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Cost efficiency in international multi-site engagements

Case: Capgemini Finland Ltd

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Abstract

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Title Cost efficiency in international multi-site engagements Case: Capgemini Finland Ltd	**Number of pages and appendices** 91 + 3
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This study is a case assignment for Capgemini Finland Ltd and the topic is Cost efficiency in international multi-site engagements. The main objective of the study is to increase knowledge regarding common quality frameworks and working practices. The intention is to find out whether they help increasing cost efficiency in the selected area and how this could be enhanced. The topic arose from the current engagement environment in Capgemini Finland: increasing amounts of work is being outsourced to Capgemini India making the engagements international and multi-sited. Three case engagements carried out in co-operation between Capgemini Finland and Capgemini India are included in the study.

This study consists of two main sections: literature review and empirical study. In the literature review relevant theories are discussed and applied to the case engagements. The literature review begins with a discussion about business transformation and then moves to factors behind cost efficiency according to Barney's resource-based view on competitive advantage. The literature review then continues to outsourcing and offshoring according to Dunning, quality management according to Ooi et al. and finally engagements according to Nokes et al.

The empirical study was conducted with the help of qualitative, thematic interviews: two engagement managers for each case engagement were interviewed and additionally some quantitative data regarding the case engagements was analysed. Based on these conclusions and recommendations were then made.

As a result of this study a number of findings were discovered. They indicated that cost efficiency could be increased by taking some improvement actions in the areas of common quality frameworks, working practices and engagements' human resources. Actions in promoting knowledge management, reducing attrition of human resources, enhancing support for using common quality frameworks, merging quality practices, creating more documented practices, increasing automation and considering cultural differences between Finland and India were found most important.

In conclusion, specific recommendations for improvements regarding the findings were made. As it was found common quality frameworks and working practices increase cost efficiency in international multi-site engagements, the recommendations are formulated to support this positive effect. The recommendations are implemented in Capgemini Finland from spring 2011 onwards.

Key words
Cost efficiency, engagement, internationalization, offshoring, quality framework, working practices

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Tiivistelmä

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Tekijä Viliina Lilja	**Ryhmä**
Aihe Kustannustehokkuus kansainvälisissä usean toimipaikan toimeksiannoissa Toimeksianto: Capgemini Finland Oy	**Sivumäärä ja liitteet** 91 + 3
Ohjaaja Seija Ranta-aho	

Tämä tutkimus on tehty Capgemini Finland Oy:n toimeksiantona ja sen aihe on Kustannustehokkuus kansainvälisissä usean toimipaikan toimeksiannoissa. Tutkimuksen päätavoitteena on lisätä tietoisuutta yhteisistä laatukehyksistä ja työmenetelmistä. Tarkoituksena on selvittää, lisäävätkö ne kustannustehokkuutta valitulla alueella ja miten tilannetta voidaan kehittää. Tutkimuksen aihe valikoitui Capgemini Finlandin nykyisen toimeksiantoympäristön perusteella: Capgemini India:n ulkoistetaan enenevässä määrin työtä, jolloin toimeksiannoista tulee kansainvälisiä usean toimipaikan toimeksiantoja. Tutkimuksessa on mukana kolme Capgemini Finlandin ja Capgemini Indian yhteistyössä toteuttamaa toimeksiantoa.

Tässä tutkimuksessa on kaksi pääosiota: teoria ja empiirinen tutkimus. Teoreettisessa osiossa käydään läpi keskeisiä teorioita ja sovelletaan niitä valittuihin toimeksiantoihin. Teoreettinen osio alkaa keskustelulla liiketoiminnan muodonmuutoksesta, sen jälkeen käsitellään kustannustehokkuuteen vaikuttavia tekijöitä Barneyn Yrityksen resurssit ja pysyvä kilpailuetu -teorian pohjalta. Seuraavaksi käydään läpi teorioita ulkoistamisesta Dunningin avulla, laadunhallinnasta Ooi et al. mukaan sekä toimeksiannoista Nokes et al. avulla.

Empiirinen tutkimus toteutettiin kvalitatiivisina, temaattisina haastatteluina: jokaisesta toimeksiannosta haastateltiin kahta toimeksiantopäällikköä ja lisäksi jokaisesta toimeksiannosta analysoitiin kvantitatiivista tietoa. Tämän perusteella tehtiin päätelmiä ja annettiin suosituksia.

Tutkimuksen pohjalta voidaan nimetä useita päätelmiä. Voidaan päätellä, että kustannustehokkuutta pystytään lisäämään tekemällä parannuksia yhteisiin laatukehyksiin, työmenetelmiin sekä toimeksiantojen henkilöresursseihin. Toimenpiteet liittyen tiedonhallinnan parantamiseen, henkilöresurssien vaihtuvuuden vähentämiseen, yhteisten laatukehysten käytön tuen parantamiseen, laatukäytäntöjen yhdistämiseen, uusien dokumentoitujen käytäntöjen luomiseen, automaation lisäämiseen sekä Suomen ja Intian välisten kulttuurierojen huomioimiseen osoittautuivat tärkeimmiksi.

Tutkimuksen päätelmiin pohjautuviin parannusesityksiin liittyen on tehty myös tarkempia ehdotuksia. Koska voidaan päätellä, että yhteiset laatukehykset ja työmenetelmät lisäävät kustannustehokkuutta kansainvälisissä usean toimipaikan toimeksiannoissa, tehdyt ehdotukset on suunniteltu tukemaan löydettyä positiivista vaikutusta. Ehdotukset otetaan käyttöön Capgemini Finlandissa keväästä 2011 alkaen.

Avainsanat
Kustannustehokkuus, toimeksianto, kansainvälistyminen, ulkoistaminen ulkomaille, laatukehys, työmenetelmät

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1 Introduction

This study is a case assignment for Capgemini Finland Ltd. and its focus is in international multi-site engagements. The purpose is to find out how to increase cost efficiency in the selected types of engagements. The outcome of this study functions as a basis for further development in Capgemini Finland. The outcome will help in applying common quality frameworks and working practices in international multi-site engagements.

Cost efficiency in international multi-site engagements is a current topic, since many firms in information technology (IT) service industry are outsourcing increasing amounts of work to their offshore offices in India and other locations. One of the biggest reasons for doing this (in addition to i.e. gaining access for large pools of skilled labour) is that firms are trying to increase the cost efficiency of their work: increasing the firm's profit and offering more competitive prices to the clients. At the same time engagements become harder to control when team members are from different nationalities and located in different countries.

This study contains two main sections: theory and empirical study. The theoretical section creates an overall understanding about related concepts: business transformation, cost efficiency, outsourcing and offshoring, quality management and engagements. The empirical study consists of quantitative data and qualitative interviews conducted with engagement managers based in Capgemini Finland and Capgemini India. Based on the data suggestions are made about what quality management practices and working practices should be emphasized in order to maintain good cost efficiency in international multi-site engagements. The study also includes an introduction of the case firm and the selected cases.

1.1 Needs and objectives

Capgemini has introduced its offshoring concept called Rightshore® in 2003; the largest Capgemini offshore location is India. Capgemini Finland and other onshore offices aim at increasing cost efficiency in their client engagements by outsourcing parts of the work to Capgemini India and other Capgemini offshore locations. Using Rightshore® makes the engagements become international and multi-sited. For supporting the engagement work in the international multi-site environment Capgemini has introduced common quality frameworks and

working practices, i.e. common document templates and a Rightshore® Guide (Capgemini 2010c).

Cost efficiency is the research phenomenon in this study. The research objective is to increase knowledge: whether common quality frameworks and working practices help increasing cost efficiency in Capgemini Finland's international multi-site engagements and how this could be enhanced. It is studied how common quality frameworks and working practices are used and how they affect the engagement's cost efficiency. International multi-site engagements are studied because distance, language and cultural differences make them more challenging than national engagements where work is performed on a single site – hence common quality frameworks and working practices are of great importance. Engagement managers are interviewed because they are in key roles when quality frameworks and working practices are adopted in engagements. Engagement managers have a good overall picture of the engagements and quality frameworks and working practices are also important tools for them.

1.2 Research questions of the study

There are two research questions in this study:

1. How to increase cost efficiency for international multi-site engagements?
2. How do the current common quality frameworks and working practices increase cost efficiency in the studied engagements?

Many international multi-site engagements have a fixed price, scope and schedule: a certain set of tasks needs to be completed in a specified amount of working hours before a specified deadline. This makes it harder to maintain good cost efficiency. Any excess tasks added to the scope or excess time used to complete the tasks make the engagement less profitable for the firm. Delays in the schedule may not only cause problems to the client but also affect the engagement's profitability in the form of penalties the firm has to pay to the client. Delays in the schedule or work that does not match the specifications also have a negative effect on Capgemini's client relationships: the client's trust on Capgemini as a partner decreases and the client may even end the partnership with Capgemini. These risks, when realized, cause financial losses to Capgemini and risk profitability of the whole firm. This is why maintaining good cost efficiency in engagements is crucial for firms and investments like common quality frameworks and working practices are made.

1.3 Scope of the study

The study concentrates on software engagements that are done in co-operation between Capgemini Finland and Capgemini India. The study focuses on engagements with a fixed budget, schedule and scope. So called professional services are excluded from this study – these engagements are most often not managed by Capgemini and hence Capgemini's quality frameworks and working practices are not applied. In professional services individual consultants are hired by the client with hourly invoicing so in these types of engagements cost efficiency is also much more easily maintained and there is often no offshore co-operation involved.

There are some aspects in this study that are of major significance but due to size and depth of the issues it would require a separate study to explore them. However, these issues are mentioned briefly in the following chapters to point out their relevance. Cultural aspects (cultural differences between Finland and India) are left out of this study although they are significant and affect the co-operation in the engagements. Neither are different engagement types and engagement management in scope due to the size of the issue although they have an active role in how cost effective the engagements are. This study focuses on quality frameworks and working practices. Quality management processes and other quality management practices such as client focus, organizational culture, organizational trust and teamwork are large issues and should require a separate study – hence left out of this study although regarded important. Managing and creating knowledge in the engagements is regarded relevant from cost efficiency point of view, but is out of scope for this study as well since it is a large issue that would require separate studying. Finally, globalization and future development of the outsourcing and offshoring trend plays a large role in international multi-site engagements but is not in scope for this study either.

1.4 Cases: Three international multi-site engagements in Capgemini Finland

In order to study whether using common quality frameworks and working practices for international multi-site engagements increase the engagement's cost efficiency three different case engagements are studied. All three case engagements are carried out in co-operation between Capgemini Finland and Capgemini India. In this chapter the three selected case engagements are presented. Before that Capgemini as a firm, development of Capgemini's presence in India and Capgemini's Rightshore® concept are introduced.

1.4.1 Capgemini Ltd

Capgemini is headquartered in Paris, France and operates in more than 36 countries. Capgemini employs over 80 000 people in North America, Europe and the Asia Pacific region. Employees are grouped into disciplines which form the basis for Capgemini's focus areas for serving its clients. Capgemini concentrates its services in four different areas: Consulting Services, Outsourcing Services, Technology Services and Local Professional Services. (Capgemini 2010a.)

During the recent years Capgemini has been building a strong presence in India: the headcount of Capgemini India has been raising from 200 people in year 2001 to 20 000 people in year 2009 (Capgemini 2010d, 2). Capgemini has enlarged its resource pool in Capgemini India not only by organic growth with active recruiting: in 2007 Capgemini completed an acquisition by Kanbay Inc., a global IT services firm. The acquisition made India the second largest country of Capgemini Group (Capgemini 2007, 1). Also after the Kanbay acquisition Capgemini continues to invest in Indian talent: during January – March 2010 of all over 5 000 recruits in Capgemini Group more than 50 % were done in Capgemini India (Capgemini 2010f, 7).

1.4.2 Capgemini Rightshore® concept

As a part of its services Capgemini offers Rightshore® approach to its clients – concept for global delivery and outsourcing. Launched in 2003, the concept combines the firm's resources onshore and offshore. Towards the client, the work is carried out as one unified team. According to Capgemini, the benefits from Rightshore® to the client are cost reductions (the work is done where it is most cost-efficient) and good availability of skilled team members in different technologies. The Rightshore® concept also promotes cost efficiency for Capgemini and enlarges the resource pool that is available for engagements. (Capgemini 2010d, 2.)

Rightshore® services cover advisory consulting, technology, outsourcing and global delivery capabilities. Capgemini's Rightshore® network covers over 35 000 employees so Capgemini can offer services in most locations. Capgemini has set up offshore centres which offer sector-based and technological expertise. The centres are mainly located in India and to some extent also in Morocco, Argentina, Poland and Spain. India is an optimal location for offshore centres since the country offers a combination of cost efficient labour and a large pool of skilled IT professionals. (Capgemini 2010d, 3.) The client firms of Rightshore® range from health-

care, banking and telecom to spirits and wine featuring firms such as Mölnlycke, Société Générale, TDC and Beam Global Spirits & Wine Inc. (Capgemini 2010e).

An increasing amount of the software engagements in Capgemini Finland are Rightshore® engagements done in co-operation with Capgemini India – the Rightshore® concept causes the engagements become international and multi-sited. The engagement team is located both in Finland and in India; in most cases the client is Finnish and Capgemini Finland is outsourcing parts of the work to be done in Capgemini India. Operating according to the Rightshore® concept makes the business in Capgemini Finland and Capgemini India different: Capgemini Finland makes contracts with Capgemini's clients and is mainly responsible for the client relationship. Capgemini India, however, is often more focused on the delivery side of the engagement. In the Rightshore® concept Capgemini India offers its services and gets its turnover from Capgemini Finland's clients. As discussed previously, international multi-site engagements pose a challenging environment for Capgemini to carry out the work. Hence there is a constant need to develop the practices inside the firm in order to minimize overlapping operations in Capgemini Finland and Capgemini India.

1.4.3 Case engagements

Case engagement 1 was initiated to design, build and deploy a software system for the client firm. The client is a Finnish firm employing around 3 000 people with presence in about ten countries. Standard software was used to build the new software system which replaced an existing system in the client firm organization. The project had a fixed budget, scope and schedule. The new software system was designed and built in Capgemini Finland after which a transition was initiated to transfer the system for maintenance in Capgemini India.

Case engagement 2 is an ongoing service for maintaining and developing software applications for the client firm. The client firm is based in Finland and other Nordic countries operating totally in around 20 countries. The applications maintained in case engagement 2 are tailor-made for the client. The development activities in the ongoing service have a fixed budget, scope and schedule. The applications are maintained in co-operation between Capgemini Finland and Capgemini India with team members present both in Finland and India.

Case engagement 3 is an ongoing service for maintaining and developing a software system for the client firm which operates in Finland. The software system is build using standard software and the maintenance and development service is provided in co-operation between

Capgemini Finland and Capgemini India. The Capgemini team members are located both in Finland and India. The service has a fixed budget and the development activities are also carried out with a fixed scope and schedule.

2 Literature review

Capgemini (2010g) defines "Enabling transformation" as its mission. According to Capgemini transformation – in order to respond to the demands of the rapidly changing market – it is essential for firms to succeed. Capgemini's mission is to enable this transformation for firms through technological solutions. As discussed earlier, firms – including Capgemini Finland – are taking actions to build cost effective operations. Taking this into consideration it can be said that for Capgemini Finland, cost efficiency enables executing its mission. Hence this literature review is built on theory that supports executing Capgemini's mission and further gaining cost efficiency.

2.1 The cost efficiency tree

Capgemini Finland has chosen to promote cost efficiency by outsourcing and offshoring to Capgemini India. To promote successful outsourcing and offshoring, Capgemini Finland has chosen to implement quality management, quality frameworks and common working practices. As an introduction to this literature review, this structure is described with a tree which' roots are in Capgemini's mission statement, then it grows up leaning on cost efficiency, has its branches in outsourcing and offshoring in India and finally grows its leaves with quality management with quality frameworks and working practices (Figure 1). If the tree grows fruits as planned, the result will be cost effective engagements. This literature review concentrates on exploring what supports the above-mentioned tree to grow and produce fruits.

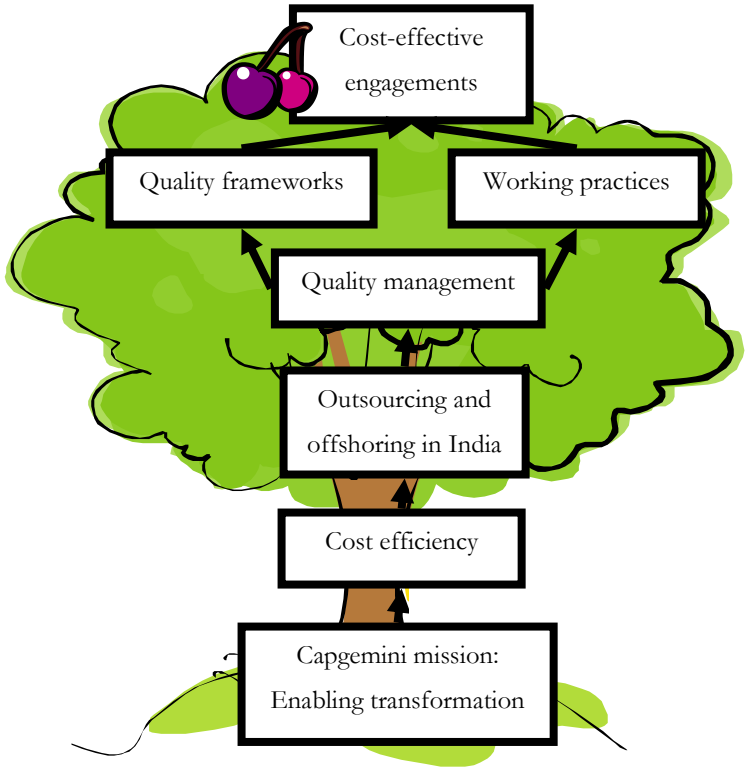

Figure 1. Introductory concepts for the literature review

The above concepts are explored in this literature review with the help of related, selected main theories and supporting theories. These theories are introduced in the following table (Table 1) which also functions as a structure for this literature review.

Table 1. Structure of the literature review

	Business transformation	Cost efficiency	Outsourcing and offshoring	Quality management	Engagements
Related main theories	Porter, M.E.: The five forces that shape strategy, Competitive advantage: creating and sustaining superior performance	Barney, J.B.: Firm resources and sustained competitive advantage	Dunning, J.H.: Trade, location of economic activity and the multinational enterprise Yip, G.: Total Global Strategy Banerjee, A. and Williams S.A.: International service outsourcing Fan, Y.: Strategic outsourcing Bartlett, C.A. and Ghoshal, S.: Managing across borders	Ooi, K.B., Bakar, N.A., Arumugam, V., Vellapan, L. and Loke, A.K.Y.: Does TQM influence employees' job satisfaction? An empirical case analysis	Nokes, S., Major, I., Greenwood, A. and Goodman, M.: The Definitive Guide to Project Management Dinsmore, P.C. and Cooke-Davies, T.J.: Right Projects Done Right Stair, R. and Reynolds, G.: Principles of Information Systems
Related supporting theories	Tabrizi, B.N.: Rapid transformation: A 90-day Plan for Fast and Effective Change	De Wit, B. and Meyer, R.: Strategy – process, content, context Contractor, F.J. and Lorange, P.: Cooperative Strategies and Alliances Johanson, J. and Mattson, L-G.: Internationalization in industrial systems Shimizu, K., Hitt, M. A., Vaidyanath, D. and Pisano, V.: Cross-border mergers and acquisitions Peng, M.: Global Business	Baldwin, R.E. and Winters, L.A.: Challenges to globalization Kogut, B.: Joint ventures Lacity, M.C. and Rottman, J.W.: Effects of offshore outsourcing of information technology work on client project management Trompenaars, F.: Culture and business strategy	Garvin, D.A.: Competing on the eight dimensions of quality Kemp, S.: Quality Management Demystified Bell, M.: Leading an International Virtual Team: Tips for Success Hofielen, G. and Broome, J.: Leading International Teams: A New Discipline?	

2.2 Enabling transformation: forces that affect businesses' actions

In this chapter business transformation is studied with the help of two main theories. First it is presented which forces affect business transformation and firms' decisions to initiate transformation, then it is discussed what competitive advantage firms may gain by engaging in business transformation. As mentioned previously, Capgemini's mission is to enable transformation for its clients. Capgemini's client firms operate in several areas so the process and aims for transformation vary. Tabrizi (2007, 1) describes business transformation as an enabler for organizations to innovate, adapt to best practices and pull ahead of the competition. The same principles could be reflected to Capgemini and its clients. By developing technological solutions Capgemini aims at enabling valuable innovation, more effective practices and staying ahead of developments in the market to its client firms. To enable successful transformation for its clients and to keep up with the changes in the information technology industry, Capgemini must first demonstrate successful transformation in its own organization. Hence business transformation is discussed here from information technology industry's point of view.

