

OFFSHORE OUTSOURCING

Implications for Dutch ICT SMEs



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Foreword

With the finalization of this master thesis an end has come to my time at the University of Twente. This mile-stone moment results for me in a variety of sentiments. First of all I am pleased with the completion of my Master in Business Administration, which involved a period of extensive learning, gaining new insights, improving my way of reasoning and making new friends. My years at the University of Twente, I experienced as being very positive. However the last year has been hard for me, as my father has been diagnosed with cancer.

The previous year for our family has been one long fight against the inevitable. This particular type of cancer was at this time incurable. Seeing my dad deteriorate was hard on us all, however it did strengthen the family ties even more. For which I am grateful. Heartwarming was all the interest, compassion and moving words, during the sickbed and after the passing away on the 19th of January.

At the university I especially want to thank my supervisors for their understanding, Gerben Blaauw and Efthymios Constantinides. They have given me the room to simultaneously continue with my master thesis as much as possible and reserve time to be at home with my dad. This time has been very valuable. The same of course applies to my external supervisor at Func. Internet Integration, Zoran Kovačević. I feel privileged in the treatment I received.

Thank you all for the given time in the past year.

Thanks also goes to my Mom and two little brothers for the way we managed last year and how we are doing since January, dad would be proud. Finally I want to thank my dad himself for his inspirational manner in which he endured his illness. He has been a fantastic role model and motivated me to proceed and persist. He will be missed very much.

June 2007, Bram van Dongen

Management Summary

Gathering insight in means of dealing with offshore outsourcing possibilities for SME ICT enterprises in the Netherlands is gaining attractiveness. When done accurately, Dutch SMEs can benefit from offshore outsourcing of knowledge intensive work.

Cause for this research is a subjective dissatisfaction identified at Func. Internet Integration B.V., regarding a noticeable trend on the market of ICT SMEs outsourcing knowledge intensive work offshore, which needed to be examined. What are the consequences when SME ICT organizations outsource knowledge intensive work offshore? Because of little preliminary research, this study is done in a qualitative, cross-sectional and explorative manner. Offshore outsourcing is historically a well known topic, however the focus on SMEs is relatively novel. For SMEs managing certain aspects in the process appeared to be somewhat different than for larger companies.

The workings of arbitrage seem to be the main beneficial aspect of offshore outsourcing, and incentive for many entrepreneurs. Entrepreneurs strive to benefit from lower labor costs for identical quality programming work offshore. Counteracting the workings of arbitrage are the increasing transaction costs in the process of offshore outsourcing. Total costs for offshore outsourcing may actually be higher despite of the low offshore wages, because of these additional costs. When the benefits from the workings of arbitrage are stronger than the contradicting force of transaction costs, outsourcing becomes an appealing option. However there are more aspects to bear in mind. Three aspects are essential in determining whether or not to commence offshore outsourcing.

- The workings of arbitrage and the consequential transaction costs;
- Business model and intimacy of the relation with offshore partner combined with the cost-price calculation and used revenue model;
- The end customers involvement in the production process and the type of product.

An SME needs to assess what the total costs will be for contracting out versus hiring in of particular capacity to determine the most profitable option, a make-or-buy decision. Utilizing globalization by offshoring of ICT projects used to be reserved for the larger companies, lately however also possibilities arose for SMEs. From the research report by ORN it became apparent that only 27% of all Dutch companies, both multinational and SME currently have implemented offshore outsourced activities. However 17% is considering to commence in offshore outsourcing activities, including a majority of SMEs.

The choice of combination between offshore outsourcing business models and revenue models is important. The relation between both partners is portrayed in this mix. Offshoring usually starts out with negotiating the best deal financially, over time however, with a steady demand and gained experiences it will become increasingly appealing to structure an ongoing relationship to gain benefits through a more intimate relation. Meaning one should progress towards the bottom right cells of table 1 portrayed below.


Business Models						
			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
Revenue Models	Task-oriented	<i>Time and material revenue model</i>				
		<i>Fixed-price revenue model</i>				
	Process-oriented	<i>Cost plus revenue model</i>				
		<i>Risk-reward revenue model</i>				

Table 1

A common relationship SMEs prefer with the offshore partner is via a dedicated programmer or several programmers within an offshore partner company, combined with a fixed-price or time-and-material revenue model. Specialists in offshore outsourcing on the contrary see the opportunities in more intimate relations and network ties. The business model of pure contract offshore outsourcing combined with a fixed-price or time-and-material revenue model, is considered to be a preliminary method to commence in offshore outsourcing. Motivation still is often the expected reduction in production costs. Important is to control the transaction costs involved, through tight network ties and high intimacy in order for both parties to be responsible for the results and hereby creating interdependency. This is understood to result in better results in offshore outsourcing on the long-term.

For a SME offshore outsourcing of knowledge intensive work is financially appealing when the costs of production and transaction costs in-house are higher than total costs of offshoring with the related transaction costs. In retrospect this can be determined by the TSOS method. A breakeven point is verified by the TSOS method, where cumulative savings start to give a positive result. From that point on the total savings of offshore outsourcing exceed the additional transaction costs involved.

The decision tool of this master thesis is designed to give SMEs on forehand a structured method to determine whether or not to offshore outsource knowledge intensive work in their situation.

SMEs need to consider that they face relative high transaction costs when undertaking offshore outsourcing of knowledge intensive work. This is due to their disadvantage relative to large firms in a wide range of resources. These transaction costs should not outweigh the benefits incurred by the workings of arbitrage, this is as well embedded in the decision tool.

The bargaining costs are considered or thought to be not significant by most Dutch ICT SMEs involved. Specialists in offshore outsourcing however do note that bargaining costs need to be considered, on the other hand some do classify them to be controllable. Other experts state that SMEs have higher bargaining costs, search costs due to limitations within their staff support and they incur relatively high set-up costs in relation to the transaction size.

The monitoring costs are by many SMEs attempted to attend to by intensifying contact, increase understanding and the overall relationship with the offshore programmer. By increased knowledge of each other, these costs are to be dealt with. This is done by arranging physical contact, by going offshore or inviting offshore programmers to the Netherlands. Intensive communication is used and extensive specifications, requirements and schedules are set up. SMEs generally had no, or expected no extensive market costs. This depends on the used techniques and the amount of suppliers of that expertise in that particular field offshore, SMEs should ensure the best matching partner is pared up with depending on the required techniques and services. At SMEs costs related to managers or other employees trying to obstruct the offshore outsourcing process did not appear to be an issue, because of the type of work outsourced offshore being less challenging or appealing to programmers.

Due to the relatively small size in which European offshore outsourcing projects start compared with the size of for instance American projects, issues in restructuring costs can be considered not to be significant.

SMEs often consider the offshore partner to be responsible for the costs of the infrastructure in acquiring required hardware and software with the additional licenses. Specialists in offshoring on the other hand regard this to be an issue for both parties. Cooperation in high intimacy needs to lead to both partners being responsible for the optimal manner of business conduct and consequential better results.

The final aspect of transaction costs, efficiency, is initially in the process of offshore outsourcing considered to be low by Dutch SMEs. In offshore outsourcing both parties need to undergo a learning curve. With growing knowledge, skills and experiences over time this will gradually improve. Entrusting one another is an additional important aspect, in order to improve the process of offshore outsourcing.

Components offshore outsourcing																						
Arbitrage																						
Bargaining costs																						
Monitoring costs																						
Market costs																						
Costs related to managers																						
Restructuring																						
Infrastructural costs																						
Efficiency																						
	++		+					+/-	-					--								
	Influence on production costs																					

Table 2

This schematic overview of table 2 in which the influence of the components in offshore outsourcing is portrayed, is based on statements in the interviews. In the left field from the centre components are considered to have a positive influence on production costs, the right side is used to provide schematic insight when components have a negative

influence on production costs. These blocks are filled in to illustrate the level of influence.

- 1-3 Blocks nil through minimal influence;
- 4-6 Blocks mediocre through noteworthy influence;
- 7-9 Blocks substantial through considerable influence;
- 10-14 Blocks significant through major influence.

In order to achieve this schematic overview statements of all interviewees on the different components were compared against each other and classified.

Additionally the aspect of the end customers involvement in the production process and the type of product involved is considered important. Off-the-shelf, standard products with a low level of customer participation are more suitable for offshore outsourcing than made-to-measure projects or customized products with a high level of customer involvement in the process. In figure 1 below this is illustrated schematically.

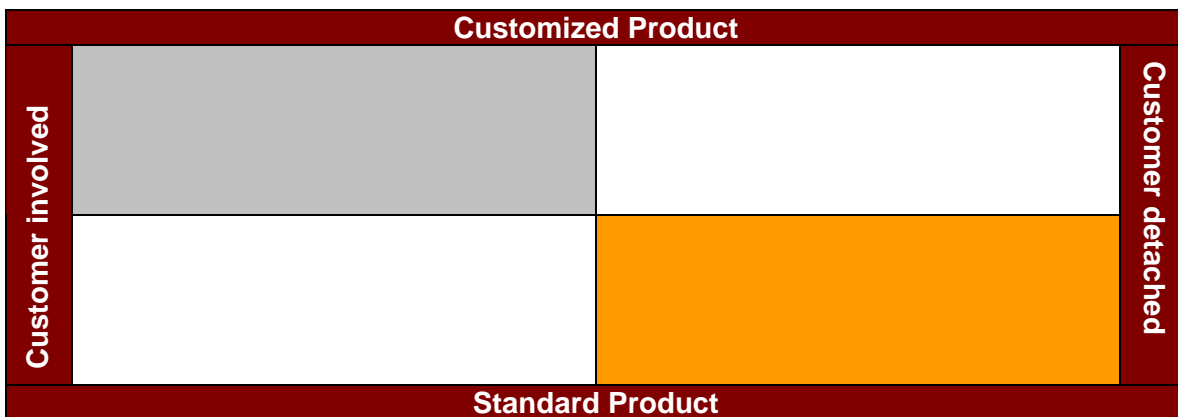


Figure 1

These aspects combined resulted in the decision tool, figure 2, underneath.

