies perceived proximity to be a factor to assure quality of the final product. For all companies interviewed quality is an essential condition, for this reason representative from Company C explains, in-house consultants are preferred, he speaks about projects: "the result was sometimes not that good, because it was *made to work*, but the code was not structured in a way that you can build on it, live with and take care of all the issues in the running production and maintenance" (2012).

Summarizing, the desire to obtain new competencies / knowledge or the presence of a competency gap is positively related to outsourcing. In addition proximity appears to be a decisive factor when considering the specific type of outsourcing offering a firm choses, resulting in e.g. consulting resources when the firm desires to build up new competencies in house.

Interestingly, organizations appear to use proximity as an enabler to transfer new competencies, to mitigate knowledge loss and to assure quality, which may in cases result in the use of consultants rather than projects despite the lack of interest to build new competencies in house.

5.6 Cost Effects

There were different situations that modified the effect of cost on the decision to outsource to IT Consultancy companies. For example, for companies like Company D (2012) which would not find use to have a full time employee for IT development or only need additional resources for a short period of time, the cost of hiring and keeping new employees is higher than outsourcing, hence making it the most attractive choice.

However, it is clear that consulting services by the hour are not cheaper than full time employees in the long run (Company C, 2012), added to the strategic buffer planning discussed under Special Regulations (see Section 5.7) suggest that cost is not the main driver of a firm's outsourcing initiatives.

This proposition appears to be opposed to the conventional wisdom empowering the beginnings of the outsourcing phenomenon as described by Moskowitz (2009) and in line with Stanko and Calantone (2011) research on drivers of outsourcing innovation arguing consensus to be established, in that cut cost is solely a secondary concern among others.

5.7 Special Regulations

Special regulations appear to play a role promoting the use of IT development consultants. Although perhaps unintended, Swedish labor law, appears to complicate the downsizing processes for employers in times of low workload (Company B, 2012), hence companies like Company B try to overcome with the use of resource consultants as a buffer (Company B, 2012).

This effect is well understood by IT Consultancy participating in the study, "Swedish law makes it harder if you want to downsize, so if you want to ramp up quickly, it is easier to use consultants, because you can also downsize much quicker when you need to" (Unit Manager, 2012).

At this point it is unclear if the Swedish Regulations have an effect to the propensity to outsource development projects.

5.8 Quantitative Data Discussion

Interviews have suggested that there is a clear preference for outsourced IT development consultants over development projects. The quantitative analysis has confirmed that in the specific case of the participant IT consultancy the clear largest contributor to the consultancy revenue was offering resources to Multinational companies within 25 to 100 years old in the Electronics sector, which confirms Stanko and Calantone (2011) results demonstrating that large firms have a greater tendency to outsource. However, this analysis further aims to clarify whether the outsourcing behaviors are similar for every segment of the customer population or not. Three different segmentations where tested, company size, age and business sector.

Significant results can be drawn from size and age of the company, which demonstrated that in the case of small and young (>10 years old) sector of the population the resource "preference" ratio is different than in the others. The ratios in number of contracts purchased are the most equilibrated; in addition the spending in project offerings is 48% for the small companies and 51% for less than 10 years old companies (See Categorization by Size and Age of the Customer, Sections 4.4.1 & 4.4.2).

These results suggest that at least in the case of the particular IT Consultancy customer base, there are significant differences in the purchasing behaviors depending on a company Size and Age. This could be explained in terms of different needs, access to resources or preferences, that if confronted to *Control and Focus on Core Competencies* and *Role of Customer's Lack of Resources during Project Scoping and Planning Requirements* (Section 5.1 & 5.3) suggest that small and young companies are, for example, more likely to fulfill the planning requirements to develop a project specification.

Chapter 6 – Conclusions

This research study set to find insights regarding the factors influencing a firm's decision to outsource innovation to IT consulting organizations. In an effort to maximize the potential of the study a combination of qualitative small-n study including a quantitative analysis was performed.

During primary data collection several factors have been identified to have a positive or a negative relation to the decision and the type of outsourcing offering a company will procure, these were: Lack of Resources, Project Scoping and Planning Requirements, Time Savings, Access to New Competencies, Quality Assurance, Proximity, Cost Effects and Special Regulations, which were discussed in groups with affinity of effect.

In addition, research yielded two main types of outsourcing IT development services in use by the participant companies and provided by the case IT Development Supplier, specialist consulting and development projects which resulted to be essential in the analysis of the data. In this regard, quantitative analysis results confirmed the dominance of consulting resources over offerings such as projects.

In combination, this study has demonstrated a difference in effect of the factors contributing to the decision to outsource depending on the different offerings. For example, qualitative analysis following the constant comparative method (Miles & Huberman, 1994) suggests a positive relation between the lack of resources to the contracting of IT development services when in house, while however it appears to be negative for outsourced IT development projects.

This research further confirms that firms are not likely to outsource Core Competencies; however, it appears that in the desire to retain control over competencies, even competencies not considered core for the interviewees, plays an important role nurturing the abundance of in house consulting with a negative effect to outsourcing IT development projects.

Different time effects such as time savings and the desire to shorten learning curve was identified to have a positive relation to outsourcing resources in addition to access to new competencies, when the firm aims to build new competencies in house. Additionally, proximity to the outsource initiative appears to be a decisive characteristic

when a firm contemplates outsourcing resources and it is discussed as means to assure quality.

The effects of cost in the decision to outsource are also discussed. These appear to be opposed to the conventional wisdom empowering the beginnings of the outsourcing phenomenon and in line with research on drivers of outsourcing innovation accounting for consensus, in that cut cost is solely a secondary concern (Stanko & Calantone, 2011).

Interestingly particular Swedish Regulations appear to have an effect on the planning of firm's manpower and creation of a consultant buffer as they perceive downsizing under mentioned regulations to be a problem. However the effect on development projects was impossible to infer under the time and participant constrains.

Finally quantitative analysis and segmentation suggested that small and young firms respond differently in terms of proportion of purchases and expenditure in projects compared to resources.

6.1 Future Research

In conjunction with the qualitative data, statistical results delivered interesting insights regarding the nature and offer preference of companies by the studied segments. Unfortunately however, little more can be construed with the small population in the qualitative part of the study. An extension to the study with a larger sample of companies within the small and young (>10 years old) groups could deliver interesting results regarding the reasons why their outsourcing behaviors deviate from other groups.

In addition, sampling companies that utilize outsourcing more extensively in the form of projects or entire activities within the firm could sustain similar studies and generate interesting results regarding the drivers of outsourcing innovation from an IT Development Consultancy.

Finally, while this study revealed evidence of Swedish regulations around employment influencing the propensity to utilize IT Development Consultancy's services, it could be interesting to study the effect of these special regulations, the ease and abundance of specialist consultants with project and activity outsourcing.

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Appendix

Interview guide Outsourcing Innovation Practices and Decision Process

- How are the innovation efforts configured inside the company? (Creation of New Products and Services)
    - What benefits are expected from the chosen model over alternative structures?
- In what way is *outsourcing* utilized in the firm's innovative efforts?
- Why outsourcing these type of services and projects?
- How was the opportunity assessed?
- How was the decision to outsource taken?
- What benefits and risks were expected?