Porter presents a theory about five forces that shape industry competition: rivalry among existing competitors, threat of new entrants, bargaining power of buyers, threat of substitute products or services and bargaining power of suppliers (Figure 2). The configuration of these forces differs by industry as some of the forces always appear stronger while others are more benign. However, the strongest competitive force or forces in the industry determine the profitability of an industry and hence play an important part in firms' strategy formulation in the industry in question. This is why the five forces have an important role in business transformation as well: depending on the forces and their strength firms make the decisions about whether to initiate business transformation, which direction to transform to and how to do it. The five forces also act as enablers or disablers to transformation. In order to understand what affects information technology firms' decisions regarding transformation business transformation is studied here with the help of Porter's theory. (Porter 2008, 80.)

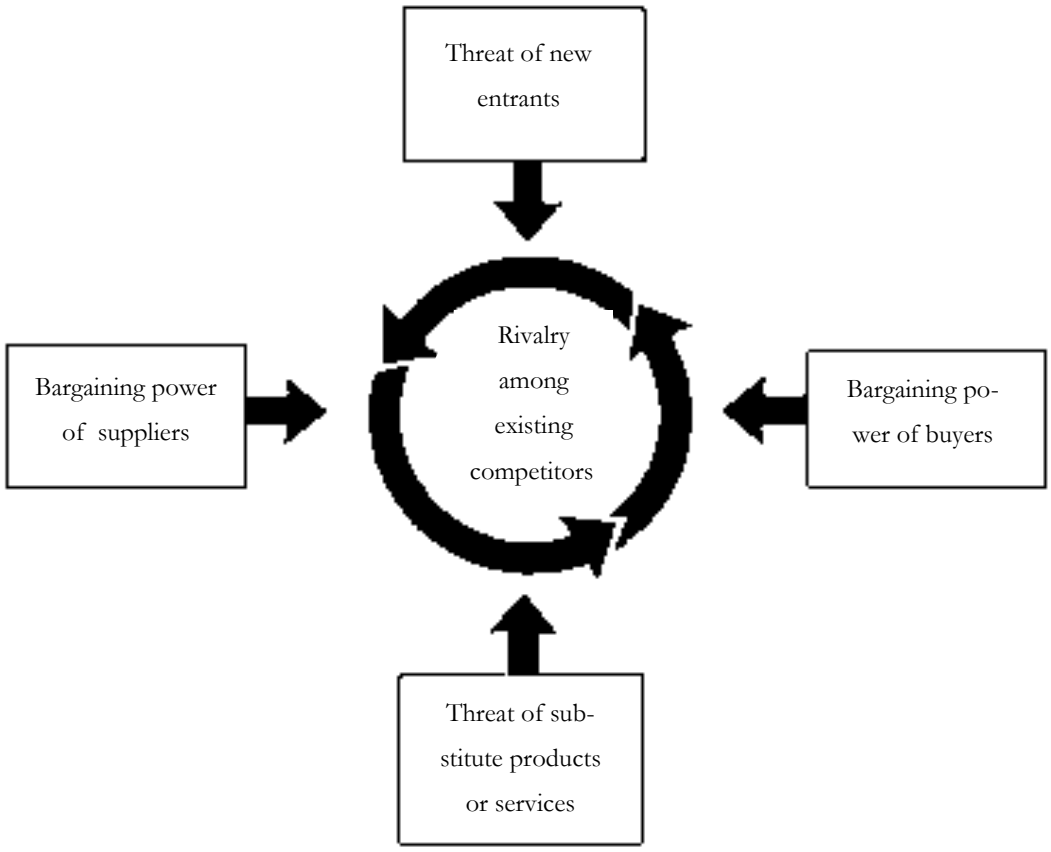

Figure 2. Porter's five forces that shape industries (Porter 2008, 80)

High rivalry limits the profitability of the industry and is likely to occur if there are many competitors (Porter 2008, 85). However, Porter (2008, 86) points out that competition can even increase profitability if it is done on dimensions other than price (features, support services, delivery time) and rivals are aiming at serving the needs of different client segments. This is likely to happen in information technology as specialization of the services is easy and firms are likely to compete with service and features rather than price. Although rivalry is high, the nature of it should affect business transformation in a specific way in the light of above discussion.

If the threat of new entrants in the industry is high, existing competitors must keep their prices down and invest actively to keep new competitors away. However, so called entry barriers favour the existing competitors offering advantages to existing competitors relative to new entrants. (Porter 2008, 80-81.) Ryans (2010, 1) points out that many firms with premium brands have underestimated new rivals, especially those offering low costs. According to Ryans, this has had serious effects on firms for example in the airline industry. In information technology industry India-based rivals such as Wipro have also expanded aggressively and

gained new contracts and clients in Europe (Wipro 2010, 3). Despite the entry barriers (such as possible client switching costs) it is relatively easy to enter the information technology industry.

Clients can force down prices and demand better quality or more service at the expense of industry profitability (Porter 2008, 83). In information technology industry large clients tend to have bargaining power since they often generate significant parts of the information technology firms' turnovers. Also, a large client often has a possibility to internalize certain operations. The clients may also be price sensitive since many information technology purchases are large and hence purchasing costs matter. However, switching costs for buyers may be significant since many information technology services are more or less tailored. Also, quality of the purchased information technology services is likely to be important for the clients and poor quality in information technology can also effect the clients other operations significantly.

A substitute performs the same or a similar function as an industry's product by a different means (Porter 2008, 84). Information technology services are easy to substitute per se as there are no raw materials etc. that would be available to only one firm, but switching may be a lengthy process for the client and the cost may be high as well. Powerful suppliers can also limit the profitability of industries by charging higher prices, limiting quality or services or shifting costs to industry participants (Porter 2008, 82). Information technology firms do generally not face strong power from the suppliers' end unless the supplier possesses technology or knowledge that cannot be obtained elsewhere.

All in all, in information technology service industry rivalry among existing competitors and bargaining power of buyers are the strongest forces to shape the business transformation needs (Mishra 2010, 1). Entry barriers, switching costs and limited power of suppliers make the other forces more benign. After reflecting Porter's theory with business transformation in information technology service industry it can be concluded that competitive pricing, superior service and quality and aiming at fulfilling clients' specific needs should be at the heart of business transformation in order to do it successfully.

2.2.1 Competitive advantage gained by business transformation

Previously it was studied what forces affect business transformation and how. Next it is discussed what competitive advantage firms can gain by successful business transformation and how it can be done.

Porter (1998, 11) states that firms initiate business transformation because they aim at gaining competitive advantage. According to Porter (1998, 1), firms' competitive strategy depends on two things: attractiveness of industries for long term profitability and the competitive position within an industry. Any firm can transform, but doing it successfully with right strategy demands knowledge of the core of competitive strategy. Porter calls the generic strategies in competitive advantage cost leadership (focusing on essentials keeping the price low), differentiation (creating uniquely desirable products and services) and focus (offering a specialized service in a niche market) (Figure 3).

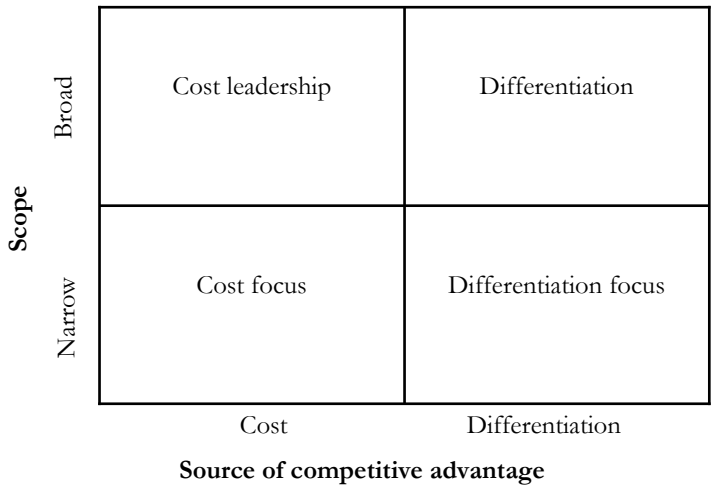

Figure 3. Porter's strategies on competitive advantage (Porter 1998, 12)

Porter further divides focus into cost focus (cost minimization within a focused market and differentiation focus (differentiation within a focused market). How these concepts are put into practice will determine whether firms will gain competitive advantage with them.

2.2.2 Sources and pitfalls of cost leadership

As keeping costs low and enabling competitive prices are important sources of competitive advantage for firms it is important to recognize the sources of cost leadership as well as its pitfalls. Porter (1998, 12) discusses how cost leadership is gained and mentions economies of scale, investing in technologies, preferential access to raw materials and reducing all costs. Cost leadership includes risks for the firm as well. Porter (1998, 115) highlights technological change that nullifies investments or learning, inflation in costs, inability to see required product or marketing change and imitation by newcomers or followers. In industries such as in-

formation technology service industry imitation can be, however, hindered by possessing resources that are hard to imitate.

When reflecting the above strategies on competitive advantage to the five forces theory it can be said that their indications are in line concerning business transformation. In the light of these theories it can be concluded that cost leadership (enabling competitive prices), differentiation (aiming at fulfilling clients' specific needs) and focus (superior service and quality for the most important clients with competitive pricing) are the key concepts for successful business transformation in information technology service industry (Table 2).

Table 2. Enabling concepts for successful business transformation

	Business transformation
Enabling concepts for successful implementation	Cost leadership
	Differentiation
	Focus

2.3 Enabling cost efficiency

In order to be cost effective firms need to introduce and maintain actions that promote cost efficiency. To understand what cost efficiency exactly is the field of computer science can be visited. Sima, Fountain and Kacsuk (1997, 57) define that cost efficiency measures how effectively parallel computing can be used to solve a particular problem. Similarly a firm's cost efficiency can be defined by measuring how effectively the firm is able to perform work with its employees, tools and practices.

Previously it was discussed that firms initiate business transformation in order to gain competitive advantage (cost leadership, differentiation and focus). It was also discussed that firms possessing resources that are hard to imitate are likely to maintain cost leadership. Since the effort to initiate business transformation is large, the resulted competitive advantage needs to be sustained to bring cost efficiency for the firm. In this chapter it is studied what factors bring sustained competitive advantage to the firm – contributing to cost efficiency at the same time. In information technology service industry cost efficiency is directly linked to resources: individual consultants and how effectively they perform. As information technology service industry is specialized in producing services, often tailored ones, human resources are the most important if not only assets the firm possesses. The firms' human resources either do or

do not bring sustained competitive advantage to the firm, hence the quality of firms' resources play a significant role in cost efficiency. This is why it is studied in the following what resources bring sustained competitive advantage to the firm and hence contribute to cost efficiency as well. Next, a theory is presented about what kinds of resources allow firms to operate in a cost effective manner. The theory is supported by discussion about the significance of inter-organizational co-operation, alliances, networks and acquisitions. Lastly the engagement environment and elements of cost efficiency in Capgemini Finland are introduced.

2.3.1 Factors that contribute to cost efficiency

Barney (1991, 112) investigates what kinds of resources bring sustained competitive advantage to a firm. According to Barney these resources have to be valuable, rare, non-imitable and non-substitutable. Barney points out, that heterogeneous and immobile resources the firm possesses are likely to have the above-mentioned qualities. This enables gaining sustained competitive advantage (Figure 4). Next it is discussed how resources that are valuable, rare, hard to imitate and not substitutable contribute to firms' cost efficiency.

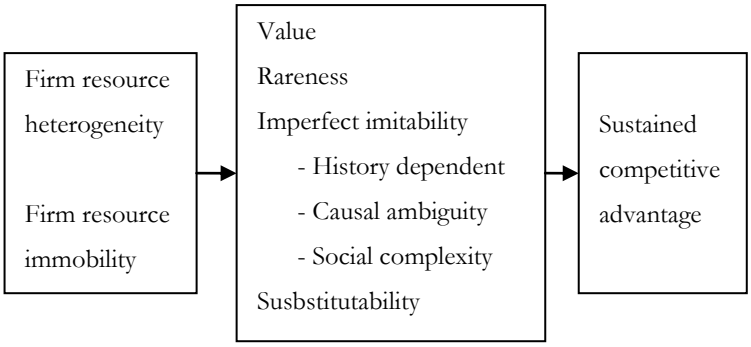

Figure 4. Resources that contribute to cost efficiency (Barney 1991, 112)

Resources are valuable only when they enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness. Firms are also able to improve their performance and gain new resources only when their strategies exploit opportunities or neutralize threats. In information technology service industry inexpensive resources support these requirements for value, hence outsourcing and offshoring in countries such as India help gaining valuable resources. (Barney 1991, 106.)

By definition, valuable firm resources possessed by large numbers of competitors or potential competitors cannot be sources of sustained competitive advantage or generate cost efficiency.

A firm enjoys a competitive advantage when it is implementing a value-creating strategy not simultaneously implemented by large numbers of other firms. How rare a valuable resource must be in order to have the potential for generating a competitive advantage is a difficult question. It is not difficult to see that if a firm's valuable resources are absolutely unique among a set of competing and potentially competing firms, those resources will generate at least a competitive advantage and may have the potential of generating a sustained competitive advantage. However, it may be possible for a small number of firms in an industry to possess a particular valuable resource and still generate a competitive advantage. (Barney 1991, 106.)

Firms with valuable and rare resources often become strategic innovators, for they are able to conceive of and engage in strategies that other firms could either not conceive of, or not implement, or both, because these other firms lacked the relevant resources. However, valuable and rare organizational resources can only be sources of sustained competitive advantage or cost efficiency if firms that do not possess these resources cannot obtain them. These resources are in other words imperfectly imitable. Resources can be imperfectly imitable for one or a combination of three reasons: the ability of a firm to obtain a resource is dependent upon unique historical conditions, the link between the resources possessed by a firm and firm's sustained competitive advantage is difficult or impossible to duplicate or the resource generating a firm's advantage is socially complex. (Barney 1991, 197.)

The last requirement for a resource to be a source of sustained competitive advantage or cost efficiency is that there must be no strategically equivalent valuable resources that are themselves either not rare or imitable. That there are strategically equivalent resources suggests that other current or potentially competing firms can implement the same strategies, but in a different way, using different resources. If these alternative resources are either not rare or imitable, then numerous firms will be able to conceive of and implement the strategies in question, and those strategies will not generate a sustained competitive advantage. This will be the case even though one approach to implementing these strategies exploits valuable, rare, and imperfectly imitable resources. Substitutability can take at least two forms. First, though it may not be possible for a firm to imitate another firm's resources exactly, it may be able to substitute a similar resource that enables it to conceive of and implement the same strategies. Second, very different resources can also be strategic substitutes, e.g., a charismatic leader with a clear vision of the future can be substituted with a formal planning system in another firm. (Barney 1991, 111.)

2.3.2 Gaining cost efficiency via networks, alliances, and acquisitions

Above it is discussed with the help of Barney how different qualities in resources contribute to sustained competitive advantage and hence cost efficiency. Based on that discussion, as it is very hard for a firm to continuously possess and maintain resources that promote cost efficiency, firms tend to engage in different forms of inter-organizational co-operation with each other in order to boost their abilities to possess the needed resources and hence be cost effective: networks, alliances and acquisitions. Johanson and Mattsson (1988, 305) explain the nature of networks so that there is a division of work which means that the firms are dependent on each other, and their activities therefore need to be co-ordinated. In a network, the firms are free to choose counterparts. Peng (2009, 280) defines alliances as voluntary agreements between firms involving exchange, sharing, or co-developing of products, technologies or services. Acquisition can be defined as transfer of the control of operations and management from one firm (target) to another (acquirer), the former becoming unit of the latter (Peng 2009, 281). Next, it is discussed how networks, alliances and acquisitions promote cost efficiency for firms.

According to Johanson and Mattsson (1988, 308) an individual firm is dependent on resources controlled by other firms, and the firm gets access to these external resources through its network positions. This motivates firms to build networks. If both the market and the firm are highly internationalized the firm is a so called "international among others". This means that its counterparts and competitors are also internationally active and the market is tightly structured. Position changes in the networks in this situation will take place through joint ventures, acquisitions and mergers. Capgemini – like most of its competitors – is "international among others" since Capgemini operates in almost all continents and has done large acquisitions recently as discussed before. In this situation it is logical that efforts towards cost efficiency are related to enhancing the firms' networks: investing in acquiring a firm in India grows and improves partly Capgemini's network, partly it makes Capgemini less dependent on external (other companies') resources allowing Capgemini to develop cost efficiency on its own terms.

De Wit and Meyer (2004, 365) argue that alliances benefit both parties: when one firm owns specific resources another firm can make better use of, it is attractive to both parties to lend the resource to the other. Contractor and Lorance (2002, 13) explain further the software firms' motivation for engaging in alliances with fragmented knowledge: an alliance can reduce escalating research and development costs and risks. De Wit and Meyer state that alliances are frequent in the areas of technology and describe different relative positions in inter-

organizational relationships. Also they say that a tight relationship (mutual dependence) benefits both parties the most: parties are dependent on each other but have their needs met. This is important from cost efficiency point of view: if the relationship in the alliance is not the right type it may have negative effect on cost efficiency as well. (De Wit & Meyer 2004, 365)

As discussed in chapter 1, Capgemini has expanded its operations in India through acquisitions such as the acquisition of Kanbay in 2007. According to Peng (2009, 294), there are three main types of motives for firms to initiate acquisitions: synergistic, hubris (managers' overconfidence in his or her capabilities) and managerial drivers. Peng points out that 70 % of acquisitions fail explaining this with problems in both pre- and post-acquisition phases: poor strategic fit, inadequate screening and hubris or managerial motives for the acquisition tend to be symptoms of acquisition failure in the pre-acquisition phase. Further, according to Peng, in post-acquisition phase poor organizational fit and failure to address multiple stakeholder groups' concerns increase the risk for acquisition failure. So, an acquisition will not improve cost efficiency automatically although the acquired firm would have the right resources to offer. Shimizu, Hitt, Vaidyanath and Pisano (2004, 332) state that the integration process is critical for succeeding in acquisitions. Without successful integration the effect on cost efficiency is more negative than positive.

All in all, it can be said based on the above discussion that engaging in different inter-organizational co-operation (networks, alliances, and acquisitions) can promote the firm's cost efficiency. However, it is critical for the firm to analyze carefully beforehand whether the planned actions will help the firm to possess and maintain right kinds of resources that were discussed earlier with the help of Barney. Should the firm's actions fail to meet the criteria set for resources by Barney, the effect on cost efficiency can be even negative.

2.3.3 Engagements in Capgemini Finland

In order to understand how cost efficiency is realized in Capgemini Finland, its engagement environment is introduced in the following. When a client hires Capgemini Finland to perform certain work there is a need for development to be done in the client's organization. Capgemini Finland and the client then make a contract where it is agreed that Capgemini will perform certain work for the client at a certain cost. The client pays money to Capgemini Finland; Capgemini Finland agrees to engage resources for the work needed. When a contract is made the client and Capgemini Finland *engage* in inter-organizational co-operation and agree to do co-development. Capgemini Finland has an *engagement* in which context some consultant

work is agreed to be done (Figure 5). In this study the term engagement refers to four different kinds of consultant work that can be done for the client: a project, an ongoing service, a program, a professional service.

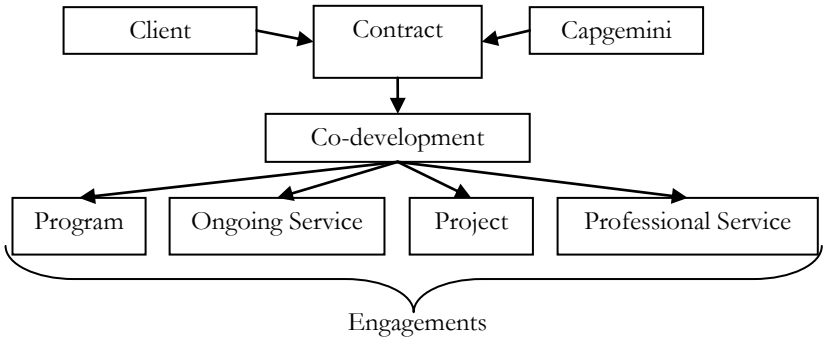

Figure 5. Initiating engagements in Capgemini Finland

In a project (illustrated with an oval in Figure 6) in Capgemini Finland the nature and amount of tasks, the project team size and other details can vary greatly. Typically the details of a project are planned beforehand and documented in a project plan that is followed and updated during the project. A project has always a start and an end and is managed by a project manager. A project can be for example developing a new banking system or additional features to an existing system. This kind of project would start with specifying the needed functionalities and end with taking the new system in use.