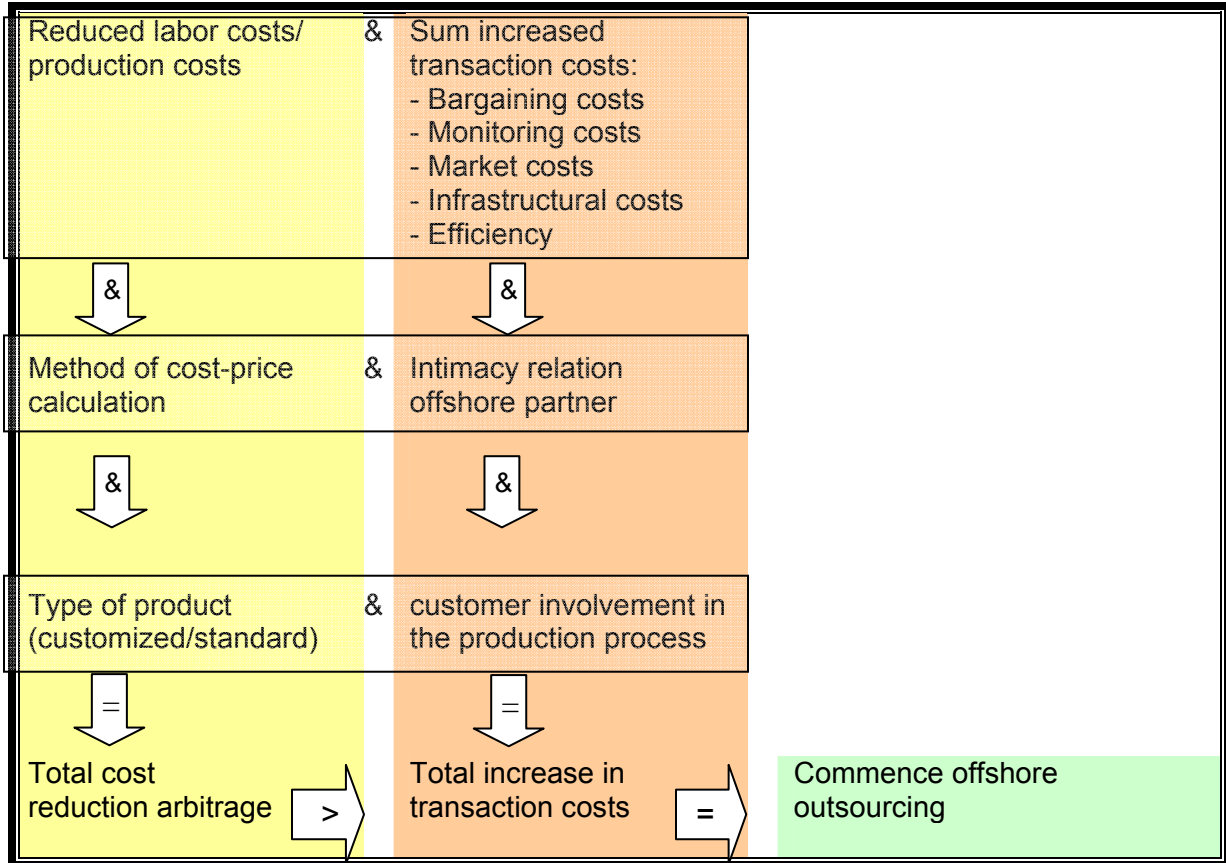


Figure 2

Although Dutch ICT SMEs need to mature in their offshore outsourcing experience and understanding opportunities can certainly be identified. When SMEs manage to maintain lower transaction costs than the benefits of arbitrage, flexible resources are obtained within the workforce with a high quality level and perhaps even strategic possibilities. For instance bringing about capacity for extra experimenting, offering new IT services or products and perhaps even a way into new offshore markets which become accessible. Hereby the decision tool can play an important role to structure the decision whether or not to commence in offshore outsourcing and how to structure the relationships with offshore partner and end customer.

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Chapter 1: Introduction and problem definition

§ 1.1 Introduction

Following the execution of production work, which in recent decades more and more has been moved from the western developed countries towards low wage countries, it seems that in recent years also knowledge intensive work is being outsourced towards low wage countries.

This is a result of globalization. There are different interpretations of globalization. In general use within the field of economics one could say it is the period of increasing trade between nations based on stable institutions that allow firms in different nations to increasingly exchange physical goods and services with minimal resistance. At the end of the twentieth century and the beginning of the twenty-first century globalization increasingly takes place. The transport of physical goods and services got increasingly uncomplicated and less expensive, which resulted in an increase of trade between different countries. Additionally had the improved and less expensive means of communication a positive influence on this development.

As a matter of fact, what the western developed countries do is use arbitrage. Arbitrage is when one benefits from the imbalanced situation between two or more markets. Entrepreneurs seek arbitrage markets to generate profits. Arbitrage is after all possible when an equal product or good is not traded at an equal price on all markets. By producing products and goods at low wages this phenomenon occurs. This is a reason for entrepreneurs to outsource offshore and make use of countries where the wages for work are lower than in the western developed country where the company is and usually also the customers are. One of the main motives for western companies to outsource offshore is namely a financial gain. Other motives are an increase of flexibility in their production capacity and possibly an enlargement of available knowledge and skills that is then available for the company and one expects to keep up better with relevant technological developments.

Customer pressure is an additional driving force of offshore outsourcing. If your customers value low costs, service, convenience, speed or innovation they expect it even at lower costs, easier, faster and state of the art innovative products and features (Robinson and Kalakota, 2004). Companies nowadays need to be keen on customer value creation, when one or more competitors on the market are increasing the value for customers by better products, lowering prices or improving services the entire market needs to follow. Customers will not pay higher prices, however they do expect advancement in products and services. This means that companies need to look at their cost structure.

Reducing costs in manufacturing already led to outsourcing in the 1970s and 1980s in for instance the United States, where the steel and textile jobs moved from the northern to the southern states. Later in the 1990s southeast Asia became preferable as destination for manufacturing due to local labor costs. Information technology, knowledge intensive work, outsourcing began largely in the 1990s. This started out with application development and maintenance work, in

particular Y2K¹ related work. Because of the urgency surrounding Y2K, companies lacked onshore IT recourses, so offshore firms needed to assist. From the initial low-tech work, offshore work soon developed to include more high-tech work. The impact of the declining prices in back-office services and IT application development is noticeable. To fight this deflation firms try by adopting offshore outsourcing to reduce costs and become more competitive.

Despite the fact that the offshore wages are lower when outsourcing offshore for this reason, but this does not guaranty lower total costs. This is due to the transactional costs theory. This was introduced in 1937 by Ronald Coase in a paper 'The Nature of the Firm' in the journal *Economica*. Transaction cost became most widely known through his student Oliver E. Williamson's *Transaction Cost Economics* in 1981. The core of the transactional cost theory is that when a company determines whether to outsource or to produce goods or services, market price is not the sole decision factor.

In chapter two we take a closer look at how arbitrage works and the contradicting force of increasing transaction costs by a higher complexity of the organization. Additionally conditions and motives for offshore outsourcing are attended to. First of all in paragraph 1.2 the cause of this research is further explained, then in paragraph 1.3 the goal of the research and the problem definition are defined. In paragraph 1.4 the strategy of the research is elaborated further and in paragraph 1.5 the course of the research in four phases are clarified. Based upon the four phases and the research questions in paragraph 1.6 the design of this master thesis is specified.

¹ Year 2000: used to refer to the year 2000, especially with regard to the millennium bug and its anticipated damaging effects on software (Encarta World English Dictionary, 2007)

§ 1.2 Cause for research

The problem identification for Func. appeared to be in a manner of subjective dissatisfaction and the wish to undertake action on this. On the market a outsourcing trend of ICT, knowledge intensive work, is noticeable, executing production work in the Netherlands namely seems to become to expensive. By using outsourcing Func. wants to produce less expensive and more flexible. This ought to be possible because of a high level of expertise in second world countries. By researching the arbitrage phenomenon and the transaction cost theory insight has to be gained in globalization. Then the research continues into offshore outsourcing of knowledge intensive work for small and medium² ICT organizations in the Netherlands.

For Func. this became an concrete possibility when the business opportunity occurred in the shape of a new spin-off company Los Programadores B.V. in Buenos Aires, Argentine³. Los Programadores provides programming services to Func. and partners. Initially this will be relative uncomplicated products, which will be outsourced to Los Programadores. This should gradually grow into outsourcing of more complete products and eventually possibly to outsourcing of a large part of the production process to Los Programadores.