An ongoing service (illustrated with an arrow in Figure 6) in Capgemini Finland is started in order to maintain certain, existing system or service. Maintaining an ongoing service may include some recurring activities and also some minor development work. The size of the maintained system, team size and other details of an ongoing service can vary. The details of an ongoing service are typically documented in a service plan that is followed and updated during the execution of the service. An ongoing service is often started after a project – when development work is finished maintaining the system is transferred to a service team. When an ongoing service is maintained there can be simultaneously ongoing projects in order to develop larger, new parts to the service. These new parts can then be integrated to the ongoing service after the project. An ongoing service does typically not have an agreed end but it can be run down in case the service is no longer needed. An ongoing service is managed by a service manager. An example of an ongoing service can be for example maintaining the banking system mentioned previously. An ongoing service can be started when the new system is taken into use and the service can be maintained and developed at the same time.

Term professional service (illustrated with a smiley in Figure 6) is used to describe work done for the client performed by individual consultants outside any project or ongoing service. A client may hire a consultant to act in a certain role in the client's organization or for example to develop processes. There is typically no detailed plan developed for the work done as professional service and the work is often paid according to the amount of hours worked. Also, there is no project team or service team, but the work is performed by individual consultants. Professional service can also be carried out during a project or ongoing service. An example of professional service can be developing requirement specifications for the banking system mentioned previously: a consultant can develop specifications as professional service with the client after which a project can be started to develop the specified system.

A program (illustrated with a rectangle in Figure 6) in Capgemini Finland can be started in order to maintain a set of related projects, ongoing services and professional service. Grouping a set of engagements to a program makes maintaining and developing the related activities in a consistent manner easier. In a program the related projects and ongoing services are followed also on a higher level and development activities are planned accordingly. The size of a program is typically large since a program contains several independent engagements but the setup can vary greatly. A program is typically started when there are several projects and ongoing services for one client that are related to each other. A program is managed by a program manager. An example of a program can be grouping together different projects, ongoing services and professional service related to the banking system mentioned earlier: an ongoing service maintaining the system, some ongoing projects that are developing new functionalities to the system, consultants carrying out professional service specifying new processes for future development etc. The set of engagements is then followed both on each engagement's level and on higher, program level.

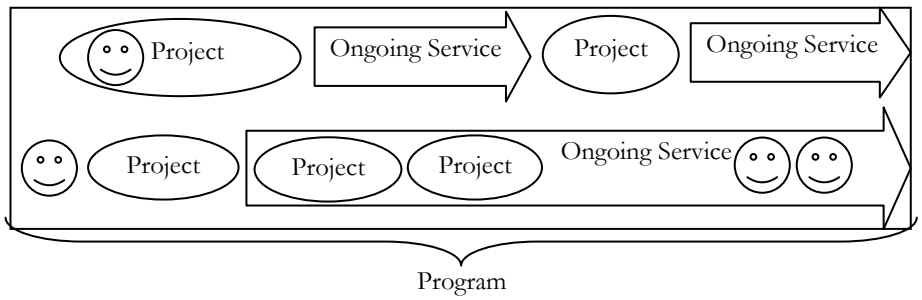

Figure 6. Engagement environment in Capgemini Finland

In this study an engagement is regarded as multi-sited when the engagement team is located in at least two different sites, for example offices in different cities. Further, the engagement is regarded as international when there are engagement team members from at least two different nationalities located in at least two different countries, in this study Finland and India. The cases selected for this study are international multi-site engagements.

2.3.4 Cost efficiency in Capgemini Finland

Cost efficiency and its enablers have been discussed previously, in chapter 2.3.3 engagement environment in Capgemini was introduced. Next, cost efficiency as a concept in Capgemini Finland is explained. A model of how cost efficiency is realized is also presented. In this study, cost efficiency refers to the total cost of getting certain amount of work done: amount of worked hours and hourly price for the work, and more precisely the balance between those two. In Capgemini India the hourly prices for consultants are significantly lower than in Capgemini Finland, but low hourly price does not automatically mean high cost efficiency. A consultant with higher hourly price may complete the work much faster than a consultant with lower hourly price. Also, when outsourcing work to offshore locations like Capgemini India there is additional work needed onshore as well, such as briefing the offshore team members. Common quality frameworks and working practices are created in order to promote good cost efficiency despite of these additional tasks.

As stated earlier, cost efficiency is the key term and phenomenon in this study. This focus is selected because of differences between cost efficiency, profitability and productivity. In this study, cost efficiency refers to the total cost of producing and good cost efficiency benefits both the client and Capgemini Finland – the client pays lower prices for the work and Capgemini Finland gets higher profits. The term profitability is used when referring only to financial profits that Capgemini Finland gets from an engagement. Profitability can be good for Capgemini Finland even though cost efficiency would be low; in this case the client pays higher prices. The term productivity in this study refers to the amount of tasks or work one consultant is able to do in a given time. If a consultant's productivity is good he or she has good performance, in other words the consultant is able to complete the tasks or work quickly and with few or no errors. Good cost efficiency is in the interest of both the client and Capgemini Finland whereas profitability concerns mainly only Capgemini Finland. Also, cost efficiency refers to the governance of the whole engagement and covers aspects such as pricing (i.e., if the price to the client is too high, cost efficiency is low and an agreement may not be reached), productivity refers only to the performance of individual consultants or a team of

consultants. Considering this difference between terms cost efficiency can be potentially increased with quality frameworks or working practices. This is why this study concentrates on cost efficiency. Increasing productivity would call for i.e. training individual consultants; increasing profitability requires other actions such as increased prices and sales efforts. Increasing productivity or profitability leaves also room for a separate study.

In Capgemini Finland financing of the engagements is planned before the engagement is started and followed on a monthly basis during the engagement. In order to measure cost efficiency profitability, productivity and price the client pays for the work are followed. These numbers are used to estimate the engagement's cost efficiency. The engagement can be started only if cost efficiency is estimated to be high enough. This means that the hourly price for the work for Capgemini is low enough so the engagement's profitability is sufficient for Capgemini. The estimated effort (amount of hours to complete the work) needs to be realistic and reasonable and planned invoicing from the client must be sufficient to both Capgemini and the client. Finally planned schedule must also please both parties. During the engagement development of cost efficiency is monitored. In engagements with a fixed budget cost efficiency is typically more stable for the client since the agreed amount of invoicing is fixed. However, the amount of invoicing can change in some situations. In case of sanctions to Capgemini due to for example delays in the schedule there will be less invoicing. Some unforeseen conditions (changes in client's requirements etc.) can also cause changes to the contract increasing the amount to be invoiced. For Capgemini, however, the realized work amount is of major importance. With a fixed budget the more hours are spent to complete the work the lower is profitability of the engagement to Capgemini. Also, if there are delays to the schedule the amount of worked hours tends to increase and affect profitability and cost efficiency. Finally, when the engagement has ended the realized cost efficiency (Figure 7) for the engagement can be measured: realized work amounts, realized invoicing from the client and realized schedule (which may impact the other two variables as described previously). Also the realized profitability for Capgemini and productivity of individual consultants can be measured when the engagement has ended.

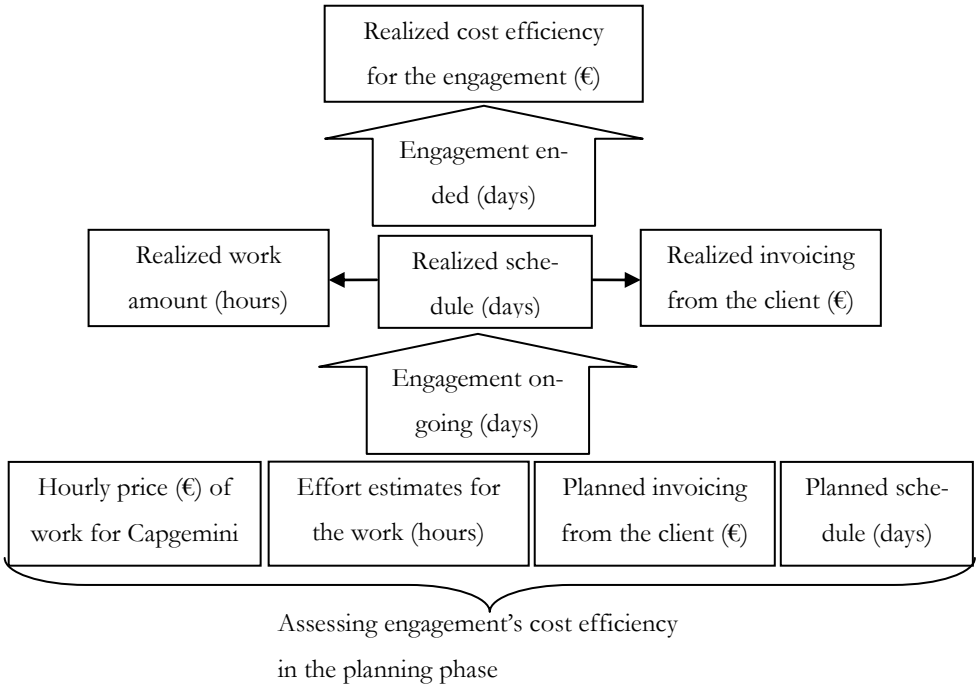

Figure 7. Assessing cost efficiency

Barney (1991, 117) states, that it may be the case that a manager or a managerial team is a firm resource that has the potential for generating sustained competitive advantages. However, according to Barney, firms cannot expect to "purchase" sustained competitive advantages on open markets but these advantages must be found in the resources already controlled by the firm. In the light of this it can be concluded that possessing valuable, rare, imperfectly imitable and non-substitutable resources will most likely bring sustainable competitive advantage to the firm and promote its cost efficiency. Engaging in successful inter-organizational co-operation may help the firm to gain the right kinds of resources, but will not enable sustained competitive advantage or cost efficiency on its own (Table 3).

Table 3. Enabling concepts for cost efficiency

	Cost efficiency
Enabling concepts	Rare, valuable, imperfectly imitable, non-substitutable resources
	Successful inter-organizational co-operation

2.4 Enabling successful outsourcing and offshoring

In this chapter outsourcing and offshoring is looked at from different points of view. Theory about firms' motivation and benefits of engaging in outsourcing and offshoring activities is discussed as well as the motivation for using offshore resources and operating offshore. However, there are also downsides for outsourcing and offshoring. The increasing client demands may lead to devastating effects as has happened in Foxconn, a Chinese offshore subcontractor where Apple has outsourced manufacturing of almost all of its devices. It has been reported that the ever increasing demands for efficiency have caused 12 burned out workers to commit suicide by jumping from high buildings at the factory – additionally over 20 people have been either stopped before jumping or survived the fall (Telegraph 2010). Alarming news like this leave plenty of room for criticism towards outsourcing and offshoring. As an introduction, a brief history of outsourcing and offshoring is presented. Transaction costs, cultural differences and their affects on outsourcing and offshoring activities are also studied. Drawbacks of outsourcing and offshoring are mentioned, lastly it is discussed how business is likely to be beyond the outsourcing and offshoring trend.

In this study the term outsourcing refers to activities that a firm contracts another firm or person to do (Sourcingmag 2010a). Activities can be outsourced either to another country or the firm's home country. The term offshoring in this study refers to activities that are done in another country than the firm's home country (Sourcingmag 2010b). The offshored activities can be performed by another firm or (as is in Capgemini Finland's case) another organization of the same firm that is located in another country.

2.4.1 History of outsourcing and offshoring

Outsourcing and offshoring work became increasingly popular starting in the late 1980's when manufacturing work started to shift from modern industrialized countries to low-cost developing countries. In this so called first wave of outsourcing and offshoring the motivation has been driven by the low costs of manufacturing abroad, primarily in the East Asian countries, such as Taiwan, China, South Korea and Malaysia. Also the availability of skilled labour, the promotion of a business-friendly environment and the existence of production and supply networks in these countries motivated moving the manufacturing activities there. At the same time jobs in management, finance, marketing, research and development were retained in the home country. (Bardhan & Kroll 2003, 1.)

In the 1990s, the information technology sector was the first industry to experience the so called new wave of outsourcing and offshoring. The rapid transfer of operations led to the creation of a critical mass of expertise and resources in concentrated locales especially in India. The rapid dissemination of the Internet, the emerged transnational networks set up by immigrants and the liberalization of the emerging market economies enabled the burst of outsourcing and offshoring in industries such as telecommunications, retail trade and finance. In addition to cost advantages (similar to the manufacturing centres in East Asia) the new wave of outsourcing and offshoring of business services to India, Malaysia, Philippines and South Africa among other is also due to the widespread acceptance of English as a medium of education, business and communication in these countries. While it is difficult to estimate the number of jobs created in these countries by outsourcing and offshoring, it is estimated that business process outsourcing and software outsourcing only have generated over a million jobs in the 1990s and significantly much more since the turn of the century. (Bardhan & Kroll 2003, 2.) Janssen (2010) analyses the future outlooks for offshore outsourcing and points out that there has been an increase in the quantity of new offshoring contracts despite the financial crisis in the late 2000s. According to Janssen year 2010 already shows signs for growth in offshoring. Also he mentions that looking ahead to year 2014 there is growth in offshoring expected in every region with the highest growth rates in Asia and Latin America. Considering the current trend and future outlooks on offshoring it can be said that the new wave of outsource offshoring is still going on in the 2010s.

2.4.2 Motivation for engaging in outsourcing and offshoring activities

Dunning (1988, 26) studies which advantages motivate firms to engage in international activities. These advantages reflect well to the benefits firms gain from outsourcing and offshoring their activities. Hence Dunning's theory is applied here to demonstrate which factors motivate firms in engaging in outsourcing and offshoring activities. According to Dunning (1988, 27) firms tend to engage in international activities if three conditions are met. The target country has to possess intangible assets the firm needs and it must be beneficial for the firm to use these assets (rather than sell or lease them) and use them in the target country. If these two conditions are met, it must also be in the interest of the firm to use these assets outside its home country. These three conditions – also called ownership advantages, internationalization advantages and location advantages – met together make the firm likely to invest in international activities (Figure 8).

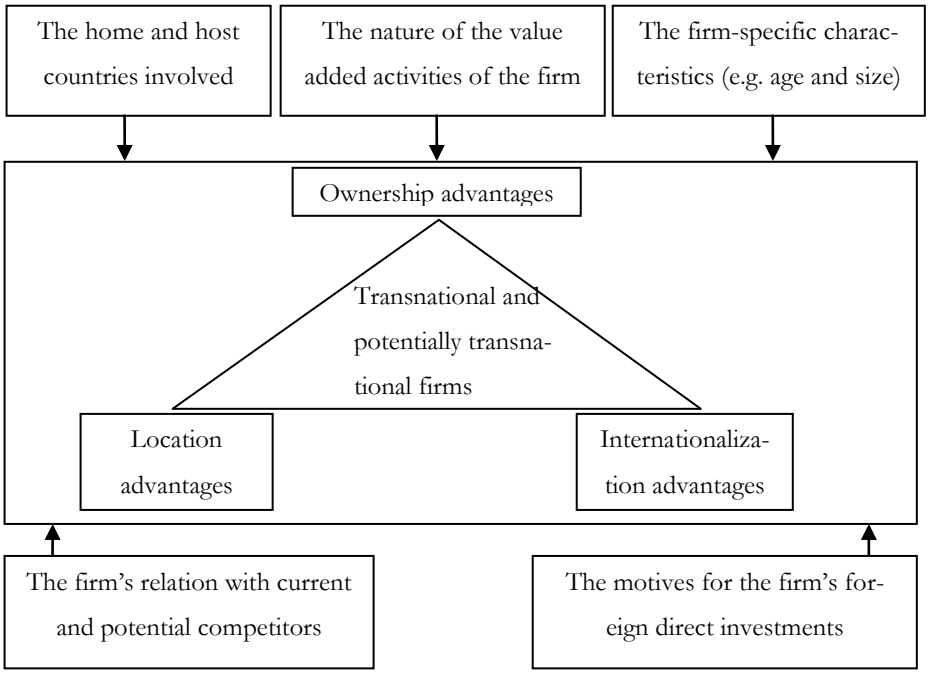

Figure 8. The motivating factors for firms to engage in outsourcing and offshoring activities (Cuervo & Pheng 2003, 350)

Dunning (1998, 27) states that in order for the outsourcing and offshoring to be applying for the firm the target country has to possess intangible assets the firm needs. These so called ownership advantages include product innovations, production management, organizational and marketing systems, innovatory capacity and non-codifiable knowledge. In order for these advantages to be appealing to the firm, they have to be – at least for a period of time – exclusive or specific to the firm. The greater the ownership advantages are the more appealing it is for the firm to exploit them themselves. Further, it is more likely for a single country to engage in international activities if its firms possess ownership advantages in a certain target country and these advantages are more appealing than those offered by other possible target countries. (Dunning 1998, 26.)

If a firm possesses a sufficient amount of above-mentioned ownership advantages for outsourcing and offshoring to be appealing, it must also be beneficial for the firm to use these assets (or their output) and use them in the target country to proceed with outsourcing and offshoring plans (Dunning 1998, 26). If it is beneficial for the firm to use the assets in the target country, the firm possesses so called internationalization advantages. These advantages include avoiding costs, avoiding government intervention, controlling supplies and conditions of sale of inputs, controlling market outlets and ability to engage in practices. Firms often ex-

ploit the internationalization advantages by extending their existing value added chains or adding new ones. (Dunning 1998, 26.)

Finally, if the two above-mentioned conditions are met, i.e. the firm possesses both ownership advantages and internationalization advantages (the target country has intangible assets appealing to the firm and it is in the interest of the firm to use these assets in the target country) it must also be in the interest of the firm to use these assets outside its home country. If also this third condition is met and the firm possesses so called location advantages, the firm is likely to engage in international outsourcing and offshoring activities. The location advantages include natural resources, low transport and communication costs, required performance and needed infrastructure. Even though the first two conditions would be met the third condition is crucial for operating offshore to be beneficial. If the location advantages are not present, it would be more beneficial to the firm to import the advantages to the firm's home country than to use them offshore. (Dunning 1998, 26.) All in all, with the help of Dunning's theory it is easy to comprehend why outsourcing and offshoring are appealing and beneficial for the firms in information technology service industry. However, it is equally important to understand that ownership, internationalization and location advantages are all crucial to possess before outsourcing and offshoring will benefit the firm enough to engage in these activities.

2.4.3 Challenges of outsourcing and offshoring

As well as the negative effects globalization brings for especially developing countries, outsourcing and offshoring bring challenges for the firms engaging in these activities too. Yip (2003, 17) highlights common drawbacks for operating globally that can be applied to outsourcing and offshoring as well: distancing activities from client, increased risk of creating competitors and more difficulties to manage value chain. Other studies present findings that support Yip. Fan (2000, 213) writes about outsourcing and its popularity: most often a support activity is outsourced to gain cost reductions. Fan (2000, 217) points out that there are often problems with supplier management and the suppliers are measured differently than in-house providers leading to difficulties with managing the value chain. To solve this issue, Banerjee and Williams (2009, 68) suggest analysing which value-added services a firm can outsource. According to Banerjee and Williams for example expertise of the supplier, stability of the offshore domain, potential communication problems, possibility of knowledge leakage and the cost benefits should be considered. Analysing these areas carefully, prior making outsourcing and offshoring decisions, can help solving some of the issues presented by Yip: managing the value chain and reduce the risk for creating competitors. Lacity and Rottman (2009, 4)

argue that effects of outsourcing are often more negative than positive to middle managers who execute the offshoring decisions. According to Lacity and Rottman knowledge transfer is a critical success factor to outsourcing. Careful knowledge transfer can also minimize the possible negative effects from distancing the activities from the client which is brought up by Yip (2003, 17).

Yip (2003, 5) finally states that internationalizing a core business strategy often leads to different strategies and approaches among countries. This weakens the firm's cost position, quality and client preference. Firms need a globalization strategy (instead of a multi-local one) that integrates and manages the firm's business worldwide. Bartlett and Ghoshal (2002, 65) argue that firms should build a transnational strategy in order to respond to the demands of today's industries. A transnational organization is, according to Bartlett and Ghoshal, dispersed, interdependent and specialized. Differentiated contributions by national units are integrated to worldwide operations; knowledge is developed jointly and shared worldwide. These principles can be applied to outsourcing and offshoring strategies as well. If outsourcing and offshoring activities are managed on a global or transnational level, value chain can be more effective and easier to manage. (Yip 2003, 5; Bartlett & Ghoshal 2002, 65.)

2.4.4 Transaction costs – to outsource or to internalize?

In chapter 2.4.3 Banerjee and Williams suggest criteria to analyze which operations to outsource and which to internalize. There is an aspect, though, that Banerjee and Williams do not cover: will it be beneficial to outsource a certain piece of work in the long run? If it continuously takes more effort to manage the offshore team in order to get the work done than to perform the work onshore there is no benefit in outsourcing and offshoring the actions. Kogut (1988, 321) approaches this issue from three different directions: strategic behaviour, organizational knowledge and learning and transaction costs. According to Kogut firms engage in alliances with each other for example for getting a better strategic position or gaining certain knowledge. The third motivation is transaction costs: costs that are generated by contracting and other administration tasks. Williamson (in Kogut 1988, 320) proposes that firms choose how to act by estimating and minimizing production costs and transaction costs. Lacity and Rottman (2009, 12) also point out that transaction costs are higher in offshore outsourcing than domestic outsourcing. Taking the transaction costs into consideration, it is worthwhile to consider whether it will be more cost effective to perform the work onshore or offshore.

2.4.5 Business beyond outsourcing and offshoring

As discussed earlier, firms initiate outsourcing and offshoring actions to gain benefits and competitive advantage such as cost efficiency. As also mentioned previously, the new wave of outsourcing and offshoring trend has been ongoing since 1990s. Firms seek continuously sources for competitive advantage, so there is reason to ask how business will be like after the current outsourcing and offshoring trend no longer offers this potential. Baldwin and Winters (2004, 2) criticize the globalization trend and bring up the downsides of it. Developing countries (often target countries for outsourcing and offshoring) are interested in co-operating but despite the increased outsourcing and offshoring the benefits for these countries have been more modest than expected. The non-governmental organizations (NGO's) in developing countries have been protesting against globalization and liberalization of trade (Baldwin & Winters 2004, 3). The main issues in the criticism include uneven distribution of globalization's benefits, not producing the promised growth in developing countries, too constraining or missing rules regarding diversity or harmonization in international trade (Baldwin & Winters 2004, 28), harmful structural, social and environmental effects in developing countries and labour issues (Baldwin & Winters 2004, 33). Some critics argue that globalization is a negative trend as a whole and should be stopped all along (Baldwin & Winters 2004, 35). Baldwin and Winters (2004, 14) argue, however, that if the outsourcing and offshoring trend overall is seen beneficial from also the developing countries' point of view in the future, there will be no willingness to reject the trend as such. Baldwin and Winters see that firms outsourcing and offshoring their activities will not be seen as actors who are causing harm to the target countries on purpose. However, according to Baldwin and Winters, there will be a need in the future to compensate the losers who are suffering from the outsourcing and offshoring trend since it leads to unequal distribution of welfare.

2.4.6 Cultural differences between the Nordic countries and India

Because the case engagements are done in co-operation between Capgemini Finland and Capgemini India, cultural differences are significant for carrying out the work. Trompenaars (1996, 51-68) has studied cultural differences in order to help reducing conflicts and promote successful business relations. In his model Trompenaars identifies seven distinguishing cultural dimensions that can be used for analysing different cultures. Among other cultures, Trompenaars studies Norwegian, Swedish and Danish cultures from the Nordic countries. Indian culture is also present in Trompenaars' study. In Trompenaars' findings cultures in the Nordic countries differ a lot from Indian culture: Nordic cultures put stronger emphasis on general

rules and obligations (universalism), they are more individualistic, a much more clear line is drawn between work and personal life and people tend to be more achievement-oriented. Further, Trompenaars argues that in Indian culture people emphasize more the importance of relationships than generic rules (particularism), are more collectivist, regard the line between work and personal life more diffuse and status of people is not only achieved but can be also given to some extent. Trompenaars finds the greatest similarity between Nordic and Indian cultures in showing emotions: neither will show emotions overtly. (Trompenaars 1996, 51-68.)

The above, very brief, comparison indicates that there are great differences between Nordic and Indian cultures. This comparison is not done in attempt to solve potential problems arising from these differences but to indicate the existence and significance of them. Since the issue is so large, a separate study would be required to find out the affect of cultural differences on the research question of this study and to find solutions for any problems caused by them.

To summarize, in order to outsource and offshore successfully the firms should first analyze whether the three conditions presented previously are met: the target country has intangible assets the firm needs, it is good for the firm to use these assets and use them in the target country and it is beneficial to use the assets outside the firm's home country. It should also be considered carefully what actions to outsource – some tasks may be better done internally onshore due to transaction costs. Outsourcing and offshoring takes much effort especially from the middle management executing the offshoring decisions so affect on the organization including cultural differences should be considered. Internationalization strategy also plays a role: a successful strategy manages the firm worldwide, all units are specialized and interdependent and knowledge creation is a joint venture. Finally executing the offshoring plan should be made taking all levels in the organization into consideration and with careful knowledge transfer. In order to maintain a good corporate citizen status the firm should also consider the possible negative effects in the target country and work to compensate them. The following table (Table 4) summarizes the enabling concepts for successful implementation of outsourcing and offshoring.

Table 4. Enabling concepts for successful outsourcing and offshoring

	Outsourcing and offshoring
Enabling concepts for successful implementation	Three initial conditions met: the target country has intangible assets the firm needs, it is beneficial for the firm to use these assets and use them in the target country and it is beneficial to use the assets outside the firm's home country
	Careful choosing of firm's internationalization strategy
	Partner analysis (expertise, benefits, communication, potential problems)
	Effects of transaction costs analyzed and acted upon
	Sufficient tools for middle management for execution
	Minimizing negative effects in the target country (corporate responsibility)

2.5 Enabling successful quality frameworks and working practices

As discussed previously, one of the main themes in this study is quality management, specifically quality frameworks and working practices. As firms adopt quality management practices to increase their cost efficiency, this chapter discusses quality management, quality frameworks, working practices and enablers for their success. First, a theory about successful quality management practices is presented, and then, quality frameworks and working practices as part of quality management are discussed. Lastly, quality management practices in Capgemini Finland are introduced. Although mentioned in this chapter, processes included in quality management and different quality management practices as such are not in scope for this study as discussed earlier – the focus is on quality frameworks and working practices. Neither are knowledge management and knowledge creation in focus for this study as mentioned in previous chapters although their importance is pointed out in the following.

International Organization for Standardization (ISO) (2005, 176), developer and publisher of international standards, defines quality as "degree to which a set of inherent characteristics fulfils requirements". Further, the ISO standard defines requirement as need or expectation. Ooi, Bakar, Arumugam, Vellapan and Loke (2000, 62) study total quality management and define it as a "key strategy for maintaining competitive advantage" and a "way of managing organizations to improve its overall effectiveness and performance". Ooi et al. (2000, 63) argue that quality programs and better quality contribute to greater market share and return on investment, lower manufacturing costs, improved productivity and improved strategic performance. Quality management culture impacts employee morale and work attitudes; hence job satisfaction is likely to be influenced by quality management aspects. This makes the link between quality management practices and job satisfaction vital, since employees with good

working morale and positive attitude to work are desired from the firm's and cost efficiency point of view as well. Ooi et al. define five quality management practices that are likely to contribute to job satisfaction: reward and recognition, client focus, organizational culture, organizational trust and teamwork (Figure 9). Theory by Ooi et al. is applied here because it goes beyond different quality frameworks and working practices studying which quality practices are likely to make a positive contribution to the firm in general. Ooi et al. (2000, 73) also point out that if a quality management program is built so that an employee is satisfied and committed to the organization, he is also likely to perform better.

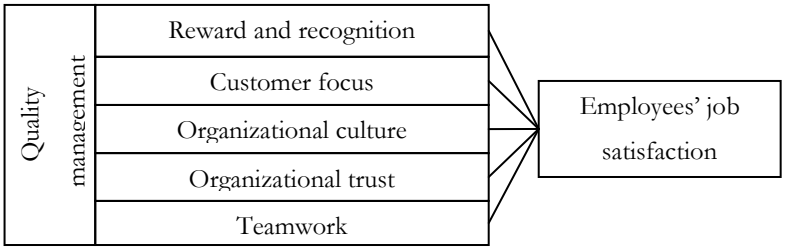

Figure 9. Quality practices that contribute to job satisfaction (Ooi et al. 2000, 65)

Reward and recognition can be defined as benefits such as increased salary, bonuses and promotion (Ooi et al. 2000, 66). Although appreciated, of these five practices reward and recognition has the weakest association with job satisfaction (Ooi et al. 2000, 71). Ooi et al. (2000, 73) point out that reward and recognition is a provider of long-term, infrastructural benefits necessary for the continued improvement over time, but since it has less significant relationship with employees' job satisfaction it is not necessary to emphasize it over the other named practices in quality management.

Client focus can be defined as the degree to which firms continuously satisfy client needs and expectations (Ooi et al. 2000, 67). Client focus has, according to Ooi et al. (2000, 71), positive influence on employees' job satisfaction. Focusing on delivering client value in implementing quality management encourage managers to make the best use of their people and resources in order to create products that clients value. The significant relationship between client focus and employees' satisfaction indicate that management encouraged efforts and succeeded to translate its satisfaction and commitment into this improvement practice. This may be due to well-established support relationship between employees and clients. An example of quality management practices that may collide with client focus is process standardization. Higher CMM levels are associated with higher software quality, but this assumes that clients and suppliers have similar maturity levels. If the supplier has a higher level, clients end up providing

much greater details in their requirements specifications than they are used to. It requires a big change in the client organization to justify to the level of detail that is needed in the supplier's model. The client often feels in these cases that there is unnecessary documentation done but the supplier team needs the documentation in order to perform the work. Although this kind of situation can also help the client organization to improve its own internal processes, it easily leads to decreased satisfaction both on client's and supplier's employees' side. (Lacity & Rottman 2009, 17.)

Organizational culture refers to a set of values and guiding beliefs shared by members within an organization. It is not only able to change, guide and display but also give significant contributions by influencing the thought, feeling, interaction and performance within the organization (Ooi et al. 2000, 67). It has been found that there is a positive relationship between organizational culture and employees' job satisfaction as well as identification with the organization. This highlights the need to monitor organizational culture and to evolve better quality management practices so that work-related outcomes are maintained at a high level. (Ooi et al. 2000, 72.)

As discussed earlier, firms aim at gaining competitive advantage. In order for organizational culture to contribute to a firm's success and cost efficiency the culture needs to bring sustained competitive advantage to the firm. An example of such organizational culture is organizational knowledge, since creating and utilizing knowledge is seen as the most important source for sustainable competitive advantage (Nonaka, Toyama & Konno 2001, 13). According to Tsoukas and Vladimirou (2006, 120) one is able to understand the importance and significance of things when having knowledge, hence organizational knowledge is the desired result of quality frameworks and working practices. The importance of organizational knowledge is also supported by Sveiby (1997, 125): a study with McKinsey shows that investing in a knowledge-focused strategy grows the firm's intangible assets and also its net book value. Also Mouritsen (2008, 41) highlights sharper focus on people and more active communication from the managers in order to produce organizational knowledge. Nonaka et al. (2001, 39) refer to a model for organizational knowledge creation where three elements interact with each other: the *SECI process*, *ba*, and *knowledge assets*. The knowledge assets of a firm are shared in a ba – a shared context, for example a physical space such as an office or a virtual space such as a discussion forum. In the ba tacit knowledge (highly personal knowledge that is hard to formalize, such as insights, intuitions and hunches) held by individuals is converted to explicit knowledge (knowledge that can be expressed in formal and systemic language and shared in the forms of data, scientific formulas, specifications, and manuals and such). The

conversion from tacit to explicit knowledge takes place with the help of SECI process with the help of four phases: socialization, combination, externalization and internalization. A firm can facilitate creating organizational knowledge by enabling the interaction between SECI, ba and knowledge assets.

Organizational trust refers to the extent to which the organizations trust their employees' capabilities and abilities to have control over their work and to run or to make changes to the organization (Ooi et al. 2000, 67). Ooi et al. (2000, 72) find that organizational trust has a positive contribution to employees' job satisfaction. This suggests that employees require support and trust – executives and management teams should take this into consideration in quality management practices as well. It is also found that employees with high reciprocal trust have better opinions of their managers and experience higher satisfaction, involvement, well-being and commitment. (Ooi et al. 2000, 72.) Levin et al. (2002, 2) point out that it is presence of trust that facilitate effective knowledge sharing. This is why trust should be facilitated in quality management practices as well. In order for management to build trust Levin et al. (2002, 7) suggest three actions: creating a common understanding of how the business works, demonstrating trust-building behaviours such as receptivity and discretion and finally bringing people together. According to Levin et al. (2002, 8), without trust firms cannot take advantage of the tacit knowledge inside the firm and create organizational knowledge based on that.

Teamwork refers to the extent to which the organization practices to increase employees' control in their work and allow them to work together. The practice allows employees at all levels to be more involved in the job and to work together firm-wide. (Ooi et al. 2000, 67.) According to Ooi et al. (2000, 73), when quality management practices include teamwork as a dominant practice, there is a strong association to higher job satisfaction. This implies that quality management recognizes and emphasizes the importance of teamwork to facilitate employees' ability to work together to get a job done. It is also found that working together leads to better employee attitudes. Also participation in teamwork is found to be the major factor for a successful organization to achieve partnership between workers and managers. (Ooi et al. 2000, 71.) André (2008, 262) states further, that managing a real team calls for much more coaching and facilitating than traditional management. Taking this into consideration, in addition to teamwork practices the management also needs to have the right approach to leading the team.

2.5.1 Quality frameworks as quality management tools

Garvin (1987, 101) helps to understand the essence of quality frameworks as tools. According to Garvin, there are eight categories of quality that are needed to form a framework: performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality. To build on Garvin's arguments, these dimensions have to be promoted by a method and its practices in order to call a method a quality framework. Further, these dimensions can be used to assess if a certain method meets the criteria for being a quality framework.

Quality management activities are often formed into a quality management system (QMS) which include the used quality frameworks. A quality management system can be created internally in the firm or it can be adopted from the outside. It may also include different quality frameworks for managing different types of engagements (i.e., projects, ongoing services) and other activities (i.e., human relations management). Further, a quality framework typically includes several processes for executing the quality framework (i.e., risk management process, project initiation process, and work product review process). Finally, the processes are executed with the help of working practices (i.e., meeting practices, templates). The working practices can be part of a quality framework and its processes (i.e., firm-specific document templates) but can also be created by the engagement team (i.e., engagement-specific knowledge sharing practices) or adopted from outside (i.e., document templates that are used upon client requirement). Working practices that are adopted elsewhere than from the quality framework can also be taken as a part of a firm-specific quality management system (Figure 10).

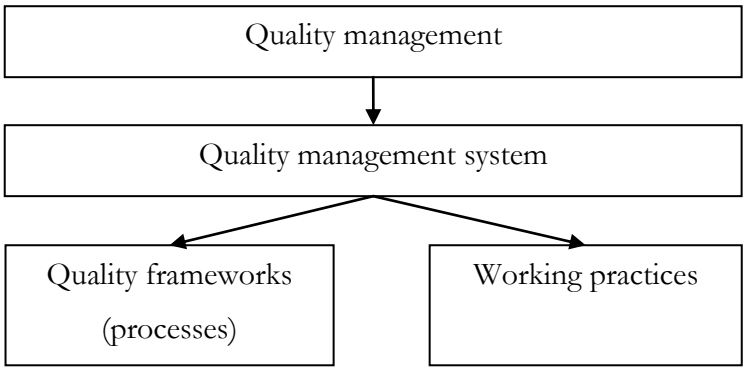

Figure 10. Quality management related practices

Quality frameworks are typically created and published by firms that offer certification and auditing for the framework in question. Next, some established quality frameworks are introduced that are also in use in the case firm.

Capability Maturity Model Integration (CMMI)

CMMI, a process improvement approach developed by Software Engineering Institute (SEI), offers a framework for three areas: development, services and acquisition. Adopted widely around the world, CMMI provides guidance for quality processes and the three frameworks are freely available. Software Engineering Institute offers auditing and certification services for firms who wish to get CMMI-certified. (Software Engineering Institute 2010.) Both Capgemini Finland and Capgemini India hold a certificate in CMMI for development model.

Information Technology Infrastructure Library (ITIL)

ITIL is a widely adopted framework for information technology service management. Controlled by APM Group, ITIL offers tools for identifying, planning, delivering and supporting information technology services. In addition to processes, ITIL also offers templates and guidelines. APM Group offers auditing and certification services for firms who wish to get ITIL-certified. (APM Group 2010.) The ITIL framework is used in Capgemini Finland for service management.

ISO 9001:2008

ISO 9001:2008, standard specifying requirements for a quality management system, is one of the frameworks offered by International Organization for Standardization (ISO). In addition to information technology, ISO publishes standards for many other industries such as steel, aircraft and space vehicles and road vehicles. ISO 9001:2008 offers generic requirements for information technology firms in forming a quality management system and the requirements are intended to be applicable to all organizations. ISO offers auditing and certification services for firms who wish to get certified with ISO 9001:2008. (International Organization for Standardization 2010.) Capgemini Finland holds a certificate in ISO 9001:2008 standard.

There are also other methods created for quality management that serve a more narrow purpose (i.e. tools or processes solely for business improvement or project management) or for which conformance is not audited.

Unified Project Management (UPM)

UPM methodology offers tools for project management (i.e. planning, budgeting). The UPM tools are process-based and include templates, guidelines, and best practices. (International Institute for Learning 2010.) The UPM tools are used in Capgemini internationally.

Plan, Do, Check, Act cycle (PDCA)

PDCA is a four-step model for carrying out change. It is illustrated as a circle that should be repeated to achieve improvement. (American Society for Quality 2010.)

Business Process Reengineering (BPR)

BPR is an approach for redesigning the way work is done to better support the organization's mission and reduce costs. BPR is initiated with an assessment of the organization's mission, goals and customer needs, after which the organization rethinks what it should be doing and how best to do it. (Brock et al. 2007, 5.)

Six Sigma

Six Sigma is a tool for measuring and following outputs of quality processes statistically in order to minimize defects and process deviation (Six Sigma 2010).

2.5.2 Working practices in quality management

Kemp (2005, 25) helps to understand the nature of working practices by pointing out that many industries are far behind the practices developed for the military, aerospace and medicine. In these industries lives are at risk so all work has to be planned and performed especially carefully. In other words, there are working practices that need to be consistent, safe and thoroughly tested. Examples of working practices are guidelines and templates that can be used to govern and manage the engagements. Consistent working practices are created in order to save time in the form of ready document templates and available best practices. They are also meant to help the co-operation between onshore and offshore teams as both parties are working using the same practices.

Previously it was discussed how the quality management practices suggested by Ooi et al. (2000, 67) contribute positively to the firms' success. These practices can include the following, practical level working practices:

- *Reward and recognition:* annual reviews, performance bonuses and salary increases
- *Client focus:* client satisfaction and feedback surveys leading to improvement actions, tailoring services according to clients' needs, regular meetings and reviews with clients
- *Organizational culture:* sharing knowledge in meetings and firm's internal seminars, via guidelines and electronic forums and during day-to-day work promoting creating organizational knowledge

– *Organizational trust:* allowing independency for teams and other units, regular seminars or workshops to clarify the firm's mission and vision to the employees, regular recreational activities
– *Teamwork:* regular teambuilding activities, regular meeting practices inside teams (i.e. weekly meetings), common templates to be used in daily work.

In order for these practices to be effective working practices they have to be documented, communicated in the organization and acted upon consistently. The need for established working practices especially in international engagements is supported by other studies as well. For example Bell (2002, 2) recommends as a working practice that in international multi-site engagements an initial face to face meeting should be held. Bovet (1994, 1) states further that especially international teams depend on frequent meetings. These actions can be developed to working practices. Finally Hofielen and Broome (2008, 8) argue that clarifying the expectations about working practices is an enabling move in an international team.