The benefits for Func. and partners should be that by using this outsourcing opportunity at Los Programadores, for less money and low risks more production work can be done. For this the cost price for development internally in the Netherlands ought to be higher than the hourly rate of Los Programadores, keeping in mind additional costs associated with offshore outsourcing. And to reduce the risk for Func. and partners are projects on a fixed fee basis, a predetermined amount for the total of activities.

In the future the aim is to let Los Programadores structurally do the production work and internally do not focus business conduct on programming, but more on advice and goods made to measure by intensive contact with the end customer. The current role of developer could change to co-operating foreman which can give both advice to the customer and take care of the realization by heading the external development team. For the personnel of Func. this could have implications in their job descriptions, focusing more on advice, because of the possibility of outsourcing a part of production.

In the following paragraphs the research goal and problem definition are defined, as well as the strategy and course of the research. In paragraph 1.6 the design of the master thesis is explained. This master thesis needs to provide SME ICT organizations a decision tool when to offshore outsource.

² Small and Medium Enterprises, SMEs abbreviated

³ <http://www.los-programadores.com/>

§ 1.3 Research goal and problem definition

This paragraph states the problem definition of this research. The problem definition is divided into a research goal and a research problem. The research goal states the anticipated final result of the research. The research problem gives direction in the search for answers to reach the research goal (De Leeuw, 1996). The methodology of Hans Heerkens, Management Problem Solving Method or MPSM (TSM, 1998), speaks of two possible problems; operational and knowledge problems. This methodology is used covering this research. The knowledge problem is identical to the research problem. Research goal and problem definition are defined according to Baarda and de Goede (1997). The research goal provides insight in what the contribution is of the knowledge problem to the solution of the operational problem.

Research goal:

Provide insights in ways of dealing with the possibilities of offshore outsourcing, for Dutch ICT SMEs.

Research Problem:

- What are the consequences of outsourcing knowledge intensive work offshore for ICT SMEs?

To work out the research problem the following consequential research questions are important:

- Why should one outsource knowledge intensive work offshore?
- Under what conditions should ICT SMEs outsource knowledge intensive work?
- How can the decision to offshore outsource knowledge intensive work be structured in the form of a management tool?
- To what extent, can the tool assist in the decision whether or not to offshore outsource knowledge intensive work?
- To what extent is the tool reliable?

The first research question intends to provide insight into opportunities and threats relevant with offshore outsourcing of knowledge intensive work, as stated in the central research question. Second research question is aimed at when it is attractive to offshore outsource and what requirements are for parties involved. This results in a tool in research question three to structure the decision process whether or not to offshore outsource knowledge intensive work. With the fourth research question this tool is applied and tested in practice to judge the applicability. With the fifth research question this all is evaluated and the sufficiency and reliability of the tool is judged.

The research questions are guiding for the structure of the research. This is elaborated and explained further in the following paragraphs.

§ 1.4 Research strategy

Research to the knowledge problem will be structured qualitative and in a cross-sectional manner. This means that measurements will take place at more or less the same moment in time and the data will be gathered by verbal interviews, desk research and literature study. This data will be processed qualitatively and analyzed.

For the research questions will initially desk research and literature study be done, to gather and structure already known information and data. Additional and research specific information and data will be gathered and tested by using the interviews. For this purpose both comparable SME ICT organizations in the Netherlands and their outsourcing partners will be used, for their knowledge and experiences in this field.

As already mentioned is the connection between the operational and knowledge problem the goal for the knowledge problem. The research goal namely states the contribution that the solution for the knowledge problem will provide to solving the operational problem.

Below a good insight is provided in different types of research into knowledge problems (Baarda and De Goede, 1997).

- Describing research: concerned with describing of occurrences of one or more characteristics within a specific group.
- Explorative research: concerned with discovering links or differences between characteristics within a specific group. Explorative research is research that explores a relatively unknown field and tries to generate hypotheses. Which can later in a testing research be critically tested.
- Testing research: concerned with controlling whether a statement is correct. Sometimes the statement is elaborated in the shape of a theory on bases of which hypotheses are formulated, which in their turn can be tested in this type of research.
- Evaluative research: a kind of testing research usually used when researchers already have a clear expectations of the result of the research.

Approach of the knowledge problem in this research is in the shape of explorative research, because not a great deal of research already has been conducted into this specific subject. Linking together of theory and practice takes place by means of multiple casus research (Van der Zwaan, 1990). This kind of research examines comparable casus. In this manner findings from theory can be tested and linked to practice. For the research question to be developed in a justifiable manner must this be both reliable and valid. To comply with these demands the principle of triangulation (Patton, 1990) is used. Particularly data-triangulation. This is achieved by using different data sources, documents and human informants. The structure of the research divided in desk research, literature study and casus research guarantees this approach, and consequently reliability and validity.

The discrepancy between actual and desired situation or in other words the difference between norm and reality determines the operational problem. Up until now Func. has always operated and developed as an organization with the production in-house by means of personal programmers. The globalizing market seems to dictate one to outsource production to locations where this can be carried out less expensive, more flexible and at a high level of quality.

Important is here for Func. or as a matter of fact for all SME ICT organizations with plans of this sort, to determine their core-business. This namely also determines how to set up your business, in this the market is the main shaping factor for the organization.

Possibilities are to focus on operational excellence, best product or customer Intimacy (Treacy and Wiersema, 1995). This means you can focus your business conduct on efficiency, or in the case of best product to set your business up in such a manner that you continuously develop and have rapid market introductions of state-of-the-art products. Customer intimacy means focusing on goods made to measure combined with extensive service.

The operational problem of Func. will be whether or not to offshore outsource a part of the production or perhaps even the entire production process. In the business model a choice shall have to be made to keep production in-house or to outsource offshore. The tool ought to provide insight whether or not to offshore outsource in specific situations. The next paragraph gives more insight in the course of the research and the phases in which it is divided.

§ 1.5 Course of the research

The structure of the master thesis and the course of the research is divided into four phases. These phases are explained next and the structure of the master thesis will follow in the next paragraph.

Phase 1: Theoretical framework

The first research question intends to provide insight into opportunities and threats relevant with offshore outsourcing of knowledge intensive work. To be able to do this the theory behind the mechanism of globalization and offshore outsourcing of knowledge intensive work is the starting point. The related research question explored in depth using leading theories on the relevant subjects.

1. Why should one outsource knowledge intensive work offshore?

Phase 2: Design Decision Tool

When the opportunities and treats are clear the second research question gives more insight in when it is attractive to offshore outsource and what requirements are for parties involved. This will result in a tool in research question three to structure the decision process whether or not to offshore outsource knowledge intensive work. This again is done based upon leading theories on the subject.

2. Under what conditions should ICT SMEs outsource knowledge intensive work?
3. How can the decision to offshore outsource knowledge intensive work be structured in the form of a management tool?

Phase 3: Applying and testing Decision Tool

With the fourth research question this tool is applied and tested in practice to judge the applicability. In phase two a tool is designed based upon insight provided by leading theories, in this phase the tool is tested by means of case study.

4. To what extent, can the tool assist in the decision whether or not to offshore outsource knowledge intensive work?

Phase 4: Evaluation, research experiences, conclusions and recommendations

In this final phase of the research results are evaluated and research experiences outlined. The fifth research question regards the evaluation and the determining of the sufficiency of the tool. Furthermore the conclusions are drawn and recommendations are done regarding the operational problem.

5. To what extent is the tool reliable?

§ 1.6 Master thesis design

The phasing as in the previous paragraph discussed, based upon the research questions are starting point for the structure and design of this master thesis. The research questions lead to the research problem and this subsequent to the research goal. The processing of the knowledge problem then leads to the operational problem which needs resolving. Table 1.3 provides the design of the master thesis.

Ch.	Title	Research subjects	Involved research question
1	Introduction and problem definition	Situation sketch research, problem definition	
2	Theoretical framework Offshore Outsourcing	Literature study into the mechanism of globalization as well as opportunities and treats of offshore outsourcing	1
3	When Offshore Outsourcing	Literature study into when offshore outsourcing is attractive and what the requirements are for parties involved	2
4	Design Decision Tool Offshore Outsourcing	Literature study into flowcharts and operationalising the tool to structure when to offshore outsource knowledge intensive work	3
5	Case studies Dutch ICT SMEs	Case study applying and testing applicability of the tool in practice (SME perspective)	4
6	Specialists in Offshore Outsourcing	Case study applying and testing applicability of the tool in practice (Specialist perspective)	4
7	Conclusions and recommendations	Evaluation research Describe research experiences Conclusions and recommendations thesis	5

Table 1.1

Goal of this master thesis is to solve the operational problem. To achieve this, the knowledge problem needs to be unraveled first. Here for are the research problem and the consequential research questions formulated.

Based upon leading theories on the mechanism of globalization and offshore outsourcing a theoretical framework is constructed (chapter 2). With this framework in mind research is conducted in when offshore outsourcing is attractive and what requirements are for outsourced and outsourcer (chapter 3). Next the information and knowledge gained is used to construct and operationalise a tool to structure when offshore outsourcing of knowledge intensive work is recommendable (chapter 4). This tool the is applied and tested in practice by means of case studies to determine applicability (chapter 5/6). When this finalized the research can be evaluated, research experiences described, conclusions drawn and recommendations made (chapter 7).

Chapter 2: Theoretical framework Offshore Outsourcing

§ 2.1 Arbitrage

Arbitrage is when one benefits from the imbalanced situation between two or more free trade markets. Entrepreneurs seek these arbitrage markets to create profits. Arbitrage is when a product or good of equal quality is not traded at an equal price on all markets. The work of Adam Smith, "The Wealth of Nations" from 1776 is leading literature in the workings of arbitrage. This work and author is elaborated on in appendix 1. For entrepreneurs the workings of arbitrage is the reason to outsource offshore and make use of countries where the wages for work are lower than in the western developed country where the company is located and usually the customers are as well. One of the main motives for western companies to outsource offshore is financial gain. Other motives are an increase of flexibility in their production capacity and possibly an enlargement of knowledge and skills that is then available for the company and one expects to keep better pace with relevant technological developments.

Arbitrage in combination with the reduction of costs and complexity of transporting physical goods and services resulted in an enlargement of trade between different countries. Next to this means of communication improved and got ever less expensive, which of course also had a positive influence on offshore outsourcing.

Arbitrage already led to outsourcing in manufacturing in the 1970s, 1980s in the US and later in the 1990s this shifted to southeast Asia due to local labor costs. Information technology, knowledge intensive work, outsourcing started in the 1990s. Initially with application development and maintenance work, in particular Y2K related work resulted in a sharp increase of outsourcing knowledge intensive work. Because of the urgency surrounding Y2K, companies lacked onshore IT resources, so offshore firms needed to assist. From the initial low-tech work, offshore work soon developed to include more high-tech work.

The impact of the declining prices in back-office services and IT application development is noticeable. To fight this deflation firms try by adopting offshore outsourcing to reduce costs and become more competitive. Without the current low price of global telecommunications, outsourcing could not have exploded in importance the way it has (Kobayashi-Hillary, 2004).

In the wish of entrepreneurs to benefit from the globalization, arbitrage is the underlying thought. There are different already mentioned motives to make inquiries about offshore outsourcing. The environment is encouraging for outsourcing, it is a world of opportunity. Throughout the developed world, governments are in general supportive of business, free trade, and mutual need for skilled resources. The continuing development of globalization ensures an increasing ease in international trade. Technological advancement is making this trading and sharing of resources possible, while modern management strategy encourages to strip organizational activities which do not contribute to the competitive advantage.

However there are contradicting forces in the shape of transaction costs. There must be a balance between the benefits gained due to arbitrage and the increase of transaction costs. The transaction cost economics theory is reviewed in the next paragraph.

§ 2.2 Transaction Cost Economics

Despite of the low offshore wages, the total costs for offshore outsourcing may actually be higher because of the economical concept of transaction costs. As we already discovered that arbitrage works best when regulations are minimized. Additional to regulations and governmental interference, transaction costs are important in deciding whether to do certain activities in-house or to contract out in order to gain benefits out of arbitrage.

A transaction cost is nothing more than the costs incurred when making an economic exchange. A purchase in the store is more than just the selling price. Other costs are the energy and effort it requires to determine which product you need to fulfill your need, where to purchase this product and at what price, traveling costs and time spend. All additional costs of the purchase of the product are transaction costs. In everyday life and business when one rationally evaluates a potential transaction, it is essential not to disregard transaction costs that might prove quite significant.

Modern firms can only come forward when entrepreneurs start to hire people. For this a analysis is constructed to considering the conditions under which it is sensible for an entrepreneur to hire in instead of contracting out for certain activities (Coase, 1937). In the traditional economical theory the market is considered to be efficient, meaning that those companies best at providing each good or service most cheaply, are already doing so. If this should be true it always ought to be cheaper to contract out than to hire in. However Coase noted in the article, "The nature of the Firm", that there are a number of additional costs involved when using the market to contract out. The costs of obtaining a service or good via the market is in fact more than only the price of the service of good. Potential additional costs when contracting out via the market are search and information costs, coordination costs, bargaining costs, maintaining trade secrets and policing and enforcement costs. This means that companies need to asses what the total costs will be for contracting out versus hiring in of particular activities to determine the most profitable choice. Oliver E. Williamson is a prominent author in the field of transaction costs, his work is elaborated on in appendix 2.

The costs of production are directly generated by manufacturing production or service delivery. Outsourcing generally reduces these costs by providing economies of scale. An external enterprise, supplying multiple different customers, can achieve lower prices and better quality service levels (Francheschini and Galetto, 2003). Following Williamson factors of transaction costs, Francheschini and Galetto determined transaction costs to include the following.

- Bargaining costs, emotional interaction resulting in costs during contract definition between parties involved.
- Monitoring costs, related to search and information costs, coordination costs which increase when using an external party.
- Contractual opportunism costs, resulting from the common opportunistic behavior of a contractor during preliminary phases. Frequent in outsourcing relationships, because it is difficult to screen a supplier's real effort or diligence.
- Market costs, depending on the amount of suppliers equipped for outsourcing a specific activity. A small amount of suppliers will probably result in higher prices, and a high amount in lower prices. Determining for the contract negotiation power.
- Costs related to managers, emotional reaction influenced by power and political tactics of managers who try to obstruct the outsourcing process.

The work on transaction costs has led Williamson to distinguish repeated case-by-case bargaining and relationship-specific contracts. Case-by-case bargaining often is the starting point with an emphasis on negotiating the best deal financially, however over time with a steady demand it will become increasingly appealing to form an ongoing relationship to gain benefits through a more intimate relation. When both parties come closer together a reduction in transaction cost is possible, for instance due to less bargaining and monitoring costs. The contracting out price might be higher, however service, speed and quality will probably increase. And due to the addition of a decrease in transaction costs is this an attractive option.

To recapitulate, the theory of transaction costs encompasses a influential idea. There are real costs incurred when contracting out through the marketplace, identifying suppliers, negotiating with and contracting these suppliers, following with regulating these suppliers in such a manner that they produce to the desired quality level. In offshore outsourcing entrepreneurs need to asses whether the production costs savings outweigh the additional transaction costs incurred with contracting out. Important aspects to define are specificity and complexity of tasks. This will be clarified in the next paragraph.

§ 2.3 Offshore outsourcing

To determine the concept of transaction costs, the outsourcing and offshoring industry invented two useful terms used by Carmel and Tjia in *Offshoring Information Technology: Sourcing and Outsourcing to a Global Workforce*, namely TCO, the Total Cost of Offshoring; and TCE, the Total Cost of Engagement. Both terms aim to include all costs of offshoring to be able to compare those costs with 'onshore', 'normal' or 'in-house' costs. The difficulty with TCO and TCE appears to be that many firms actually use the 'stumble-and-then-succeed' form of offshoring. This approach represents firms going offshore and encountering problems and failures. They nevertheless stick with their decision to offshore and the associated implications in order to eventually make the offshoring decision work. One possible reason for this is the investments already done.

Next it is good to make a distinction between traditional and strategic outsourcing. Outsourcing is considered to be traditional if the process to outsource is not critical for the organization involved. This are activities like cleaning services or a canteen. Strategic outsourcing is then when companies outsource all activities except those in which they could achieve unique competitive advantage (Francheschini and Galetto, 2003). It may be clear that in this report strategic outsourcing is implied when regarded to outsourcing.

The relationship between the parties involved in offshore outsourcing depends on the specificity of the goods and processes and the complexity in the monitoring and defining contract terms and conditions regarding the outsourcing process (Francheschini and Galetto, 2003). Specificity is the dependability on physical location and/or unique skills regarding techniques and resources. When the dependability is high outsourcing can be difficult, expensive or even risky depending on the techniques and resources involved. When complexity is high, it is difficult to monitor and define contract terms and conditions. In the choice whether or not to outsource, both dimensions need to be studied and judged. This evaluation is formative for the profile of the relationship. In the next chapter a closer look into this matter will be taken.

An additional aspect to bear in mind in offshore outsourcing is determining core-business. This determines focus, how to set up your business and how the relationship with the offshoring partner should be.

This focus can be on operational excellence, best product or customer Intimacy (Treacy and Wiersema, 1995). This indicates that the focus of business conduct can be on efficiency, or when focusing on best product to set up business in such a manner that constantly development takes place and rapid market introductions of state-of-the-art products are the norm. Customer intimacy means focusing on goods made to measure combined with extensive service.

The core-business or core-competencies aspect is important, especially in software production, because offshoring might lead to diminished influence in a companies edge. In other words this aspect is sensitive, being a companies competitive advantage, one should be careful in weighing whether or not to grant an outsider access (Carmel and Tjia, 2005). Offshore outsourcing might even lead to loss of knowledge and skills, because of work being done offshore instead of in-house (Francheschini and Galetto, 2003). This could namely lead to a decreased need for high skilled workers in-house, because knowledge and skills have moved offshore. This can be a major threat when a companies core-business or core-competency is involved.

Keeping in mind the increase in transaction costs and the many cases of stumble-and-then-succeed, a possible method to measure feasibility of offshoring according to Carmel and Tjia is the Total Savings of Offshore Strategy (TSOS).