2.5.3 Quality management in Capgemini Finland

Next, the present practices of quality management in Capgemini Finland are presented. Quality management in Capgemini Finland aims at securing engagements' high quality: good productivity and profitability, on-time deliveries with minimal errors and according to scope and good cost efficiency. It is fair to say that quality management should be present in all engagement management activities – quality is not a feature that can be added on the engagement any chosen time but it must be built in all actions. It could even be argued that quality management and engagement management should be synonyms to each other: engagement management without quality efforts lacks both structure and content, and is of no use whereas quality management without a tight bond to day to day engagement management is just creating irrelevant and inapplicable practices. In Capgemini Finland quality management efforts are made to increase engagements' cost efficiency, hence quality management also has an important role in this study. Quality management activities in Capgemini Finland have been grouped in to a quality management system (QMS). The quality management system consists of quality frameworks and working practices (Figure 10).

The quality frameworks used in Capgemini Finland are CMMI, ITIL and ISO. Capgemini Finland and Capgemini India hold a certificate in Capability Maturity Model Integrated (CMMI), an international quality management framework by Software Engineering Institute (SEI). Capgemini Finland's CMMI level is 3 of 5, Capgemini India's level is 5. CMMI compli-

ance is a major part of quality assurance in Capgemini Finland and Capgemini India. Capgemini Finland also uses Information Technology Infrastructure Library (ITIL) for managing ongoing services and holds a certificate in ISO 9001:2008. Globally at Capgemini there is also Unified Project Management (UPM), a methodology for project management, in use. (Chrissis, Konrad & Shrum 2006, 4; Capgemini 2010b.)

Lacity and Rottman (2009, 17) argue that business process standardization is an enabling factor for outsourcing. Considering this it can be said that quality management activities including quality frameworks and working practices promote success in international engagements. However, as discussed previously, choosing and executing the right practices is essential for successful quality management: client focus, organizational culture, organizational trust and teamwork are of much importance whereas reward and recognition are less significant. However, as mentioned earlier, the importance of knowledge sharing is vital to understand in order to be successful in the selected quality management techniques (Table 5).

Table 5. Factors for successful quality frameworks and working practices

	Quality frameworks and working practices
Practices for successful implementation	Promoting knowledge sharing
	Client focus
	Organizational culture
	Organizational trust
	Teamwork

2.6 Engagements

As this study focuses on international multi-site engagements, engagement-related terminology is discussed in the following. Typical engagements include projects, ongoing services and programs. However, engagement types and engagement management are large subjects and a comprehensive discussion about them would require a separate study as already discussed earlier. Hence only key terms are introduced in the following to clarify the terminology in this study.

The concept of engagement can be understood best via comparing engagement management to project management. Egeland (2008, 1) defines engagement management as a "systematic approach that initiates with the sales process and ends with the engagement closing". Accord-

ing to Egeland engagement management should include project management, which has a more narrow focus than engagement management: providing management to projects focusing on information technology or other specified areas in the firm.

What, then, is the motivation for firms to start an engagement? According to Nokes, Major, Greenwood and Goodman (2003, 9) a project is a temporary effort with a beginning and an end that is initiated to meet unique goals and objectives. To compare that with ongoing services, Dinsmore and Cooke-Davies (2005, 24) define ongoing operations as repetitive, permanent work to produce products or services. Nokes et al. describe the reasoning for initiating engagements as an attempt to create beneficial change or added value to the firm. Finally, the concept of a program in engagement terminology can be explained with the help of Stair and Reynolds (2007, 132). Stair and Reynolds define computer program as a "sequence of instructions written to perform a specified task". Similarly, a program in information technology service industry – containing projects and ongoing services – can be constructed to perform for example specific client support to a client firm.

The primary challenge of engagements, according to Cleland and Ireland (2004, 110), is to achieve all of the engagement goals and objectives. Phillips (2006, 354) states further that this should be done while honouring the constraints set to the engagement. Possible goals and objectives, constraints and risk scenarios for different engagements are plenty, so these two definitions describe a typical risk environment for engagements well. As discussed previously, engagements and engagement management as subjects are only introduced briefly in this study. Also goals, objectives and risk scenarios for engagements vary greatly. Still it can be concluded that an engagement can be successful only if it creates beneficial change or added value to the firm. Also, the constraints set to the engagement must be honoured to promote successful end results (Table 6).

Table 6. Enabling concepts for successful engagements

	Engagements
Enabling concepts for successful implementation	Engagement creates beneficial change or added value
	Honour constraints set to the engagement

2.7 Chapter summary

The contributing factors to Capgemini's mission – transformation for its client firms – can interact with each other in different ways. Exploration of selected themes in this chapter enables understanding what effect they have on cost efficiency and how they help delivering cost effective engagements. The main concepts contributing to successful business transformation, cost efficiency, outsourcing and offshoring, quality frameworks and working practices and engagements form the conceptual framework for this study.

By initiating business transformation firms aim at gaining competitive advantage as mentioned earlier in chapter 2.2.1. For succeeding, a firm should keep three principles in focus: maintaining competitive prices (*cost leadership*), aiming at fulfilling clients' specific needs (*differentiation*) and delivering superior service and quality for the most important clients with competitive pricing (*focus*). Keeping these principles at heart of business transformation enables gaining the desired competitive advantage as discussed earlier with the help of Porter (1998, 12).

In information technology service industry the resources, specifically human resources, a firm possesses have a large impact on the firm's cost efficiency as the firms in the industry are specialized in selling services, not products. As cost efficiency is desired from both the firm's and its client's point of view it can be regarded as an important competitive advantage. For cost efficiency to be a competitive advantage for the firm it has to be sustained. Although *successful inter-organizational co-operation* may contribute to possessing right kinds of resources to create such advantage, firms cannot expect to purchase sustained competitive advantage from outside. In order to create sustained competitive advantage such as cost efficiency a firm needs to possess the resources that have the potential for generating the advantage. These resources, which are already controlled by the firm, need to typically demonstrate four qualities as mentioned earlier according to Barney (1991, 112): they need to be *valuable*, *rare*, *imperfectly imitable* and *non-substitutable*.

The increased popularity of outsourcing and offshoring has brought up the benefits but also increased criticism. The other side of cost efficiency and large pools of skilful resources the firms gain are, according to the critics, negative effects on environment and uneven distribution of welfare in the target countries. *Compensating the negative effects in the target countries* is just one issue for a firm to consider when planning outsourcing and offshoring. In order for outsourcing and offshoring to be successful the situation must be carefully analyzed. Firstly, the *target country has to possess intangible assets the firm needs*, it must be *beneficial for the firm to use these*

assets and use them in the target country and it must be *beneficial to use the assets outside the firm's home country* (Dunning 1988, 27). If the initial conditions are met, *transaction costs* should be considered. With the resources and time used to outsource and offshore the selected operations: will it be more costly to outsource or internalize the operations? Finally, if the selected operations prove to be suitable for outsourcing and offshoring, execution of the plan needs to be done carefully. The firm's *internationalization strategy* plays a role: a successful strategy manages the firm worldwide, all units are specialized and interdependent and knowledge creation is a joint venture. Also *partner selection* is important, and it should be analyzed what kind of *expertise*, *benefits*, *communication*, and *potential problems* the potential partner brings to the firm. Finally, effects to all levels of the organization should be analyzed and careful knowledge transfer should be planned considering cultural differences. Outsourcing and offshoring take much effort especially from the middle management that executes the offshoring decisions so *supporting middle management* in the execution phase is vital in order for it to be successful (Table 4).

Engagements that are outsourced and offshored vary greatly in size, length and contents. Also the goals, objectives and risk scenarios for them can be plenty. A unifying factor for successful engagements is that they *create beneficial change or added value* to the firm. This principle should be supported by the quality management activities executed in the firm. Quality management should also help *honouring the constraints set to the engagement*. Quality management activities promote success in international activities but choosing and executing right practices is essential for realizing the benefits. Especially the importance of knowledge sharing is vital to understand in order to be successful in the selected quality management techniques. Also demonstrating four other practices in quality management promotes successful quality management: *client focus*, *organizational culture*, *organizational trust* and *teamwork* (Figure 9).

After exploring relevant theories in this chapter the discussion can now be concluded with outlining some courses of action related to the research problem and research phenomenon. Being an overview of the discussion and concluding the literature review the following table (Table 7, concepts highlighted with italics in the above summary) suggests approaches for successful implementation of business transformation, cost efficiency, outsourcing and offshoring, quality management and engagements.

Table 7. Summary of the concepts discussed in literature review

Concepts to apply for successful implementation	Business transformation	Cost efficiency	Outsourcing and offshoring	Quality management	Engagements
	Cost leadership	Rare, valuable, imperfectly imitable, non-substitutable resources	Target country has intangible assets the firm needs, it is beneficial for the firm to use these assets and use them in the target country and it is beneficial to use the assets outside the firm's home country	Client focus	Engagement creates beneficial change or added value
	Differentiation	Successful inter-organizational co-operation	Careful choosing of firm's internationalization strategy	Organizational culture	Honour constraints set to the engagement
	Focus		Partner analysis (expertise, benefits, communication, potential problems)	Organizational trust	
			Effects of transaction costs analyzed and acted upon	Teamwork	
			Sufficient tools for middle management for execution	Promoting knowledge sharing	
			Minimizing negative effects in the target country (corporate responsibility)		

2.8 Conceptual framework and field of study

This study is written as a case assignment for Capgemini Finland, part of the global Capgemini Group. Practices in the field of this study, quality management, are mostly applied on technology services and outsourcing services. This is because consulting services are mainly professional services as described in chapter 1.3. As also discussed before, the need for business transformation is in the background for initiating different actions in firms. Successful business transformation requires cost efficient operations in order to gain competitive advantage. Efforts to reach this target lead to a series of other actions such as quality management (Figure 11).

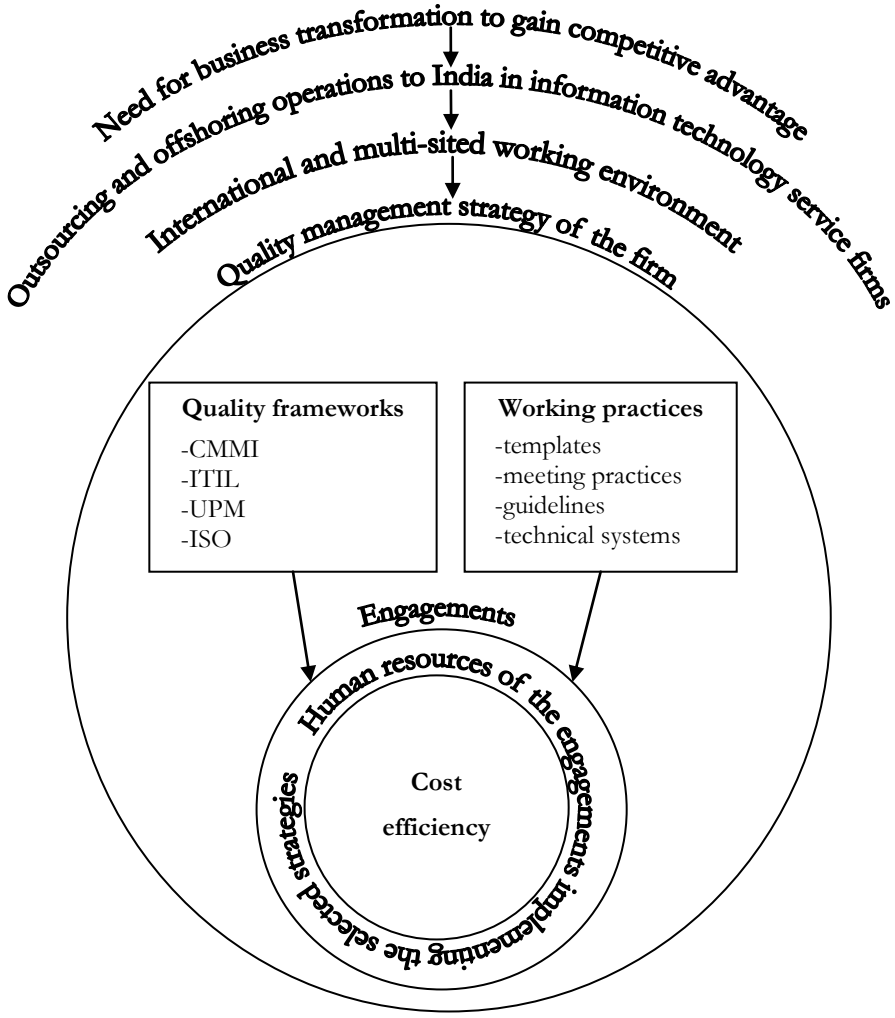

Figure 11. Conceptual framework of the study

The desired business transformation motivates information technology service firms to outsource and offshore their operations to India and other offshore locations. As mentioned previously, offshoring parts of the work makes the working environment international and multi-

sited. This complex environment for carrying out the engagement work requires special attention to enable cost efficiency. For this purpose firms introduce quality management strategies. Quality management, specifically quality frameworks and working practices, is taken into use to implement the firm's quality management strategies. The applied quality frameworks (CMMI, ITIL, UPM and ISO in this study) are defined in the firm's quality management strategy and selected for each engagement according to the engagement's structure. Working practices are defined in the firm's quality management strategy as well and applied according to the engagements' needs. Different working practices include templates, meeting practices, guidelines and technical systems. Firm's quality management strategies including quality frameworks and working practices are applied by the engagements' human resources who implement the engagement work. The above-mentioned efforts are made to achieve cost efficient engagements as the outcome and hence enable the desired business transformation.

3 Research methodology

This section focuses on the research philosophies of the study: what is known and assumed about the topic and what is the approach of the study. First the methodology of the study is discussed including presenting the ontology and epistemology. After that the research strategy and methods for the study are described: the techniques for data collection and data analysis are introduced. The last part of this section concentrates on discussing validity and reliability of the study.

3.1 Research philosophies

The research phenomenon in this study is cost efficiency and the research objective is to increase knowledge: does using common quality frameworks and working practices in Capgemini Finland and Capgemini India help increasing cost efficiency in Capgemini Finland's international multi-site engagements and how this could be enhanced. There are two research questions in this study: how to increase cost efficiency for international multi-site engagements and how do the current common quality frameworks and working practices increase cost efficiency in the studied engagements.

When describing the ontology of this study it can be said based on the previous chapters that engagements' cost efficiency is an outcome of a number of factors: money, clients, firm, contracts, productivity and profitability. Whether a firm's engagements are cost efficient or not depends on these things and can also be measured with the help of the engagement's profitability, productivity and amount of money the client pays for the work. A firm needs productive consultants and profitable engagements in order to cover all costs and provide return on investment to the shareholders, in other words to keep the firm profitable. This way the firm can make sure it can continue to run its operations also in the future. To have profitable engagements the firm needs clients and sufficient contracts with its clients – contracts with the clients need to ensure enough money to be paid to the firm in order to enable good profitability and cost efficiency for the engagements. Consultants with good productivity (as discussed in chapter 2.3.4, a consultant who is able to complete the tasks or work quickly and with few or no errors) are again needed for delivering the engagements in agreed budget and schedule. It is assumed that the motivation for operating the firm, Capgemini in this study, is to make

profit and return on investment for the investors. Further, it is assumed that cost efficient operations enable profitable actions for the firm.

It is known about cost efficiency (the research phenomenon) that some engagements are more cost efficient than others. This can be seen by studying financial data of different engagements, prices paid by clients and productivity of different consultants. In order to adopt common quality frameworks and working practices all parties must have sufficient knowledge on the adopted frameworks and tools – without that they cannot contribute to engagements' cost efficiency. The used tools and practices between Capgemini Finland and Capgemini India also need to possess the needed features for the purpose.

Krauss (2005, 761) defines interpretivism as a research paradigm concerning multiple realities and positivism concerning a single, concrete reality. Krauss also defines realism as a paradigm that concerns perceptions about a single, mind-independent reality. This study is a mixture between interpretivist (often associated with qualitative research) and positivist (often associated with quantitative research) approach so that it becomes close to realism. The reason for this is that the research has a structured methodology which points to positivism but the knowledge related to the research needs to be interpretated which brings the research closer to interpretivism. Also, there are some quantitative qualities in this study although most parts of it are qualitative. Krauss points out that within the realist paradigm both qualitative and quantitative methodologies are seen as appropriate. Applying a realist paradigm in this study is also supported by Hyde (2000, 82), who states that qualitative methodologies should be applied within a realist paradigm.

3.2 Research strategy

Next, the research strategy of this study is discussed. First the interview strategy is introduced: how the interviews were conducted and what was observed during the interviews. Then the interview framework is described. It is presented how the case engagements were selected and what characteristics they needed to pose. Finally, it is discussed why qualitative case study with some quantitative, supporting characteristics was selected. Also the benefits of combining qualitative and quantitative methods are introduced with the help of some literature.

For conducting the study qualitative in-depth interviews with three case study engagements were held. For each case engagement there was one engagement manager from Finland and one from India interviewed in separate interviews. During the interviews it was observed how

the engagement managers describe the usage and usefulness of the common quality frameworks and working practices. It was also observed if and how the answers differed between the engagement managers in Finland and India and how the interviewees described and found the co-operation in the engagements. The interviews were held in Finland with the help of video conferencing and teleconferencing, and the interviews were taped. After the interviews transcripts were made by the interviewer and the data were analysed. The information gained during the interviews was also analysed in relation to the engagements' financial figures (profitability, productivity and cost efficiency information) and engagement documentation that describes how the engagement organization is built and how quality practices are adopted in the engagement. In order to get sufficient depth for the interviews and allow the interviewees to say everything they had to say about the theme the interviews were open in nature (Valtonen 2000, 24). As Valtonen suggests, the questions were formed as open questions and the interview followed the leads the interviewees gave during the discussion. The interviewees were asked to describe and tell in their own words rather than prompted for specific information. The interviewer acted more as a facilitator guiding the conversation in the background more than as an interviewer posing direct questions. The interviewer was not posing her own viewpoints at any point during the interviews, as also suggested by Valtonen.

3.2.1 Interview framework

As discussed before, the aim in this study is to find out whether common quality frameworks and working practices contribute to engagements' cost efficiency in the selected case engagements. As this study focuses on international multi-site engagements, the selected cases needed to possess the following qualities:

- Capgemini's client is based in Finland
- Capgemini engagement team members are both of Finnish and Indian origin
- Capgemini engagement team members are located both in Capgemini Finland and Capgemini India offices
- engagement manager is located both in Finland and India for the engagement
- the quality frameworks in use are common for the Finnish and Indian engagement team members
- working practices (i.e. templates, meeting practices, guidelines, technical systems) in use are common for the Finnish and Indian engagement team members.

The above conditions were set to ensure that the case engagements are international multi-site engagements using common quality frameworks and working practices.

3.2.2 Research approaches

Qualitative research typically takes an inductive approach (Hyde 2000, 82) meaning that the research aims at building a theory. However, according to Hyde, qualitative research also often demonstrates deductive qualities meaning that there is a theory that is tested to find out whether it applies to the selected cases. Along the lines of what Hyde states, this study has both inductive and deductive qualities. The study aims at increasing knowledge in whether and how common quality frameworks and working practices contribute to cost efficiency in the selected cases; this approach is inductive because there is no specific theory that would be tested with the case engagements but merely the aim is to find answers to "how" and "why" questions. Hence the conducted interviews are also of qualitative nature. Apart from the inductive approach, in this study the research phenomenon (cost efficiency) is tested with guidance from some theories; previously theories regarding for example quality management and offshoring have been discussed. This approach is more deductive, so it can be said that this study is a qualitative study with a mixture of inductive and deductive approaches. Qualitative case study was selected as an approach because this study aims at answering "how" and "why" questions (Marschan-Piekkari & Welch 2004, 109-110; Hyde 2000, 83). Also, qualitative study allows conducting more reliable and deep interviews than quantitative study as the interviews can be open in nature as discussed previously. Doing the study with qualitative interviewing will help to understand the unique characteristics of each engagement better than a quantitative study would allow.