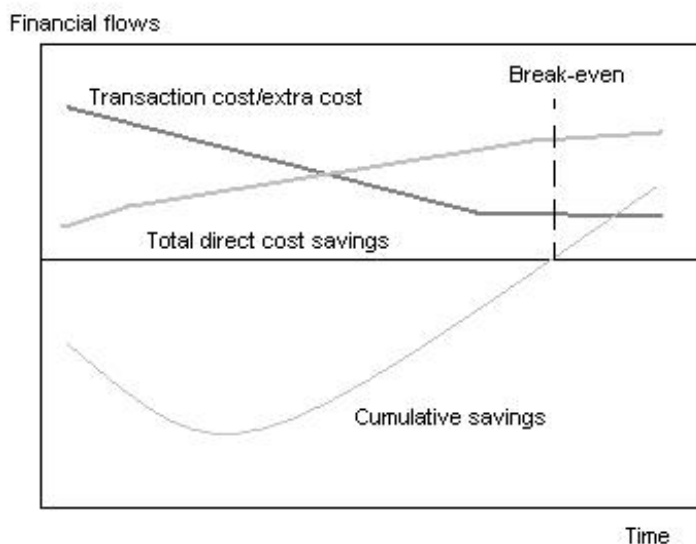


Figure 2.1

The concept of TSOS uses a portfolio of projects which will be studied over a particular period of time. These individual portfolios, will often initially show negative savings.

Successful projects over time will show a positive TSOS.

Carmel and Tjia also describe this period as being the 'learning curve' that companies need to climb up. The strategy in the TSOS method is necessary because of the multi-period offshoring strategy in order to achieve benefits.

Figure 2.1 illustrates a typical cost and benefit flow over time, with cumulative savings increasing in a J-shape, leading to the financial milestone, the break-even point where the cumulative savings start to be positive. This is the TSOS of Carmel and Tjia. A well-

specified project can reach positive TSOS quickly, sometimes even immediately. Projects of more considerable engagements will probably need more than a year to reach positive TSOS and may often be 2 years and more. And in some cases a positive TSOS is even never achieved.

TSOS takes in to account the transaction costs, which also is called extra offshore costs or hidden costs. As already acknowledged does labor arbitrage make offshoring attractive, this component of extra costs makes the decision more complicated. The dimensions of the specificity of the goods and processes and the complexity of monitoring also add to the component of extra costs in case of offshore outsourcing.

First of all the initial costs lie in searching and contracting, which are usually onetime costs for preliminary engagement in the process of provider selection and contracting. Restructuring is another possible initial cost. In the United States offshore projects usually results in layoffs, severance pay and retention costs for indispensable employees. In Europe this is less common, because offshore projects usually start smaller.

Then there are costs that are ongoing. Infrastructural costs, which are quite predictable. Hardware and software is needed, with the additional required licenses. These might be more complicated to get in developing countries, which in turn might lead to longer required lead times.

Connectivity is no longer a big issue regarding the costs. Costs of communication are diminishing quickly. International calls used to be a considerable cost aspect. Nowadays this is no longer the case and Voice Over IP⁴ has started to eradicate communication costs altogether.

Costs which are difficult to estimate are the costs of knowledge transfer. This concept regards the transfer of specific knowledge and experiences into the brains of the offshore employed developers. A part of the knowledge transfer involves comprehensible well describable skills and rules, however much is tacit knowledge. Understanding what is meant between the lines of specification. By definition, tacit knowledge is not easy to share. "We know more than we can tell." (Polanyi, 1966). Tacit knowledge often consists of cultural aspects and habits we do not recognize in ourselves. In the field of knowledge management the concept of tacit knowledge refers to knowledge which is only known to you and hard to share with someone else, opposite to the concept of explicit knowledge.

The strategy of throwing software specifications over the wall, almost never works. This is an acknowledged insight, however in practice the management of the knowledge transfer process properly is still combined with difficulties.

The more the knowledge to be transferred offshore is tacit, the more management and guidance is needed. Especially organizational and national culture can not be explained in specifications.

⁴ VoIP - Voice-Over Internet Protocol. A process for digitally encoding voice conversations, organizing the data into packets, sending the packets over the Internet and reassembling them at the call's destination. This method does away with the necessity of building the dedicated circuits used for traditional phone communication and can translate into cheaper call rates.

Efficiency is a ratio comparing the productivity of the onshore, original unit, also called the baseline, to that of the offshore unit. Initially offshore employees will probably be less productive as they are heading up the learning curve, over time however their efficiency rises as they master the required knowledge, skills and experiences.

Some claim that offshore efficiency can actually rise above the 100% baseline due to qualified people and solid processes offshore. This is Gartner's assumption which uses the term 'effectiveness factor' (Feiman, 2004). This factor is a combination of several components, namely technological expertise, the project management expertise, and the business domain expertise of the offshore unit. Gartner has calculated that this effectiveness factor is lower for the typical US 'fortune 1000' corporations than for the typical large American and Indian application development providers. This means that the providers are more effective than the American clients. Gartner estimates that once a stable state is reached, the typical provider is 50% more effective: a significant difference.

As mentioned earlier knowledge transfer and other needs often lead to an increase in traveling costs to manage and guide offshore projects, these costs are significant. These costs are often under budgeted. If due to managerial and guidance aspects this appears to be required, then the direct costs is an masked organization cost associated with traveling to far locations and the opportunity costs of lost days in airplanes, potential jet lag recovery, and/or sick days due to alien food and water.

The last and the most important remaining issue is the overall impact. What is the sum of all of these extra offshoring costs or increase in transaction costs? According to research there is a very high variance of these extra offshore costs: from 12% to 57% of the contract amount (Davison, 2003; Overby, 2003). So if the increase in costs are kept under control and managed strictly, they will be smaller than the wage savings, and consequentially lead to overall offshore savings. However if the extra costs reach the top range of these estimates, the labor savings are neutralized and offshoring even ends up costing more than producing in-house.

The Netherlands is leader in offshoring knowledge intensive work (Het Financieel Dagblad, 2006; NRC Handelsblad, 2006; Volberda, 2006). This is one of the conclusions of the Offshoring Research Network (ORN)⁵. This is a association of 6 research institutes namely the Duke University, Copenhagen Business School, IESE Barcelona, Manchester Business School, RSM Erasmus University and WHU Germany. They have published their results of a two-yearly research in the developments of organizational migration of European and American companies .

According to this research 27% of the Dutch companies have offshore outsourced activities and 17% is considering to do so (see fig. 2.2). The main motive to outsource offshore is still reduction of labor costs, however currently more strategic, value increasing motives increase in importance.

⁵ <https://offshoring.fuqua.duke.edu/community/index.jsp>



Figure 2.2

For the Dutch multinationals cost reduction through labor costs savings is decisive in migrating activities; they migrate generally IT and administrative functions (see fig. 2.3 and 2.4). For the Dutch SME on the contrary offers offshoring actually possibilities for better strategic positioning. Grow strategy, part of international strategy and access to new markets. SMEs migrate generally product development activities like R&D, engineering and product design.

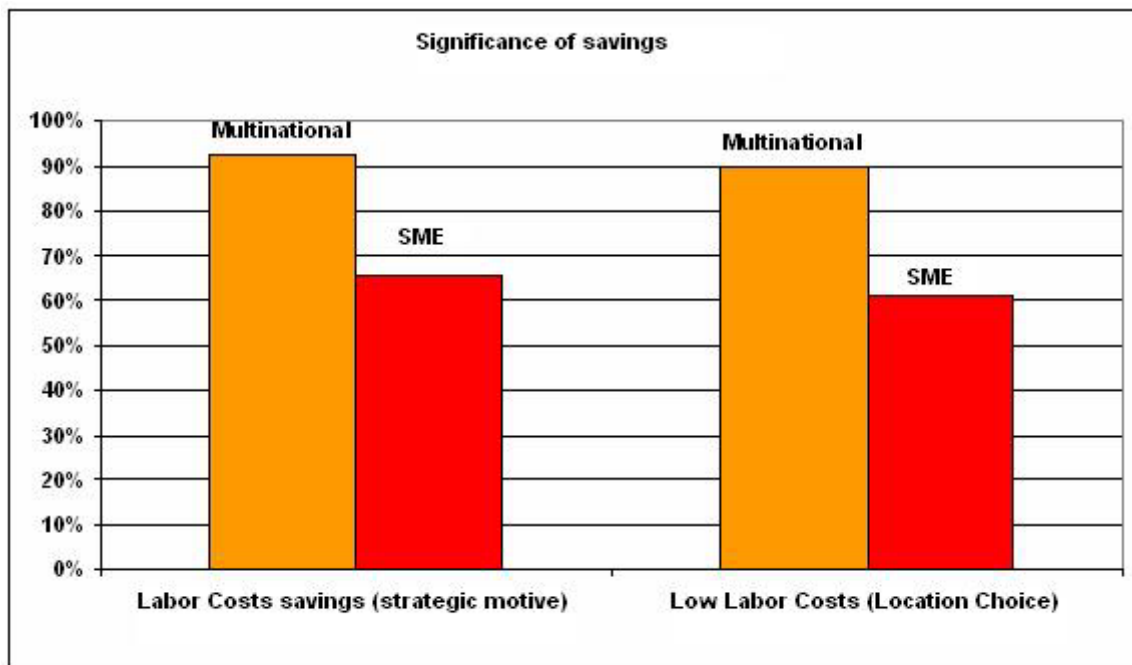


Figure 2.3

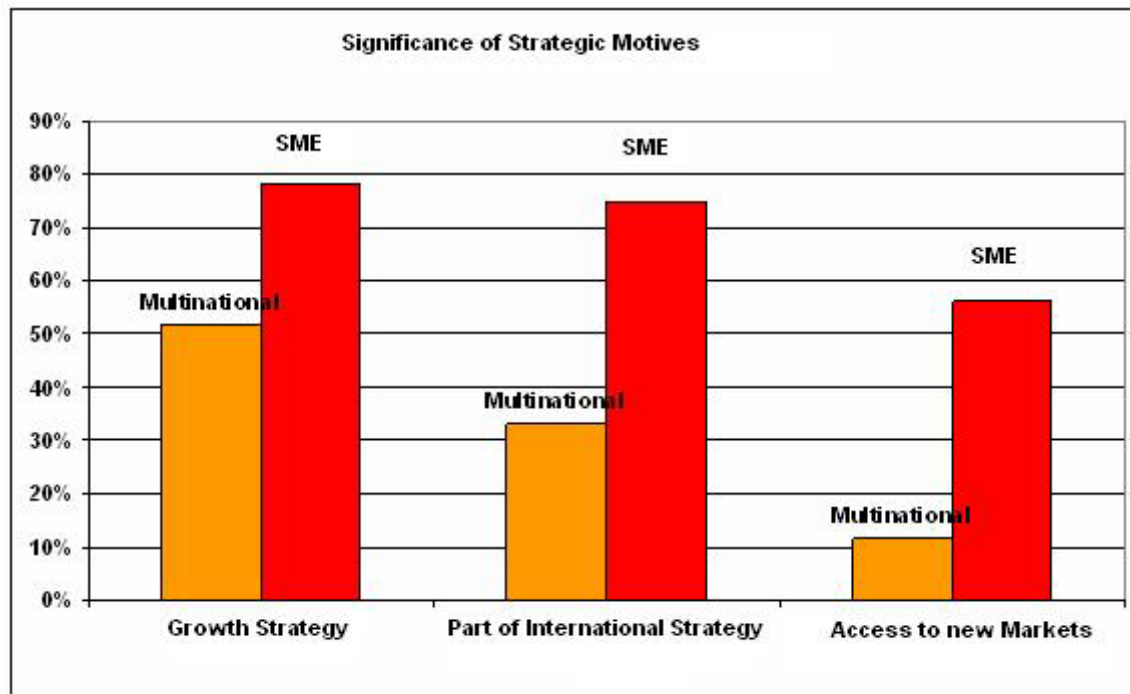


Figure 2.4

The Dutch companies that use offshore outsourcing see the largest risks in being able to guarantee the quality of their service, implications of offshoring on operational efficiency and the lack of protection of IP and unique knowledge.

The Dutch companies chose to migrate the function of product development the most. In comparison with America and Germany this is noteworthy, there IT and administrative functions generally are being migrated. Of the Dutch companies that consider to offshore outsource, most are taking into consideration to migrate IT Functions.

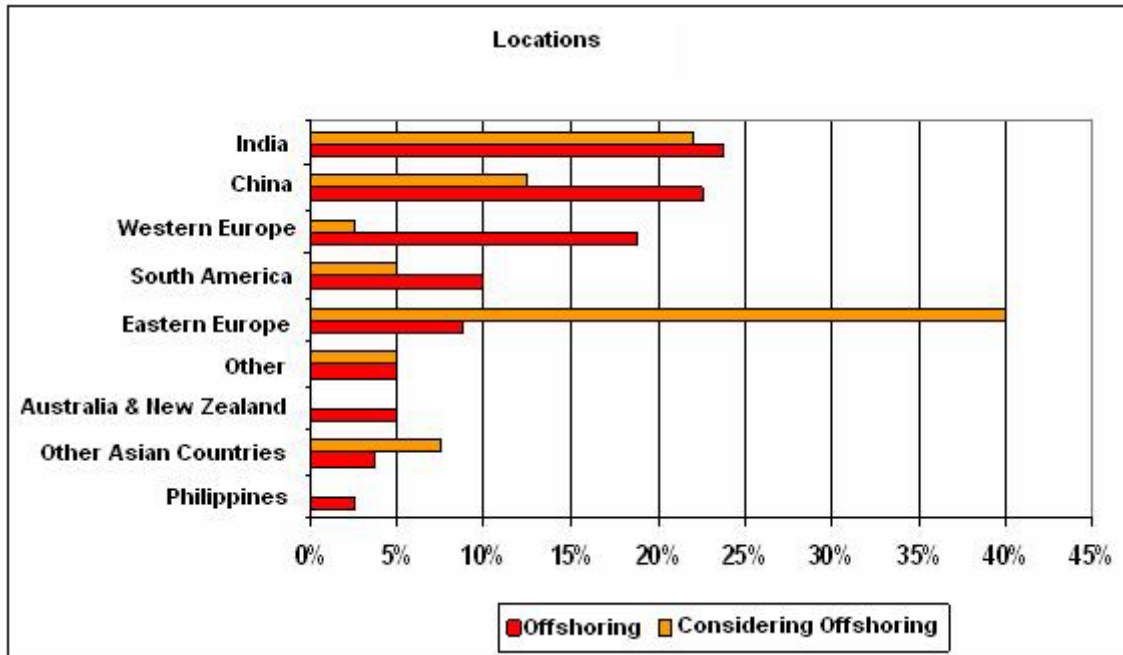


Figure 2.5

For the Dutch companies India and China are the most appealing offshore locations (see fig. 2.5), for a complete overview of locations for outsourcing see appendix 1 (Tjia, 2006). For the Dutch multinationals is India the most common location for offshoring, 35% of the offshore implementations. The SME on the contrary chose China as offshore location, also 35% of offshore implementations in SME. The amount of offshore implementations in Eastern Europe is expected to grow substantially. The companies that namely consider to migrate activities chose Eastern Europe by and large, for the largest part IT activities.

This study also reveals that Dutch companies prefer to keep their offshore activities under control as much as possible. The majority of companies, 44%, has chosen captive offshoring as business model, meaning that the Dutch entrepreneur is owner of the foreign partner. Then in 24% of the offshore implementations a foreign partner is used, 15% however prefer for migration an international company like IBM, Accenture or Cap Gemini as partner, in only 5% a Dutch company like Ordina or Getronics is used. And finally 9% chose to create a joint venture for the offshore implementation.

With the competition and innovation monitor 2006 further insight is gained in the effect of organizational migration of certain essential functions of Dutch companies on their ability to innovate. As it turns out, the migration of peripheral activities such as financial administration, HRM and ICT functions leads to optimizing of existing products and improvement of efficiency. The migration of parts of the core activities also leads to improvement of products and services. To avoid the pitfall of over-offshoring and ending up in a hollow enterprise, it is essential that these companies are capable to absorb the knowledge of the offshore partner.

§ 2.4 Concluding comments

To recapitulate, as we saw in this chapter, offshore outsourcing can result in lower total costs for production. When the force of arbitrage is stronger than the contradicting pressure of transaction costs, outsourcing becomes an appealing option. However there are strategic implications to bear in mind. The costs of obtaining a service or good via the market is more than only the price of the service or good as we saw with the transaction costs. Those possible transaction costs that are additional when one contracts out via the market instead of producing in-house are search and information costs, coordination costs, bargaining costs, maintaining trade secrets and policing and enforcement costs. A company consequentially needs to assess what the total costs will be for contracting out versus hiring in of particular activities to determine the most profitable option. A possible method to measure whether to offshore is the TSOS of Carmel and Tjia. This determines the breakeven point, where cumulative savings start to give a positive result. Here the total savings of offshore outsourcing exceed the extra costs involved.

So companies thinking of adapting to the globalization development by using offshore outsourcing need to evaluate the increase in transaction costs involved, a contradicting force in using arbitrage to lower production costs. Paul Tjia states that utilizing globalization by offshoring of ICT projects used to be reserved for the big companies, lately also possibilities arose for SMEs. From the research report by ORN it became apparent that only 27% of all Dutch companies, both multinational as SME have implemented offshore outsourced activities. However 17% is considering to commence in offshore outsourcing activities, including for a large part SMEs.

Preliminary conclusion:

Benefits from Arbitrage > Transaction Costs = Commence offshore Outsourcing

Figure 2.6

In the next chapter a closer look is taken on when is offshore outsourcing is attractive and what the requirements are for outsourced and outsourcer.

Chapter 3: When Offshore Outsourcing

§ 3.1 *Attractiveness Offshore Outsourcing*

Outsourcing can be an outstanding way to improve processes, however simultaneously, if improperly used, might lead companies to loose skills and knowledge, which are hard to recover (Francheschini and Galetto, 2003).

We already saw in the previous chapter that the main attractiveness of offshore outsourcing lies in the arbitrage. Offshore outsourcing can result in lower total costs for production, making it an appealing option. Therefore the force of arbitrage needs to be stronger than the contradicting pressure of transaction costs.

Additional common motives for offshore outsourcing are increased flexibility in production capacity and possibly an enlargement of available knowledge and skills for the company and the expectation to keep better pace with relevant technological developments.

In the developed world, the western countries, governments generally are supportive of business, free trade, and mutual need for skilled resources which are essentials for being able to benefit from arbitrage in offshore outsourcing. The continuing development of globalization ensures an increasing ease in international trade, which means a possible decrease in the contradicting force of transaction costs. Technological advancement makes trading and sharing of resources possible, while modern management strategy encourages to strip organizational activities which do not contribute to the competitive advantage.