Although the approach of this study is mainly qualitative, there are also some quantitative characteristics. The secondary data – case engagements' productivity, profitability and cost efficiency figures – were analysed because they support the primary data and make the results more interesting since it can be compared how the primary and secondary data reflect each other. The differences between qualitative and quantitative research methods as well as mixing the two methods cause much debate (Kelle 2006, 293). As all methods have their strengths and weaknesses, Kelle points out that the choice of method should be done based on the research questions. Kelle also suggests that qualitative and quantitative methods can be combined to serve for the mutual validation of data and findings as well as producing a more complete picture of the studied area than a single method would allow. Condelli and Spruck Wrigley (2004, 2) agree with Kelle by suggesting that quantitative methods can identify the

right results but qualitative study gives the study explanatory power providing data that give insights into how the results work and how they can be translated into practice. This is why qualitative research is mainly applied in this study: the qualitative method gives the needed explanatory qualities and is enhanced with quantitative data. Finally Trochim (2006, 1) points out that mixing qualitative and quantitative research techniques is natural because data resulting from both methods can be coded to a comparable form: all qualitative data can be coded quantitatively and all quantitative data are based on qualitative judgement.

3.3 Data collection

Valtonen (2000, 25) states that the quality of data depends to a great extent on the capability of the interviewer. In this study the interviewer has worked in the information technology service industry since year 1999 and also works in the case firm; hence she can be regarded to possess sufficient information about the subject to conduct the interviews. As mentioned previously, secondary data about the case engagements were collected and analysed to support the primary data. The engagement managers of the case engagements provided the secondary data. The secondary data consist of engagement planning documentation which includes basic information about the client, needs and objectives for the engagement, engagement governance information, information about the engagement team and task division between Finland and India. Additionally, the secondary data include the engagements' profitability figures, productivity figures and cost efficiency figures. Finally, the secondary data contain basic information about Capgemini.

The primary data were collected by interviewing six engagement managers: three engagement managers based in Finland and three engagement managers based in India. As the Indian engagement managers were located in India they were interviewed with the help of video conferencing and teleconferencing. Capgemini Finland and Capgemini India both use a video conferencing system called C-Port which was used to interview the Indian engagement managers. The image and voice quality in C-Port are of sufficient level to have an undisturbed conversation. Interviews were taped for data analysis purposes. The engagement managers were the interviewees since they are the most experienced and knowledgeable people regarding the engagements (Rubin & Rubin 2005, 64). All the interviewees were asked the same questions in order to be able to compare the answers with each other. The interviews took place on October 2010 in Capgemini Finland premises and each engagement manager was interviewed for approximately one hour.

The interview questions contained four themes: quality frameworks, working practices, human resources and cost efficiency (Appendix 1). The interview questions aimed at finding out how the common quality frameworks and working practices contribute to the case engagements' cost efficiency and how. The planning documentation and financial figures of the engagements were needed to study how the engagements' quality practices, working practices, profitability, productivity and cost efficiency information reflect the engagement managers' interview answers. Information about engagements' profitability, productivity and cost efficiency is collected on a monthly basis in Capgemini Finland and Capgemini India so the figures were available without any extra effort from the engagement managers. Also planning documentation is prepared for all the engagements in Capgemini Finland and Capgemini India.

3.4 Data analysis

For analyzing qualitative data, Sinkovics, Penz and Ghauri (2005, 21) suggest five analytical steps in order to gain a more formalized approach: organising, linking, coding, searching and modelling. The suggested model by Sinkovics et al. is applied in a selective manner in this study. Since the model is developed to be used with computer software it is not followed thoroughly – in this study no computer software was used to analyse the data since the amount of data was not especially large (approximately 6 hours of audio material, 37 pages of transcribed text).

First organizing of data was done by making written transcripts of the interview material (originally in audio format) and writing a structured document containing information both from the interviews (primary data) and financial figures of the engagements (secondary data). The document was then enhanced with descriptions of the interviewees and the interview situation (Sinkovics et al. 2005, 22). After organizing the data they were categorized in a matrix with codes and linked. Carson, Gilmore, Perry and Gröhaug (2001, 83) discuss coding of qualitative data and point out that the codes are keys to arranging the mass of data into patterns. As this study has both inductive and deductive qualities the codes for analysing data could be partly defined before data collection. The data were coded according to:

- QF (common quality frameworks)
- WP (working practices)
- HR (human resources)
- CE (cost efficiency)
- KM (knowledge management)

– AT (attrition of human resources)
– TR (training of resources)
– SP (support for using the common quality frameworks)
– TE (common templates)
– RG (Capgemini Rightshore® Guide)
– SU (suitability of the assigned human resources for the engagement)
– LP (low-performing human resources)
– SE (seniority of the human resources)
– PE (offshore penetration in the engagement)
– TA (travelling between the engagement's onshore and offshore locations)
– MO (monitoring of engagement done by engagement manager)
– QU (engagement's quality)
– TO (tools)
– CD (cultural differences between Finland and India).

Carson et al. suggest a two-phase approach for coding the data which was followed in this study. The first phase, so called axial coding, consists of going through the data and writing a code against each paragraph (some new codes emerged at this stage). The second phase, so called selective coding, contains going through the data, constructing themes and making comparisons. These two coding stages can be compared to linking, searching and modelling that Sincovics et al. (2005, 22) suggest. During the second coding phase the aim is to summarize the similarities and differences in the data and make possible generalizations (Carson et al. 2001, 83). A matrix of the data was drawn in order to make a cross-case analysis of the data and link the interviewees' answers with each other into patterns. A cross-case analysis enhances generalizability and deepens understanding and explanation (Miles & Huberman 1994, 173).

Coding the primary data and organizing it into a matrix helped to recognize and form the patterns that emerged from the data and link relevant data with each other (Figure 12). This is because in a matrix it was easier to arrange and sort the data in different ways than in a document with plain text. Especially when an unexpected pattern emerged from the data it was easier to recognize and link it with other relevant data once the data was coded. With coded, categorized and linked data patterns it was also easier to conclude relevant findings from it. However, without making first a written transcript and a structured document of the data it would not have been possible to categorize the data correctly in the matrix; hence all the phases for analyzing the primary data were necessary.

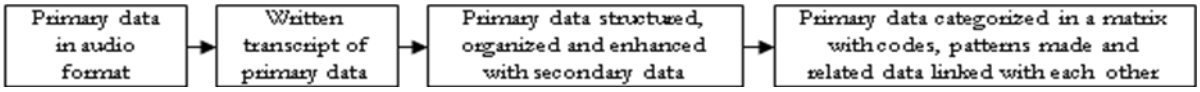

Figure 12. Primary data analysis process

In the secondary data the aim was to find out what is the productivity, profitability and cost efficiency for each case engagement and what the differences between the case engagements are. Also the aim was to find out how the case engagements are governed, how quality practices are adopted in them, whether there are differences between the case engagements and how the engagement governance reflects its productivity, profitability and cost efficiency.

Profitability of the engagements was measured in Euros – how much profit did the engagement provide for Capgemini Finland. Profitability was interpreted in the following manner:

- excellent profitability: profit ≥ 5 % than targeted for the engagement
- good profitability: < 5 % more profit than targeted for the engagement – < 5 % less profit than targeted for the engagement
- sufficient profitability: 5 – 10 % less profit than targeted for the engagement
- poor profitability: > 10 % less profit than targeted for the engagement (Manner, 11.10.2010).

Productivity of the engagements was measured by comparing the planned time usage (working hours) of the consultants to the realized time usage. Productivity was interpreted in the following manner:

- excellent productivity: ≥ 5 % less time used than targeted for the engagement
- good productivity: < 5 % less time used than targeted for the engagement – < 5 % more time used than targeted for the engagement
- sufficient productivity: 5 – 10 % more time used than targeted for the engagement
- poor productivity: > 10 % more time used than targeted for the engagement (Manner, 11.10.2010).

Cost efficiency was measured reflecting the engagement's profitability, productivity and competitiveness of the price the client pays for the work. The price for the client was measured in

Euros: how competitive the price was from the client's point of view. The competitiveness of the client price was interpreted in the following manner:

- excellent competitiveness in the client price: ≥ 20 % cheaper price than Capgemini Finland list price
- good competitiveness in the client price: < 20 – 10 % cheaper price than Capgemini Finland list price for work
- sufficient competitiveness in the client price: < 10 % cheaper price than Capgemini Finland list price for work – Capgemini Finland list price for work
- poor competitiveness in the client price: price more than Capgemini Finland list price for work (Manner, 11.10.2010).

The overall cost efficiency of the engagements was determined by combining the measures for profitability, productivity and competitiveness of the client price with equal weight for each part (Manner, 11.10.2010). Lastly, it was analyzed how well the common quality frameworks and working practices were adopted in the case engagements. This was done by studying review logs for quality audits done for the engagements and calculating the number of non-conformances. Non-conformances were also calculated from the quality practices adoption plan of each engagement. This way it was possible to study how the quality practices were planned to be adopted in each engagement and how well the plan was implemented. The quality practices adoption level was interpreted in the following manner:

- excellent quality practices adoption level: < 5 unsolved non-conformances found in total from reviews and quality practices adoption
- good quality practices adoption level: 5 – 10 unsolved non-conformances found in total from reviews and quality practices adoption
- sufficient quality practices adoption level: 10 – 15 unsolved non-conformances found in total from reviews and quality practices adoption
- poor quality practices adoption level: > 15 unsolved non-conformances found in total from reviews and quality practices adoption (Manner, 11.10.2010).

The secondary data were also reflected with the primary data in order to find out how they correlate with each other. Both the secondary and primary data were analyzed reflecting the information to cost efficiency. That way the data analysis reflects better the research problem (Yin 1994, 103).

3.5 Validity and reliability

As the required quality concepts for qualitative research differ from those of quantitative research, assessing validity and reliability in this study should be done carefully. Stenbacka (2001, 555) defines pre-understanding, access stages, continuous reflection and understanding as applicable criteria for validity and reliability in qualitative research. The data collected in the interviews can be considered reliable since the interviewer is experienced in the area and there are secondary data available to see if it matches with the interviewees' answers. Also, both the interviewer and interviewees are professionals in the field and employees by Capgemini. However, the interviewer and interviewees work in different engagements and different parts of the Capgemini organization so the interviews are not biased by both being Capgemini employees. As the knowledge about the research phenomenon and the case engagements is very detailed and specialized, it can be considered positive for validity and reliability that both the interviewer and interviewees work inside Capgemini.

The interviewer has worked in the information technology service industry since year 1999; hence she can be regarded to possess sufficient information about the subject to conduct the interviews. Due to this pre-understanding of the subject and access can also be considered good. Achieving good quality in this study requires putting emphasis on continuous reflection of the collected data to see if they are relevant. Also transparency of the data collection process is required. To collect reliable and relevant data understanding of the interviewees and quality of the interview process are also important.

Healy and Perry (2000, 122) define additional six criteria for judging validity and reliability for qualitative research within the realism paradigm. As the paradigm of this study is close to realism, the criteria of Healy and Perry fit well. According the Healy and Perry, good quality for case study research within the realism paradigm calls for considering ontological appropriateness (selection of research problem, for example a "how" and "why" problem), contingent validity (theoretical replication, in-depth questions, emphasis on "why" issues), multiple perceptions of participants and of peer researchers (multiple interviews, supporting evidence, broad questions, self-description and awareness of own values), methodological trustworthiness (relevant summarizing of data, relevant describing of case selection and interview procedures among other procedures), analytic generalisation (identifying research issues before data collection, formulating an interview protocol that confirms or disconfirms theory) and construct validity (use of prior theory).

When reflecting this study to the criteria by Healy and Perry a good overview of the validity and reliability can be gained. The research problem of this study is actual and relevant and is of "how" and "why" nature as discussed previously. The study can also be easily replicated as similar other engagements exist and the interview questions are broad in-depth questions. The number of interviews is relatively small but as there were altogether six interviewees and the interviews were done as in-depth interviews it was possible to gain sufficient amount of data. There are also secondary data to support the primary data and the interviewer is – being a Capgemini employee – well aware of her own values and position regarding the research topic. The collected data were summarized in a matrix and coded and analyzed with pre-defined steps; also case selection and interview procedures were described. There is theory guiding the study and the research issues were identified before data collection. Finally, the interview questions were carefully formulated to explore the research problem. All in all, on Healy's and Perry's standards, the validity and reliability of this study are good.

Apart from the above-mentioned criteria, there are three issues that have to be taken into consideration about reliability and validity in this study. First of all, all the engagements and especially case engagements in this study are different; applying the results and findings of this study should be done carefully. As this study is qualitative and thus one-time, the aim is more to explain the findings and make them understandable than to make generalizations. Secondly, the interview questions need to address the right things in order to ensure validity and reliability of this study. Thirdly, cultural differences between Finland and India should be taken into consideration regarding the collected primary data. The differences between Finland and India are significant as discussed earlier. Although cultural differences are not a part of this study it should be kept in mind about the primary data that Finnish and Indian interviewees are likely to respond in a different manner to the questions and hence some culture-related bias can occur. Zimmerman and Szenberg (2000, 162) address the cultural problems in international qualitative research. According to Zimmerman and Szenberg the most relevant cultural problems are related to communication of the objectives and methods, language, respondents' distrust regarding confidentiality or privacy, giving expected response and problems with interpretation of the answers. To overcome these issues, Zimmerman and Szenberg suggest listening more carefully to local firms and developing personal relationships with them, patience, selective recruiting of focus groups, choosing interviewing techniques that maximize respondent comfort and familiarizing with the respondent culture. In this study, although the cultural differences are in place, the above-mentioned problems were more easily solved because both the interviewer and the interviewees are employed by Capgemini. This helped building trust and interpretation of the answers. Both parties also had previous experiences from working

with the other culture in English language which helped overcoming the cultural and language issues. Hence it can be considered that language did not cause bias during the interviews. Also, the communication methods and systems (teleconferencing and video conferencing) used in this study were familiar from before to both the interviewer and interviewees. This eased the communication and helped preventing language-related bias and improving reliability of the interviews.

The results and findings of the study apply in similar engagements done in co-operation with Capgemini Finland and Capgemini India where part of the work is outsourced to be done in Capgemini India. The results and findings can also be applied in other Capgemini offices than Capgemini Finland and Capgemini India if the engagement environment is similar. This improves the external validity of this study. Reliability of this study is improved by the secondary data that were reflected to the primary data collected in the interviews.

4 Findings and discussion

In this chapter findings of the study are introduced and discussed based on the collected data. It is presented how common quality frameworks and working practices contribute to cost efficiency in the case engagements. As discussed previously in chapter 2.5.1, Capgemini has adopted internationally quality practices that are based on Unified Project Management (UPM). In the findings these practices are referred to as "Capgemini international quality portal". First, the findings from secondary data (engagements' financial figures and quality practices adoption level) are introduced, and then, the primary data findings from interviews are presented. Lastly, the findings are discussed and recommendations are made based on them.

4.1 Secondary data

From secondary data it was studied what is the cost efficiency of each case engagement. As discussed previously, cost efficiency was calculated with help of the engagements' financial figures: profitability figures, productivity figures and figures about competitiveness of client price. With combining these three variables the final cost efficiency figure was derived. Additionally, it was analyzed with the help of data from audits how well quality practices were adopted in the case engagements.

The profitability of case engagement 1 was excellent meaning that the engagement brought 5 % or more profit than targeted for Capgemini Finland. Case engagements 2 and 3 had sufficient profitability so the realized profit for Capgemini Finland was 5 – 10 % less than targeted. Productivity of all case engagements was poor so over 10 % more working hours were used in each engagement than targeted. Client price competitiveness for case engagements 1 and 2 was sufficient meaning that the client pays the exact Capgemini Finland list price or under 10 % less than the list price for the work performed. Case engagement 3 had poor client price competitiveness so the client pays more than the Capgemini Finland list price. When assessing the engagements' cost efficiency, as mentioned before, all the above-mentioned factors (profitability, productivity and client price competitiveness) had equal weight. This resulted cost efficiency for case engagements 1 and 2 to be sufficient, for case engagement 3 cost efficiency was poor. Lastly it was measured how well quality practices (common quality frameworks and working practices) were adopted in the case engagements. For case engagement 1 quality prac-

tices adoption level was poor meaning that there were over 15 unsolved non-conformances found. For case engagement 2 quality practices adoption level was excellent so there were under 5 unsolved non-conformances found. Case engagement 3 had again poor quality practices adoption level. From secondary there was no evident link to be found between quality practices adoption level and cost efficiency (Table 8).

Table 8. Cost efficiency and quality practices adoption level of the case engagements

	Profitability	**Productivity**	**Client price competitiveness**	**Cost efficiency**	**Quality practices adoption level**
Case 1	Excellent	Poor	Sufficient	Sufficient	Poor
Case 2	Sufficient	Poor	Sufficient	Sufficient	Excellent
Case 3	Sufficient	Poor	Poor	Poor	Poor

The findings from secondary data can be linked to some findings that came up from primary data repeatedly. The average profitability of the case engagements was good which is supported by the engagement managers' views. Firstly, since the common quality frameworks and working practices offer ready templates and other practices they contribute to fast and more efficient working and profitability as well. The engagement managers also pointed out that increasing offshore penetration is an important factor in increasing profitability since the cost for performing work is much lower offshore. Having many team members onshore was again regarded as a negative factor to profitability. As all case engagements had a high offshore penetration (average 65 %) it correlates with the profitability figures from secondary data. Lastly, the engagement managers mentioned repeatedly the importance of monitoring the engagement's contract and scope carefully including how much work is billed from the client under the fixed price contract and what is billed separately.

Successful monitoring was seen as a positive contributor to profitability which reflects the secondary data as well. Also, the importance of careful monitoring of the engagement can be linked to client price competitiveness derived from secondary data. Average client price competitiveness of the case engagements was slightly below sufficient which indicates that the contract and pricing of the engagements are carefully monitored from Capgemini Finland's side. Productivity of all case engagements was poor and there are several findings from primary data that correspond to that. Constant attrition of human resources was pointed out as one of the major problems in the case engagements regarding productivity: when experienced resources are leaving, it takes time to recruit and introduce the new resources to their tasks and

before they reach the same productivity level with the experienced ones. Also, according to experiences of the Finland-based engagement managers, due to cultural differences the consultants in India cover for each other: the work assigned to low-performing consultants in India may be done by other consultants, which decreases productivity. Another compromising factor for productivity mentioned by the Finland-based engagement managers was that consultants in India tend to use the maximum amount of working hours allowed for completing a certain task. However, the engagement managers pointed out that increased work amount or costs in the engagements are not regarded as a problem if they can be billed from the client. This correlates with secondary data findings as well: engagement managers are willing to compromise productivity and hence also cost efficiency of the engagement if it does not affect or even contributes positively to profitability.

Average cost efficiency of the case engagements was slightly below sufficient similar to client price competitiveness. The average quality practices adoption level of the case engagements was slightly below sufficient. As quality practices adoption level was calculated based on the number of unsolved non-conformances from reviews and quality practices adoption plan, it corresponds to specific findings from primary data. The case engagement managers found that the support they get for using the common quality frameworks and working practices is only auditing, not support as such, and there was no link seen between cost efficiency and the recommendations they get based on the audits. This explains why solving the non-conformances is not seen crucial, although the engagement managers pointed out that common quality frameworks and working practices as such contribute positively to their engagements' cost efficiency. This also helps explaining why there is no evident relation seen in secondary data between quality practices adoption level and cost efficiency. Also, when analyzing the secondary data it must be taken into consideration that the case engagements and their engagement environment differ greatly and hence conclusions should not be done based on secondary data alone. Regarding profitability and productivity it must be taken into consideration that for example the engagement scope might broaden during the engagement by the client's demand. If the costs generated from the changed scope can be billed from the client profitability of the engagement would improve due to increased profit to Capgemini but productivity would on the other hand decrease due to increased usage of working hours. Competitiveness of client price can again be affected by the structure of the engagement's resource pyramid causing the average price to deviate from the list price of Capgemini Finland. For example, if the engagement contains much design work or client-specific programming there are more senior consultants needed to complete the work which increases the average price of work for the client. Quality practices adoption level can also temporarily de-

crease if the engagement has been audited recently and corrective actions to the audit findings have not been implemented yet. These variables among others affect the engagement's cost efficiency figures so secondary data should be analyzed with some qualitative consideration. This is also why engagements should not be compared with each other based on findings from secondary data only.

4.2 Primary data

Next, findings from primary data (interviews) are presented. The interviews were built around four themes and here the findings are presented theme by theme: common quality frameworks, working practices, human resources and cost efficiency. The interviewees – engagement managers – were first asked about the common quality frameworks and their usage in the case engagements. Then, questions about the case engagements' working practices were presented. After that, the engagement managers were asked about human resources in the case engagements. Cost efficiency was discussed across all themes but the questions in the last theme addressed cost efficiency directly.