Focusing on the core-business or core-competencies aspect is important for the competitive advantage, especially in software production, because offshoring might lead to diminished influence in a companies edge. This corroborates with the opening statement of Francheschini and Galetto of this paragraph. With a companies competitive advantage, one should be careful in weighing whether or not to grant an outsider access (Carmel and Tjia, 2005). Offshore outsourcing might even lead to loss of knowledge and skills, because of work being done offshore instead of in-house (Francheschini and Galetto, 2003). When no or a decreased amount of skills and knowledge is needed in-house, the offshore outsourcing party can become more and more important and influential within the company, because they have now the upper hand in skills and knowledge. These skills and knowledge have moved offshore and this may lead to a company having to change their core-business or core-competency of that is at all possible. There might arise major trust issues with the offshoring partner. And it is harder to recover skills and knowledge, when these have been removed from the company earlier.

The competitive advantage aspect in offshore outsourcing is one of the central points to consider, because of the potential risks involved. However one is required to think about transaction costs opposing to arbitrage, extra flexibility and expertise as the main attractiveness of offshore outsourcing. Transaction costs are costs that usually increase when one commences offshore outsourcing.

As we already saw in paragraph 2.2 transaction costs include the following (Francheschini and Galetto, 2003).

- Bargaining costs
- Monitoring costs
- Market costs
- Costs related to managers

These costs of transaction can be combined with the findings of paragraph 2.3. Additions are made to the transaction costs by the TSOS method (Carmel and Tjia, 2005).

- Restructuring (However not that significant for European companies)
- Infrastructural costs
- Efficiency

First, bargaining costs, the initial costs lie in searching and contracting, usually onetime costs for preliminary engagement in the process of provider selection and contracting. This are costs incurred due to emotional interaction between parties bargaining and trying to define the contract. This also includes the opportunistic behavior common in preliminary phases and the costs involved.

Another possible cost is restructuring. However this is not that common in Europe, because offshore projects usually start small.

Next there are the ongoing monitoring costs. Connectivity is one of the aspects, however these costs are diminishing due to technological developments. This aspect does not need to be cause for concern anymore. More difficulties are with the costs of knowledge transfer, these are as we already discovered, hard to estimate. One part of the knowledge transfer is namely comprehensible and describable in specifications, however much is also tacit knowledge. This comes down to what is meant between the lines in the specification. Tacit knowledge is not easy to share.

Only providing software specifications thus will not work and a monitoring system is required, which can lead to the mentioned increase in the related traveling costs. These traveling costs are to manage and guide offshore projects, especially the organizational and national culture aspects, which are not describable in the specifications.

The market costs are related to the competition on the outsourcing market. When there are a lot of suppliers equipped for a specific activity, the price will probably reduce.

Costs related to managers, are those costs due to obstructions from employees to the outsourcing process. In larger companies probably by managers via power and political tactics. However this is also possible by other employees and needs to be checked and prevented.

Infrastructural costs, are costs that are quite predictable. Hardware and software is needed, with the related required licenses. Possibly these are harder to get in developing countries, which in turn might lead to longer required lead times.

Then there is the already discussed question of efficiency of the offshoring partner. Initially the offshoring partner will be likely to be less productive as would be with production in-house. However over time their efficiency rises as they master the required

knowledge, skills and experiences. At the Gartner Symposium the claim is made that offshore efficiency can actually rise above the 100% baseline due to qualified people and solid processes offshore, using the term 'effectiveness factor' (Feiman, 2004). We already saw that Gartner estimates that a significant difference of a 50% more effective provider, when a stable state is reached could be typical.

Attractiveness of offshore outsourcing thus depends on these aspects. The sum of all these extra offshoring costs or increase in transaction costs needs to be controlled, guided and managed so that they will be smaller than the benefits related to the arbitrage. In this manner overall offshore savings need to be established. If these costs neutralize the savings, additional motives could be increased flexibility in production capacity and a possible enlargement of available knowledge and skills.

The last and the most important remaining issue is the overall impact. What is the sum of all of these extra offshoring costs or increase in transaction costs? According to research there is a very high variance of these extra offshore costs: from 12% to 57% of the contract amount (Davison, 2003; Overby, 2003). So if the increase in costs are kept under control and managed strictly, they will be smaller than the wage savings, and consequentially lead to overall offshore savings. However if the extra costs reach the top range of these estimates, the labor savings are neutralized and offshoring even ends up costing more than producing in-house.

From the Dutch government there is an increasing awareness and encouragement in the ICT and offshoring issue. The present need is according to the Dutch government to make SMEs aware that ICT is strategically important and to encourage them to use high-quality ICT solutions. The relocation of ICT activities to other countries, offshoring, is unavoidable, for example, its effects on employment opportunities in the Netherlands can be contained, but this does require appropriate action, in terms of a competitive ICT sector; demand-driven ICT service provisioning; a high quality knowledge infrastructure and a good match between educational courses and the labor market. Therefore, ICT policy must sufficiently move in coherence with recent developments (Ministry of Economic Affairs, 2006).

However on the other hand it is complicated for SMEs to offshore outsource, considering they lack the resources that large firms possess to overcome difficulties involved (Carmel and Nicholson, 2005). Large organizations have the internal resources to address the problems of managing across time and space. The willingness of SMEs to benefit from the workings of arbitrage is available, however only recently more insight is gained in offshore outsourcing, especially concerning SMEs. More on this issue further on in this master thesis.

In the next paragraph a closer look into relationship structures, offshore business models and revenue models is taken.

One of the risks associated with especially offshoring is the communication gap between both parties, which may result in the requirements not being comprehended accurately. However there is a range of ownership, location and revenue model options available. When embarking on this journey it is important to compare the possible options with their specific advantages and disadvantages.

§ 3.2 Requirements for outsourced and outsourcer

Many different types of relationships between outsourcing parties are possible. As we already saw are the specificity and complexity dimensions formative for the relationship between outsourcing parties. In this specificity refers to the degree in which you are dependable on a physical location and/or unique skills concerning techniques and resources. In other words, in the case of knowledge intensive work, where the dependency on unique skills is high, then so is the specificity. In the case of offshoring knowledge intensive work the level of complexity is also high. It is difficult to monitor whether the specifications are interpreted correctly and contract terms and conditions are defined accurately. The implications and appropriate ownership models or method of engagement for the relationship between outsourcing partners is further discussed next.

§ 3.2.1 Offshore Business Models

Critical in ensuring offshoring success is selection the appropriate model of ownership. There are different ways to structure the relationship between the parties involved. Basically there are three different general relationship structures for engagements in outsourcing (Robinson and Kalakota, 2004). A common addition in the software industry is the Offshore development center (Robinson and Kalakota, 2004; Carmel and Tjia, 2005). Due to the fact that joint ventures with offshore vendors in the software industry became very common, a new term for them developed, the offshore development center. Below the relationship structures are listed.

- Pure contract offshore outsourcing
- Joint ventures
- Offshore Development Center
- Captive offshore subsidiary

Pure contract offshore outsourcing

The first method in the classification of engagement in outsourcing describes a company that hands over control of a function or process to an external service provider in a foreign country. This offshore external service provider takes over the function or process and executes this using less expensive labor, which consequentially is supposed to offer an advantage in production costs bearing in mind the contradicting force of transaction costs. This method of contract offshore outsourcing can again lead to three different kind models according to Robinson and Kalakota:

- Selective outsourcing, which means that companies only send out a small particular section of their business process activities.
- Transitional outsourcing occurs when companies temporarily hand over a function to a third-party vendor, in this case offshore, and bring it back in-house afterward.
- Total outsourcing in which external offshore vendors take over the business processes of the organization at a lower level of costs that is meaningful.

Pure contract offshore outsourcing is a make-versus-buy decision. The main advantages are limited short-term operational risks, and the rapid speed at which it can be executed together with a potential for fast cost savings. Under normal circumstances this is the fastest option, compared with a joint venture, captive subsidiary, or setting up an offshore development center.

Joint ventures

Partners in a joint venture create a separate, independent legal entity in which both parties have equity. Those companies are pooling their combined resources to perform a business project together. In the case of offshore IT work, the foreign company usually finds a local firm as a partner. The local firm is more familiar with the local conditions, recruitment, legislation, et al and can set up operations comparatively quickly. Joint Ventures attempt to set up common goal through a joint equity ownership. Both parties can save money by sharing expenses, resources and workload. This model makes outsourcing viable also for companies that are a bit reserved to outsource entire business processes. Outsourcing some aspects to a joint venture can provide a temporary or definitive solution.

A joint venture is also referred to as cosourcing, a collaborative relationship based on shared objectives that reflect the appropriate balance between control and flexibility (Robinson and Kalakota, 2004).

Offshore development center

This model is basically a joint venture with an offshore vendor operating in the software industry as already stated. This mixed model is a 'pure' offshore era refining of joint ventures. An offshore development center is an offshore center established by a provider dedicated and customized to one client, where the client possibly supplies some of the specialized hardware and software. This center is set up when the need exists to outsource a substantial quantity of software application development, maintenance, or manufacturing work.

Captive offshore subsidiary

Initially companies pursued offshoring exclusively via joint ventures. This traditional method in the past was satisfactory, but as the business offshoring evolved, companies eventually shifted towards building their own subsidiaries. Captive offshore subsidiaries or foreign subsidiaries were established that completed all the Business Process Outsourcing (BPO) work. BPO is part of this increasing trend of relocating entire business functions to either self-owned or third-party service providers, to gain benefits out of arbitrage. BPO stands for investing in technology or specialist process vendors to provide and manage an organization's critical and/or non-critical enterprise processes and applications. Initially BPO was aimed at non-critical aspects like call centers, human resources, accounting and payroll outsourcing. This is gradually shifting towards critical aspects making offshoring often more interesting in the process, this is dependant on where most of the costs of a company are generated.