4.2.1 Common quality frameworks

The quality practices in all case engagements were based on either the common quality frameworks or the international Capgemini quality portal (built around UPM). Three of the engagement managers also mentioned, that the team members in India have additional quality requirements mostly regarding reporting and documentation compared to Finland-based team members since Capgemini India is operating in CMMI level 5 whereas Capgemini Finland is operating in level 3. All engagement managers except one said that their engagement team has received training for using the common quality frameworks. Three engagement managers mentioned that the team had received basic quality training and role-based trainings for using the common quality frameworks. Three engagement managers also said that ITIL training for selected team members has been conducted, two told about engagement-specific quality trainings and one mentioned Six Sigma training. Training was regarded useful since it speeds up the introduction of new team members and helps working systematically. It also came up that Finland-based and India-based engagement managers are unaware of the conducted trainings in the other country since the trainings are not agreed about mutually.

For supporting the usage of the common quality frameworks there was a quality advisor (external to the engagement team) assigned for all case engagements – separate quality advisors

were assigned for both Finland-based team members and India-based team members. Co-operation with the quality advisor was carried out on an agreed basis: monthly meetings with the advisor and also external audits were conducted. Finland-based engagement managers found that the co-operation with their quality advisor was just auditing and did not really support their engagement work. Suggestions for improving the co-operation included tighter co-operation with the quality advisor so that he would have more content-knowledge about the engagement and would be able to support with decision-making, sharing more actively the knowledge and best practices the quality advisor possesses so that he would become more a consultant rather than an auditor and offering actively support for implementing different quality practices. The Indian engagement managers found the current co-operation with the quality advisor more fruitful than their Finland-based counterparts and mentioned that the quality advisor gives ideas, shares best practices and helps creating the engagement's quality practices such as specific templates. The Indian engagement managers suggested though that some of the meetings with the quality advisor could be conducted on the need basis only. Although the Indian engagement managers found the co-operation with their quality advisor helpful for their engagement work, they did not experience that there would be a direct relation between cost efficiency and the recommendations the quality advisor made:

> "Quality advisor's advices do not contribute to cost efficiency; we just have to follow the guidelines. If the guidelines are created so that they enhance cost efficiency, then yes but otherwise not."

All engagement managers except one found that the common quality frameworks and working practices increase cost efficiency. According to the engagement managers the increased cost efficiency was based on readily available templates and effective practices such as reviews that help avoiding repeated mistakes and hence lead to less defects and increased quality (Table 9). It was pointed out that this way the common quality frameworks also help increasing cost efficiency by reducing fixed costs. The engagement managers noted that the increased cost efficiency is not visible right away but the effort quality framework demands is compensated over time if the quality practices are followed diligently. According to the engagement managers increased quality also helps in winning the client's trust.

Five of six interviewees pointed out that tighter co-operation between Finland and India regarding quality management practices would be beneficial and promote cost efficiency. Five of six engagement managers pointed out as well that more efficient knowledge management such as sharing best practices across the organization would contribute positively to cost efficiency.

Three of six interviewees found that developing the support from the quality advisors for actually fulfilling the quality requirements would enhance cost efficiency as well. Two engagement managers suggested that the tools should be developed to indicate at an early stage if something in the engagement is going wrong. Additionally, manual work (i.e. preparing several reports based on the same data, maintaining static Excel sheets) was regarded as a negative contributor to cost efficiency and some mandatory templates were seen as unnecessary: skills matrix, metrics, stocktaking report and integrated team charter were mentioned specifically. On the other hand, some additions to the common quality frameworks were suggested as well: better support for implementing software that is not tailor made for the client, guidelines for engagements that combine software development and application management and a template for preparing a budget for transition projects. Also, one engagement manager pointed out that it compromises cost efficiency whenever the client requires more detailed documentation than the common quality frameworks can offer – in such cases the engagement team has to prepare the templates themselves.

Table 9. Findings summary about common quality frameworks

	Common quality frameworks
Enhancing the support (quality advisors)	Tighter co-operation with engagement managers, more content-knowledge about the engagements to be able to support the engagement managers with decision-making, sharing more actively the knowledge and best practices, offering actively support for implementing quality practices and actually fulfilling the quality requirements, developing the quality advisor's role towards a consultant from being an auditor.
Contribution to cost efficiency	Increased cost efficiency is based on readily available templates and effective practices (helps avoiding repeated mistakes and reducing fixed costs). The benefit is not visible right away but the effort is compensated over time if the quality practices are followed diligently. Increased quality also helps in winning the client's trust.
Improvement areas	Tighter co-operation between Finland and India regarding quality management practices (i.e. consistency in templates) would promote cost efficiency as well as more efficient knowledge management (such as sharing best practices) across the organization and developing the tools to enable more detailed monitoring of engagements. Manual work (preparing several reports based on the same data, maintaining static Excel sheets) is a negative contributor to cost efficiency.

4.2.2 Working practices

All case engagements had defined and agreed working practices: templates, meeting practices and technical systems (time reporting, document repository, resource booking system, and a system for following incidents). All case engagements had adopted working practices from the common quality frameworks or Capgemini international quality portal. However, all engagement managers except one mentioned that they had adopted some templates from the client or created some on their own. The reason for modifying the readily available templates was that the templates did not fit the engagement's specific needs. Some new templates were also created when there was no suitable template available in the common quality frameworks. Engagement managers chose to develop working practices themselves if there were no needed practices available in the common quality frameworks (or they were insufficient) and the practices were seen necessary for the engagement. Such practices were organizational structures, creating work estimates and creating practices for managing software releases. Templates and practices were adopted from the client or a technology developer when it was a client requirement or when they were of better quality:

> "Some of our practices are from the client or technology developers; we adopt those practices because they are of better quality than those available in the common quality frameworks."

All engagement managers found that working practices contribute positively to cost efficiency. There were also some working practices that the engagement managers highlighted as their engagement's most beneficial ones. Bringing people onshore from offshore every now and then was seen as a positive contributor to cost efficiency since the offshore team is able to maintain cost efficiency better when they go back offshore. Also being present at client site was regarded beneficial despite the costs it generates since it helps working more efficiently and creates trust between Capgemini and the client. Increasing offshore penetration and giving more responsibility to the offshore team was seen beneficial since it helps saving costs and hence increases cost efficiency as well as careful monitoring of the contract and usage of working hours. Introducing dynamic systems (for document management, reviews, invoicing, and project management) was regarded as a positive contributor to cost efficiency as well since it saves time by minimizing manual work. Finally using standard development practices was regarded to increase cost efficiency since such practices offer a clear process to follow in the development work and solving issues.

There were also some working practices the engagement managers would like to abandon to improve cost efficiency. Three engagement managers pointed out the need for maintaining several static documents (for i.e. reporting) as unnecessary work:

> "Maintaining several static Excel sheets is really time consuming, we have several reports we have to prepare statically from the same data. In other Capgemini countries these reports are prepared for the engagement managers."

Automation was suggested to reduce the need for maintaining multiple static documents. Having several quality practices and requirements for same areas was criticized as well. Some suggestions came up as well for developing the working practices to support cost efficiency better (Table 10). Three engagement managers suggested creating documented practices about travel arrangements regarding how people from offshore should visit onshore.

More focus on knowledge management was highlighted also regarding working practices: since attrition of human resources in India is high, it was regarded important to know well in advance when someone is leaving the engagement team and putting emphasis on knowledge sharing and documentation was highlighted in these situations. It was mentioned that the negative effects of attrition can be reduced by improving knowledge management, handover practices and familiarization of new team members. In order to minimize attrition it was suggested that the working practices should support creating career paths for consultants inside the engagement or developing their skills in order to deepen their expertise. Guidelines on how to govern and maintain larger engagements were also found missing from the working practices in the common quality frameworks. One engagement manager pointed out that there is experience on running large engagements inside Capgemini so it should be documented and a model should be created based on that. Finally it was suggested that coping with cultural differences between Finland and India should be covered in working practices since differences between the two countries are great. Capgemini Rightshore® Guide caused hardly any discussion: four engagement managers knew it exists but had no detailed knowledge about its contents; one engagement manager did not know such a guide existed. One engagement manager was familiar with the guide and had gone through it once.

Table 10. Findings summary from working practices

	Working practices
Sources of the adopted practices	Common quality frameworks, Capgemini international quality portal, templates from the client or created or created by the engagement team. Readily available templates modified when they did not serve the engagement's purposes well enough, new templates or practices created when there was nothing suitable available. Templates and practices adopted from the client or a technology developer when it was a client requirement or when the templates or practices were of better quality than those available in the common quality frameworks.
Contribution to cost efficiency	Working practices contribute positively to cost efficiency in general. Working practices that contribute most positively: bringing people onshore from offshore every now and then, being present at client site, increasing offshore penetration, careful monitoring of the engagement, introducing dynamic systems in the engagement and using standard development practices.
Improvement areas	Should be abandoned to support cost efficiency: maintaining several static Excel sheets, having several quality practices and requirements for same areas. Should be improved to support cost efficiency: automation of routines i.e. reporting, creating documented practices about travel arrangements regarding how people from offshore should visit onshore, more focus on knowledge management, guidelines on how to govern and maintain larger engagements, considering cultural differences between Finland and India. Capgemini Rightshore® Guide caused hardly any discussion.

4.2.3 Human resources

In all case engagements the responsibilities were shared between onshore and offshore. Although there was no task division as such between Finland and India, generally most development work was done offshore and the main client facing roles were taken care of onshore in Finland. Finland-based engagement managers found Indian resources attractive since there was a large pool to pick from, also resources from other offshore locations such as Poland and Sweden were regarded very cost effective and easier to bring onshore than Indian resources. Two Finland-based interviewees pointed out, that recruiting new resources to the offshore team in India improved significantly when the recruiting responsibility was moved from Finland to India. Three engagement managers mentioned that the team structure has developed recently so that offshore penetration has increased which was seen positive from cost efficiency point of view as well. According to the interviewees, this development was the most beneficial if the offshore team matures so that they can move towards client-facing roles. The development was compromised most by the high attrition of human resources in the

offshore team since it takes time for the new team members to build up the needed knowledge.

All three Indian engagement managers stressed the importance of having senior consultants in the engagement but also maintaining a healthy mix of senior and junior consultants to monitor the costs of human resources. Senior consultants were seen crucial because of their knowledge, expertise level and ability to train junior consultants especially in an engagement where the needed knowledge is very specialized. On the other hand, senior consultants were regarded as a compromising factor to cost efficiency and the need for junior consultants was highlighted as well for managing knowledge and training resources to higher competence levels. The need for strict quality practices and knowledge management was brought up due to high attrition in India.

The link between cost efficiency and human resources in the engagement was recognized clearly by all the interviewees. It was pointed out that productivity of human resources as well as their training, knowledge management and available tools are directly linked to cost efficiency. One interviewee found that the importance of human resources is often omitted when addressing cost efficiency:

> "Whatever profit or loss we make, whether we are cost efficient or not, it directly has its roots in the human resources because we are working in consultancy engagements."

Suggestions for improving the human resources to enhance cost efficiency also came up. Four interviewees mentioned attrition of human resources in the offshore team as the biggest problem that also compromises cost efficiency. Reducing attrition was seen as a key to increasing cost efficiency (Table 11). Low salary level in Capgemini India was pointed out as one reason for high attrition, although one Indian engagement manager also mentioned that attrition is a part of Indian culture. It was brought up by the Finland-based engagement managers that a high-performing and low-performing resource may have similar curriculum vitae so it is sometimes hard to know what to expect – four engagement managers mentioned that they have had unsuitable and low-performing resources recruited to the engagement. Two Finland-based engagement managers had also faced a particular problem with the Indian offshore team members: high-performing Indian team members cover and perform work for low-performing Indian team members. That was regarded as a compromising factor to cost efficiency as well since the engagement was paying for low-performing resources. The engagement managers found that the problem was related to cultural differences: the offshore team

in India was pressured to accomplish its tasks as a team rather than individuals and wanted to give a good "India-picture".

Other suggestions for enhancing cost efficiency in the area of human resources included promoting knowledge management regarding communication towards the client in order to enhance trust both inside the engagement team and with the client. Two Indian engagement managers pointed out a need for industry-specific training and ensuring that the planned trainings are available. Finally, one Indian engagement manager pointed out a problem with a Finnish client: all correspondence was done in Finnish on the client's side which contributed negatively to cost efficiency. It also increased the risk for mistakes during the translation and compromised knowledge management and communication.

Table 11. Findings summary from human resources

	Human resources
Governing the engagement teams	Generally most development work done offshore, main client facing roles taken care of onshore. Indian resources attractive (large pool to pick from), resources from other offshore locations (Poland, Sweden) also cost effective and easier to bring onshore than Indian resources. Recruiting offshore team members improves if recruiting responsibility is moved from Finland to India. Offshore penetration increased recently, beneficial especially if attrition can be reduced and the offshore team matures towards client-facing roles. Important to maintain a healthy mix of senior and junior consultants in the team. Strict quality practices and knowledge management important due to high attrition in India.
Contribution to cost efficiency	Whatever profit or loss is made, whether the engagement is cost effective or not, everything is based on the human resources.
Improvement areas	Reducing attrition in offshore teams, lower overall tolerance for low-performing offshore resources, promoting knowledge management, ensuring availability of trainings, ensuring meetings and documentation in English on the client side when offshore team is involved.

4.2.4 Cost efficiency

The interviewees brought up some factors repeatedly when describing what contributes most positively to their engagement's cost efficiency. Increasing offshore penetration was mentioned by two engagement managers as well as careful monitoring of the engagement (usage of working hours, monitoring fixed costs, avoiding incidents). Also working with a matured offshore team and promoting knowledge management was highlighted by two engagement

managers. When discussing factors that compromise most the engagements' cost efficiency some themes were also brought up several times reflecting the positive contributors to cost efficiency that came up earlier. Three interviewees mentioned attrition of human resources in the offshore team as the most compromising thing for their engagement's cost efficiency. With high attrition the offshore team does not mature to a sufficient level to enable cost effective work.

Failing to monitor the engagement (increased fixed costs, large number of incidents) was seen to compromise cost efficiency by two engagement managers. However, it was brought up by two Indian engagement managers that it is every now and then worthwhile to choose some actions that are negative for the engagement's cost efficiency at that moment if it is seen that the investment will be beneficial later on in the engagement. When describing how common quality frameworks and working practices contribute to the engagement's cost efficiency in general all three Finland-based engagement managers pointed out that they ensure a certain quality level and ensure that the offshore team can perform the work offshore. This was seen as a positive contributor to cost efficiency. Two Indian engagement managers mentioned that the common quality frameworks and working practices help to save time by offering clear ways of working and avoiding double work.

When discussing how to increase cost efficiency in the case engagements the interviewees again mentioned same factors repeatedly. In general increasing offshore penetration was seen as a key to increasing cost efficiency, although it was pointed out that the offshoring decisions should be done carefully: it was mentioned by the Finland-based engagement managers that in India there is a good overall knowledge of application management whereas customer-specific programming or design work should be offshored more tentatively. This was suggested because if the overall knowledge offshore about the work is not sufficient it contributes negatively to productivity and hence compromises cost efficiency as well. All three Finland-based engagement managers also suggested that the Indian team members should be trained more about cultural differences in addition to the training that is currently available for Finnish and Indian employees. It was hoped that the Indian team members would be more demanding in communication: asking questions at an earlier stage, suggesting for solutions and clarifying unclear details.

The interviewees saw that engagement team members' should possess right skills of sufficient level, follow the agreed practices, give preventive suggestions and increase their knowledge about the engagement work in order to increase cost efficiency. Engagement manager's role in

increasing cost efficiency was seen even more active, one interviewee pointed out that everything contributes to cost efficiency at engagement management level. Four engagement managers found that visiting the offshore site regularly increases cost efficiency (Table 12): it was seen to increase trust, enhance communication and improve knowledge management in the whole team. Motivating people was also regarded important to decrease attrition. Also careful planning, monitoring and analyzing (especially regarding human resources, travelling, contract and fixed costs) were seen as key tools for the engagement manager to increase cost efficiency. The interviewees found that the whole engagement team can increase cost efficiency by promoting knowledge management and focusing on working for the common goal. Finally, the engagement managers suggested that in order to increase cost efficiency Capgemini as an organization can focus on minimizing attrition and develop the common quality frameworks and working practices to support better the delivery of the engagement. As one of the interviewees pointed out, "cost efficiency is not only a management thing – it comes from the bottom and flows across the organization".

Table 12. Findings summary from primary data from cost efficiency point of view

	Common quality frameworks	Working practices	Human resources
Positive contribution to cost efficiency	Readily available templates and effective practices. Increased quality helps in winning the client's trust.	Contribution is positive in general. Most beneficial practices: bringing people onshore from offshore every now and then, being present at client site, increasing offshore penetration, careful monitoring of the engagements, introducing dynamic systems in the engagements, using standard development practices.	Matured offshore team, skilful and high-performing resources, efficient knowledge management inside the team, working for the common goal.
Negative contribution to cost efficiency	Multiple quality requirements and templates in one area.	Manual work: preparing several reports based on the same data, maintaining static Excel sheets.	Attrition, low-performing resources, resources lacking the needed skills.
How to improve cost efficiency	Tighter co-operation between Finland and India regarding quality management practices, more efficient knowledge management, developing the tools to enable more detailed monitoring of engagements, developing quality advisor support from auditing towards consulting.	Automation of suitable routines, creating documented practices about travel arrangements regarding how people from offshore should visit onshore, more efficient knowledge management, creating guidelines on how to govern and maintain larger engagements, considering cultural differences between Finland and India.	Reducing attrition in offshore teams, lower overall tolerance for low-performing offshore resources, more efficient knowledge management, ensuring availability of trainings, and carrying out engagement work in English on the client side when the offshore team is involved.

4.3 Discussion

According to the findings the benefit of common quality frameworks is based on readily available templates and effective practices since they help reducing fixed costs and avoiding repeated mistakes. Ready templates and clearly documented practices which are easy to adopt save time and make it easier to initiate and plan an engagement, introduce new team members to the engagement and co-operate with other stakeholders that are familiar with the same templates and practices. This is why it is logical that ready templates and practices are regarded as common quality frameworks' most positive contributor to cost efficiency. As discussed in chapter 2, cost efficiency enables Capgemini to execute its mission. Ooi et al. (2000, 63) also point out that quality management contributes to greater return on investment and improved productivity. Considering this the benefits of common quality frameworks should be enforced in order to increase the engagements' cost efficiency as well.

When implementing common quality frameworks, engagement managers are in a key role although it takes the whole engagement team to carry out a successful implementation. Engagement managers are the main responsible persons for governing and planning the engagement and make many decisions about how the engagement is carried out. As engagement managers are pressured by the client, engagement team and Capgemini to lead the engagement in an effective manner it is natural to prioritize all actions carefully and choose to leave out any practices that do not support the engagement's cost efficiency. In enforcing the availability of ready templates and effective practices the quality advisors are in an essential role as contact persons between the quality team and the engagement teams. Hence it is natural that the engagement managers gave multiple suggestions to enhance the co-operation with the quality advisors:

> "The co-operation with quality advisors could be developed making the co-operation tighter – he should have more content-knowledge about the project in order to help with decision-making."

Garvin (1987, 101) mentions that in order to call a method a quality framework it needs to promote serviceability. Garvin's arguments are in line with the finding that the quality advisor's role should be developed towards to a consultant from being an auditor. This can be done by developing the process for supporting the engagements. A consultative quality advisor should work in tighter co-operation with engagement managers sharing more actively his knowledge and best practices, offering actively support for implementing different quality

practices and hence fulfilling the requirements set by the quality frameworks. Indian engagement managers found the co-operation with their quality advisor more fruitful than their Finland-based counterparts, so the co-operation between engagement managers and quality advisors in Finland could benefit from adopting some ideas from India. As engagement managers are looking at quality management from the engagement's point of view it is understandable that they find constant auditing and compliancy requirements unnecessary if it is not seen especially beneficial for the engagement work. It was discussed in chapter 2.3 that a firm's cost efficiency can be studied by measuring how effectively the firm is able to perform work with its tools and practices. Along the lines with this, in order for the common quality frameworks to support better the engagements' cost efficiency, it should promote practices that ease engagement work. Such practices were suggested in the findings, including merging quality practices in Capgemini Finland and Capgemini India. Merged practices would mean that engagement work would be much more straightforward, faster and hence cost effective when both the onshore and offshore team would work under same quality management. Also, having multiple quality requirements and templates in one area is confusing and does not support the engagement work.

Developing the used tools to enable more detailed monitoring of engagements and reducing manual work was suggested to save time. As engagement managers are producing reports for several purposes reducing manual work would not only save a significant amount of time but contribute to cost efficiency as well. Preparing several reports based on the same data or maintaining static Excel sheets was also seen as frustrating and such reporting demands are not considered beneficial but only time-consuming. Automating such tasks and developing more detailed monitoring would enable a better overview in the engagement and help noticing earlier if something is going wrong. Finally it came up that the engagement managers wanted more focus on knowledge management. This reflects the finding that the quality advisor support was found insufficient and more auditing than actual support. What engagement managers were looking for in the common quality frameworks were practical means for carrying out their work, and sharing knowledge in for example how similar engagements are carried out would be a real benefit to engagement work.

Earlier it was discussed with help or Kemp (2005, 25) that the best working practices are consistent, safe and thoroughly tested. Considering this it is logical that working practices from the common quality frameworks were modified or abandoned if they did not fit the engagement's purposes or client requirements – if engagement purposes or client requirements are not met or if there are working practices of better quality available from elsewhere the work-

ing practices in common quality frameworks are not considered safe. Further, it matches with the need for thoroughly tested working practices that automation of routines and creating documented practices was suggested. Creating automated routines and documented practices requires thorough testing; hence these findings are in line with Kemp's arguments. These actions also help saving time and hence improve cost efficiency. The engagement managers suggested creating documented practices about how people from offshore should visit onshore: the frequency, who to bring onshore and how to arrange it. As many engagements face this issue it would help avoiding mistakes to document the best practices regarding it especially since it was found as one of the most beneficial working practices to bring people from offshore to onshore every now and then. It was also brought up that there are no guidelines regarding how to govern and maintain larger engagements:

> "Common quality frameworks are lacking guidelines on how to govern and maintain larger engagements. We have experience on that so it should be documented and have some kind of model about it."

Existing guidelines would again save the engagement managers' time when governing large engagements. The significance of cultural differences between the Nordic countries and India was discussed earlier with help of Trompenaars (1996, 51-68). The same issue came up in the findings and the interviewees were keen on receiving more support on how to consider these cultural differences in the engagement work. As the issue was brought up by both Finland-based and Indian engagement managers it should be grasped. Understanding better the other culture can be a major contributor to cost efficiency in the form of enhanced communication and avoiding misunderstandings.

Creating documented practices in these suggested areas would enhance knowledge management. As there is increasing experience about international multi-site engagements in Capgemini Finland the needed knowledge is already in place waiting for managing and sharing. Manual work and introducing several quality practices and requirements for same areas were considered to have a negative effect on cost efficiency. They are also in conflict with Kemp's (2005, 25) requirement for consistency in working practices. On the other hand, suggested standard development practices, introducing dynamic systems in the engagement and engagement's careful monitoring support consistency and are hence in line with Kemp's arguments as well. Standard development practices are an understandable finding as positive contributors to cost efficiency since they can also be regarded safe. Practices can become standards only by thorough testing and can hence be regarded safe to use. Capgemini Rightshore® Guide caused

little discussion and the guide was not well known among the interviewees. This finding is natural considering that in the guide's present form the role of it is to guide the development work for quality management practices and not act as a direct reference for engagement managers (Manner, 11.12.2010).

Increasing offshore penetration was seen as a positive contributor to cost efficiency which is logical since it helps saving costs. Bringing team members onshore from offshore every now and then and being present at client site were seen as beneficial working practices from cost efficiency point of view as well. Bell (2002, 2) has similar ideas since Bell recommends initial face-to-face meetings for international multi-site engagements. Bovet (1994, 1) also highlights that international teams depend on frequent meetings so these working practices should be promoted. As mentioned previously, the engagement managers agreed about the positive contribution to cost efficiency of these practices but felt the need for documented guidelines on how to implement them:

> "There should be more documented practices about the travel arrangements and how people from offshore should come onshore."

It was discussed earlier with help of Barney (1991, 112) that valuable, rare, non-imitable and non-substitutable resources contribute positively to cost efficiency in engagements. These requirements explain well the findings about how engagement teams are governed. Offshore resources bring value to the engagement in the form of saved costs, hence they were found attractive. Often the offshore offices also offer a large pool of human resources to choose from. Benefiting from offshore resources includes naturally an assumption that the offshore resources posses the needed skills for the engagement and demonstrate sufficient performance. On the other hand, the onshore team clearly possesses some non-imitable and non-substitutable resources since the onshore team was found to be mainly responsible for client facing roles. This is understandable also when regarding the cultural differences – the client may prefer interacting with team members with similar cultural background and who speak the same language. It was even pointed out that some clients require communication in Finnish language which compromises clearly the benefit of using offshore resources.

Increasing offshore penetration was found to be especially beneficial if the offshore team matures towards client facing roles – this makes the offshore resources more valuable and harder to imitate. Additionally it reduces the need for monitoring the work which again saves time and cost. Attrition of human resources in the offshore team and low-performing resources

naturally disturb maturing of the offshore team and make the resources less valuable and easier to imitate and substitute with for example resources from another offshore location. Considering this it is easy to understand why attrition was seen as the biggest problem in the case engagements and why it was suggested that to improve the engagements' cost efficiency minimizing attrition in offshore teams and lowering tolerance for low-performing offshore resources should be emphasized. However, as pointed out in the findings, attrition is part of the working culture in India and hence must be accepted to some extent. This makes promoting knowledge management and ensuring availability of needed trainings vital to maintain the benefits of offshoring.

To minimize the negative effects of attrition the importance of knowledge management was again strongly emphasized during the interviews. In order to ensure fast and efficient induction for new team members, knowledge management should be efficient inside the team and practices for induction and handover should be well-thought and documented. Capgemini Finland could also explore more the possibilities of using resources available in other offshore locations than India, such as Poland or Sweden. Other offshore locations could offer more skilled resources, smaller cultural differences and faster formalities in bringing the offshore resources to visit onshore. Finally it was pointed out in the interviews that the contribution of human resources in the engagement is the key in making either profit or loss or being cost efficient or not. The reasoning for either positive or negative contribution of human resources to cost efficiency can be found in Barney's (1991, 112) criteria as discussed previously.

By aiming at cost efficiency Capgemini among other firms tries to make sure the engagements they deliver solve the clients' problems as effectively as possible and hence speed the clients' desired transformation. For succeeding in this the client firm needs to trust its partner firm, in this case Capgemini. It was found that increased quality helps winning the client's trust so it can be said that increasing quality also helps Capgemini to achieve its mission – enabling transformation.

5 Conclusions and recommendations

The need for promoting and developing knowledge management came up in discussions regarding all themes. This makes it a very significant finding and reveals the need for enhancing knowledge management actions. Some of the key findings regarding the common quality frameworks shed light on how to do this. Clearly documented and tested templates and practices increase knowledge in how certain tasks should be carried out, so templates and practices in the common quality frameworks should be revised to reflect these requirements, shared actively and developed further.

Common quality frameworks are often found exhaustive so finding the right practices from there can be time-consuming. Quality advisors are in a key role to help in this since they are co-operating with all engagements and it is mandatory to assign a quality advisor for each engagement. This makes the quality advisors knowledge activists. Ineffective co-operation between engagements and quality advisors does not only consume unnecessary time but also deteriorates knowledge management inside the firm. As quality advisors are the most important interface for spreading the firm's quality practices the co-operation between them and the engagements should be re-thought and improved. Compliance with quality requirements is an important part of quality management but only one part of it. Increasing cost efficiency and offering better support for engagements calls for deeper content-knowledge about the engagements and acting as a consultant: offering help and sharing best practices actively. This way the quality advisors could also contribute better to enhancing knowledge management.

Despite the common quality frameworks Capgemini Finland and Capgemini India are still maintaining some quality practices separately due to different CMMI levels and different requirements from the organization. The team members located in Finland and India in international multi-site engagements should act as one team towards the client but separate quality practices work against this goal. Some practices, i.e. training and some reporting requirements are not mutually agreed because it is known that the requirements differ onshore and offshore. Merging quality practices in Capgemini Finland and Capgemini India would change this and promote knowledge management at the same time making the engagement team more unified.

Developing working practices would contribute to cost efficiency in the form of decreased fixed costs and saved time. Offshore penetration should be increased where possible to save costs but keeping in mind that all operations are not more cost efficient when offshored. Increasing offshore penetration also increases the workload onshore as need for controlling and monitoring increases. The need is reduced if the offshore team matures but since design work and client-specific programming are more time-consuming to become knowledgeable of it should be considered carefully whether and how to outsource these actions. Manual work is time-consuming and should be avoided whenever possible to increase cost efficiency.

There were several suggestions for reducing manual work that can be recommended. Introducing dynamic systems in the engagement can help by enabling automation of routines and making monitoring of the engagement more detailed and easier. However, the varying needs of different engagements set high requirements for such systems and their functionalities. If dynamic systems fail to meet the needs of different engagements the benefit of introducing them is vaporized. On the contrary, using several mandatory tools in the engagement that do not support the engagement's needs turns the contribution to cost efficiency towards negative. It is also recommended to avoid several quality practices and requirements for same areas to save time and costs. This can be done by merging all the feasible, existing onshore and offshore working practices but also creating and documenting working practices in areas where practices are vague or non-existing. Sharing and unifying these practices will then have a unifying effect in the quality requirements.

Specific working practices that should be developed are guidelines regarding how people from offshore should visit onshore and how to consider cultural differences between Finland and India in engagement work. The need for offshore team members to visit onshore has been recognized in many engagements but since there are no guidelines regarding it the practices are created and followed individually in each engagement. Consistent guidelines would save time and help arrange practicalities. Existing guidelines would also ensure that all international multi-site engagements recognize the need and importance of this practice. Cultural differences between Finland and India are significant and guidelines about considering them in engagement work would enhance communication, avoid misunderstandings and hence save time. Awareness about the differences has been built in daily engagement work but clear guidelines, root causes for significant behavior and suggestions for solving different situations would benefit both onshore and offshore team members.

Reducing attrition of human resources in the offshore team was the largest improvement suggestion regarding human resources to increase cost efficiency. As attrition was seen as a major problem it would be beneficial to grasp the issue. Creating career paths for consultants or allowing deepening their expertise inside the engagement could motivate the team members to stay longer in the engagement, mature in their role and achieve career advancement in that way. Also ensuring a sufficient reward and recognition program can be useful. Reducing attrition in the offshore team would promote maturing in the team which is again beneficial for cost efficiency. Constant attrition decreases cost efficiency since the team does not achieve a sufficient knowledge level for being cost efficient. It should be realized, however, that attrition in the offshore team cannot be reduced to a marginal level. This is why it is equally important to minimize the negative effects of it. Standard development practices should be maintained and promoted since they save time during the engagement and also help introducing new team members. For the same reason enhancing knowledge management and practices regarding handover and induction should be a priority when governing international multi-site engagements.

In order for the above-mentioned actions to succeed there needs to be consensus about applying and taking them into use at all levels in Capgemini's organization. Also continuous development and support are needed for implementing and keeping the practices up to date. No matter how beneficial certain practices might be, knowing what to do is not enough. If there are no actions taken in the firm upon the gained knowledge the result is a knowing-doing gap (Pfeffer & Sutton 2000, 13). According to Pfeffer and Sutton the typical management efforts towards managing knowledge emphasize technology (i.e. creating intranets or knowledge repositories) and leave out the most important: intangible knowledge assets. Capturing tacit knowledge in data systems is not possible and often making the knowing-doing gap even worse.

Pfeffer and Sutton (2000, 13) suggest knowing by doing which can be taken as a part of the firm's organizational culture and quality management practices instead of the traditional knowledge management actions. This should be kept in mind when planning knowledge management actions especially regarding quality management. As one the interviewed engagement managers pointed out:

> "Quality should be in everybody's working style. Quality is like brushing your teeth. You have to brush your teeth every morning and if you consider it as just as a cost you will not see the bene-

> fit of it. Quality should be part of our life and operational work, and then we will see the benefit in the long run."

5.1 Implementing the recommendations

Increasing cost efficiency in international multi-site engagements requires consistent long-term actions and the benefit of them is not visible right away. In a large firm, such as Capgemini, the recommendations should also be implemented with consideration since implementation is time-consuming and affects the organization in many levels. Hence all the recommendations are first discussed in Capgemini Finland thoroughly after which it will be decided how they will be implemented. Also, some recommendations may require additional studying before implementation. The final implementation for each recommendation depends also on availability of resources and other development tasks in Capgemini Finland especially in the area of quality management. However, developing the co-operation between engagement managers and quality advisors and reducing manual work are recommendations that are both important and high-priority; hence they are prioritized high and implemented without delay. (Manner, 26.11.2010.)

Developing the co-operation between engagement managers and quality advisors is urgent since the quality of the co-operation affects both engagement work and adoption of the firm's quality practices. This recommendation can also be implemented without delay, since most of the implementation work can be done by the quality management team. The quality advisors are members of the quality management team, so they will get to develop their own work. Engagement managers can also be consulted to get additional input on how the co-operation could be developed. The implementation of this recommendation can be initiated during the first half of year 2011. (Manner, 26.11.2010.)

A tighter co-operation between engagement managers and quality advisors can help enhancing the engagements' cost efficiency. If the quality advisors will move towards a consultative role becoming knowledge activists, the engagement managers can utilize better the quality advisors' knowledge and expertise. This way it becomes possible to use more efficiently the best practices and experiences from the common quality frameworks and other engagements. Also, tighter co-operation can help developing the common quality frameworks towards serving better the engagements' needs and efficient practices that are in use in the engagements can be easier to recognize and distribute further inside Capgemini. A more consultative quality advisor may also have his work billed from the client easier since the work becomes more strongly

linked to the engagement work. However, the quality advisors must not lose their focus on compliancy either: Capgemini Finland has invested in CMMI and ITIL compliancy which are, as discussed earlier, important foundations for the common quality frameworks. Hence it will be important in the future to invest in maintaining two aspects in the quality advisors' role. Limited resources in the quality management team and engagement managers' busy schedules may pose challenges to implementing this recommendation. To overcome this, the engagement managers should keep in mind that the very meaning of this improvement is to support the engagements better and hence ease the engagement management work. Further, when assigning resources for implementing this recommendation, the quality team should keep in mind the initial role for quality management activities: enabling cost effective operations and hence helping to execute Capgemini's mission.

Reducing manual work increases cost efficiency directly since it saves the engagement managers' time. Hence efforts in this have already been initiated in Capgemini Finland. Also risks for human errors decrease when tasks are automated. When engagement managers can allocate their time for other tasks they can also put more emphasis on engagement work with their client and engagement team. This can help increasing cost efficiency even further. When reducing manual work and automating tasks it must be ensured that the automation covers all needed aspects and actually meets the needs for i.e. reporting. If this requirement is not met, the long-term benefit of this change may not be realized. Also, it must be ensured that the automation actually reduces the need for manual work. Varying requirements from different stakeholders may pose challenges to implementing this change – automation of tasks may not be straightforward. However, it should be kept in mind that the benefit of reducing manual work, when realized, is significant and hence worth much effort. (Manner, 26.11.2010.)

As the objective of this study is to increase knowledge, sharing the findings effectively is an important part of implementing the recommendations. Capgemini has an internal knowledge management system in use which is available internationally in different Capgemini offices. To allow distributing the findings and recommendations of this study as effectively as possible inside Capgemini, this study will be shared in the Capgemini international knowledge management system early year 2011. This enables benefiting from the findings and recommendations of this study inside Capgemini as widely as possible. (Manner, 26.11.2010.)

5.2 Reflections

There were two research questions set for this study: how to increase cost efficiency for international multi-site engagements and how do the current common quality frameworks and working practices increase cost efficiency in the studied engagements. As discussed previously, there are several findings regarding both research questions so it can be said that the research questions were answered. Increasing knowledge in the area of the research questions was set as research objective for this study and the aim was to find out whether common quality frameworks and working practices contribute to engagements' cost efficiency in the selected case engagements. Since the findings showed that the common quality frameworks and working practices support increasing cost efficiency in the case engagements and there was also much information revealed on how to enhance them the research objective was met as well.

As discussed earlier, the researcher has been working in the information technology service industry since year 1999 and is also employed by the case firm. Also, the researcher has work experience from the field of quality management and knowledge about international business management from her studies. This gives her a good overall knowledge and understanding about the research area and helps conducting more comprehensive and reliable interviews. Working for the case firm also increased trust between the interviewer and interviewees. On the other hand, being a case firm employee with experience on quality management made it more challenging for the researcher to remain objective when conducting the study, hence choosing another case firm would have offered a more neutral perspective. Conducting the study for the researcher's own employer caused most of the learning to be in the theoretical area: exploring and utilizing literature, building a theoretical background for the case engagements and combining theory with the empiric parts. Also, narrowing the scope of this study left some findings on a general level. A broader scope especially in the areas of knowledge management and cultural differences between Finland and India would have enabled more interesting, focused and deeper findings and recommendations. On the other hand, the depth of these issues must be taken into consideration and hence narrowing the scope was necessary. Looking back the research process it would have been beneficial to maintain closer cooperation with the case firm. It would have helped ensuring that the study's scope serves the firm's needs the best possible way. Some of the current findings were expected by the case firm – focusing more on studying quality frameworks' effects on profitability and productivity would have been more useful from the case firm's point of view.

5.3 Recommendations for future research

Some issues, although relevant for this study, were left out of scope due to their depth. Of these topics knowledge management and cultural differences between Finland and India leave room for separate research to allow exploring deeper the scope of this study. As one of the key findings of this study is in the area of knowledge management it would be recommended to conduct future research on what exact knowledge management actions would be the most beneficial for increasing cost efficiency in international multi-site engagements. Additionally, it would be beneficial to explore more thoroughly the cultural differences between Finland and India. With the help of future research in that area it would be possible to explain more thoroughly the existing cultural differences, their effect on engagement work and how to avoid problems and conflicts arising from these differences. Increasing offshore penetration tentatively was pointed out as an increasing factor to cost efficiency. A separate study in this area could investigate the issue further. It would be beneficial to explore further what kinds of work can be offshored effectively and what should be internalized onshore. Reducing attrition of human resources in the offshore team was found to be a major negative contributor to cost efficiency which leaves room for future research. In order to find effective means for reducing attrition the root causes for it and motivational factors for offshore team members could be studied further. Finally, exploring how introducing quality frameworks in international multi-site engagements affect profitability and productivity would be interested from information technology service firms' point of view. Increasing knowledge in this area could help firms to maintain better profitability and productivity in international multi-site engagements.

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Interview questions

Theme 1: Quality frameworks

- Describe the common quality frameworks (CMMI, ITIL, UPM, ISO) used in your engagement.
- Tell about the training your team has received to use the common quality frameworks.
- What kind of support have you received during the engagement for using the common quality frameworks?
- How does using the common quality frameworks affect your engagement's cost efficiency?
- How would you develop the common quality frameworks to make them support better your engagement's cost efficiency?

Theme 2: Working practices

- Describe the working practices you have in use in your engagement: common templates, meeting practices, guidelines, technical systems.
- Where have you adopted your working practices from?
- Which are the most beneficial working practices in your engagement and why?
- Which working practices would you abandon in your engagement if possible and why?
- How would you develop the working practices that are available in the common quality frameworks?
- To which level are you familiar with Capgemini Rightshore® Guide?
- How would you develop Capgemini Rightshore® Guide?
- How do the working practices used in your engagement contribute to your engagement's cost efficiency?

Theme 3: Human resources

- Describe the task division between Finland and India in your engagement.
- How would you improve the task division between Finland and India in your engagement?
- Describe the human resources assigned to your engagement and their suitability for the engagement.
- How would you improve the human resources in your engagement and why?
- How do the human resources in your engagement affect the engagement's cost efficiency and why?

Theme 4: Cost efficiency

- What contributes most positively to your engagement's cost efficiency and why?

- What compromises most your engagement's cost efficiency and why?
- How do the common quality frameworks and working practices contribute to your engagement's cost efficiency?
- How could cost efficiency be improved in your engagement?

Abbreviations

BPR	Business Process Reengineering
CMM	Capability Maturity Model
CMMI	Capability Maturity Model Integrated
ISO	International Organization for Standardization
IT	Information Technology
ITIL	Information Technology Infrastructure Library
NGO	Non-Governmental Organization
PDCA	Plan, Do, Check, Act cycle
QMS	Quality Management System
SECI	Socialization, Externalization, Combination, Internalization
SEI	Software Engineering Institute
UPM	Unified Project Management