Companies selecting this ownership model have a tendency to refer to reasons of higher control and flexibility and lower prices on a long-term basis.

In determining the relationship structure location of the partner is an important factor. Of course consideration of offshore outsourcing starts with comparing implications of arbitrage and transaction costs. Both aspects are influenced by the location of the outsourcing partner. When outsourcing possibilities are to next to going offshore, is going nearshore. This means for U.S. based companies going to Mexico or Canada and for western European countries going to the east of Europe. Reasoning behind this approach is that the transaction costs will not increase as much as with offshoring, on the other hand though, companies will probably also benefit less from the arbitrage mechanism.

§ 3.2.2 Revenue Models

The next issue to address is that of the underlying revenue model. The current revenue models used for offshore outsourcing are comparable to traditional service providers. Revenue is generally determined by the number of billable consultants, their utilization, and average hourly bill rates (Robinson and Kalakota, 2004).

So, these revenue models are thus an integral part of the offshore business models. Then first of all should be distinguished that offshore outsourcing is done two-ways.

- Task-oriented
- Process-oriented

The basic principle of task-oriented is outsourcing tasks offshore to reduce manufacturing and development costs. Process-oriented sources out the business process and gets it provided back as a service. Both task-oriented and process-oriented revenue models are rather diverse in offshore outsourcing.

The work on transaction costs has already led Williamson to distinguish repeated case-by-case bargaining and relationship-specific contracts (Williamson, 1981). Case-by-case bargaining often is the starting point aimed at negotiating the best deal financially, related to the task-oriented revenue models. Over time however, with a steady demand it will become increasingly interesting to structure an ongoing relationship to gain benefits through making the relation more intimate. When both parties namely come closer together a reduction in transaction cost is possible, for instance the bargaining and monitoring costs could be reduced and the efficiency would increase. The contracting out price might be higher, however service, speed and quality will probably increase. And due to the addition of a decrease in transaction costs is this an attractive option, this is then related to the mentioned process-oriented revenue models.

The task-oriented BPO bond tends to attract towards time and material and fixed-price revenue models. The process-oriented BPO contracts on the other hand pulls more towards cost-plus to risk-reward models. These revenue models will be explained in more detail next.

Time and material revenue model

A straightforward pricing model is using the time and materials (T&M) method of billing. The T&M model is the appealing option when extent, requirements and realization plans of a project are not easy to estimate upfront.

The ability to monitor is a important requirement for this model to work. Tight project management and intensive reporting are inherent. If the oversight of the work is insufficient, T&M can turn out being very expensive.

Fixed-price revenue model

In outsourcing fixed-price or a fixed-time model to successfully sell services is often used. Customers usually are attracted to this method because of the upfront dedication on timing and the risk sharing concept on possible cost or time overruns. A customer namely pays an upfront negotiated fixed price for the entire completion of a project, with well-defined specifications and deliverables. So, it is especially important for the vendor providing the outsourcing service to determine the amount of time needed and probable costs as accurately as possible. Overrunning in costs or time is namely at their responsibility or in other cases a shared risk. For customers with clear requirements and

project schedules this is a very suitable option. Any possible changes in the extent of the project are subject to a prearranged fixed hourly rate and must follow a standard, predefined change request procedure.

Cost plus revenue model

This model is often used behind the dedicated development center, which also is being referred to as an extension of a company's software engineering facility. This is becoming the popular choice amongst large companies, striving for long-term gains from offshore outsourcing this way. Contracts made up this way are structured on a fee-for-service basis. The fee should certainly be no greater than the client's historical cost of operating these functions. Certain aspects of the outsourcing could be provided at a negotiated discount from the historical costs. When costs are recovered, agreements can be made about the benefits of possible upcoming further savings.

Risk-reward revenue model

When multiyear partnerships are formed between parties, risk-reward or gain sharing is often preferred. Because of this multiyear bond and the goal of outsourcing being helping each other achieving more effectiveness in the business operations, parties are open to link their revenues with actual benefits the client or outsourced realizes. In this type of partnership the outsourcer builds first and is paid as savings materialize. The partnership is performance based, payment is linked to business performance. In this model revenue recognition becomes important. In reporting results it has to be clear for both parties what the business performance has been, by consensus which variables are measured and determine whether or not the specifications and deliverables are met.

In choosing a good combination between business and revenue model the above mentioned conditions and aspects are important. In the next paragraph a schematic combination is made. First of all when is offshore outsourcing attractive and then what the requirements are for offshoring in different situations.

§ 3.3 Concluding comments

In this chapter a closer look is taken in the attractiveness of offshore outsourcing. The attractiveness basically depends on two contradicting forces, arbitrage and transaction costs. An extra addition is in the shape of a possible increase in flexibility in production capacity and increase of available knowledge and skills. This can be decisive motives even though if through the arbitrage benefits and increased transaction costs, from a financially point of view offshoring would even not be that very appealing. Table 3.1 provides schematic insight in this matter. In appendix 3 an extensive version of this table is formulated.

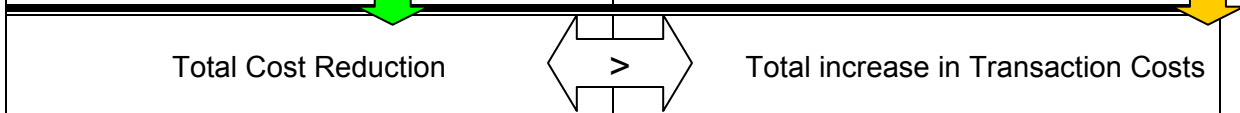
Beneficial in Offshore Outsourcing	Obstructive in Offshore Outsourcing
Arbitrage	Bargaining costs -/-
	Monitoring costs -/-
	Market costs -/-
	Costs related to managers -/-
	Restructuring costs -/-
	Infrastructural costs -/-
	Efficiency -/-
	

Table 3.1

Next we go over the possible offshoring business models and the related revenue models. Table 3.2 gives insight in possible combinations between business models and revenue models. The gray areas are common combinations, however there are of course all kind of mixed combinations possible. Offshoring usually starts out with negotiating the best deal financially, over time however, with a steady demand it will become increasingly appealing to structure an ongoing relationship to gain benefits through a more intimate relation. In other words the relationship with the offshore party is dependable on the specificity and complexity as we already noticed earlier this chapter (Francheschini and Galetto, 2003). This has implications for the choice of combined business model and revenue model. This shift is recognizable in table 3.2.

Preliminary conclusion:

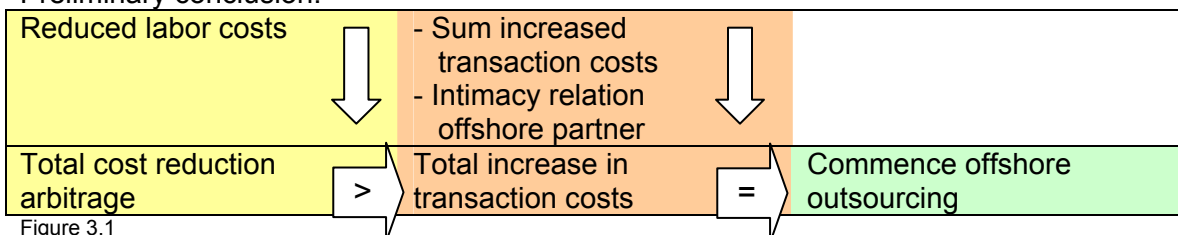


Figure 3.1


Business Models							
Revenue Models			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>	
			Make or buy decision. Offshore provider takes over the function or process and executes at lower labor costs.	A separate independent legal entity in which both parties have equity. Balance between control and flexibility.	Dedicated and customized joint venture to one client operating in the software industry.	Subsidiary carrying out all BPO work, i.e. entire business functions. Higher control and flexibility and lower prices on a long-term basis.	
	Task-oriented	<i>Time and material revenue model</i>	Straightforward when clear in requirements. Monitoring important.				
		<i>Fixed-price revenue model</i>	Upfront able to negotiate requirements price and timing.				
	Process-oriented	<i>Cost plus revenue model</i>	Long term aim, through shared benefits. Fee-for-service contracts.				
		<i>Risk-reward revenue model</i>	Multiyear bond, partnership to achieve more efficiency in business operations.				

Table 3.2

Chapter 4: Design Decision Tool Offshore Outsourcing

§ 4.1 Limitations Decision Tool

Before the decision tool for offshore outsourcing in the case of SMEs can be designed, a clear definition of small and medium enterprises is needed. Therefore the definition of the European union is used, recommendation 96/280/EC⁶. Objective of this recommendation was to define micro-enterprises, small enterprises and medium-sized enterprises by their size, turnover or balance sheet total and their independence in order to better adapt measures which concern them.

Enterprises need to be independent, that is 25 % of the capital or the voting rights may not be owned by one enterprise, or jointly by several enterprises, falling outside the definition of an SME or a small enterprise. This threshold may be exceeded in the following two cases:

- if the enterprise is held by public investment corporations, venture capital companies or institutional investors, provided no control is exercised over the enterprise;
- if the capital is spread in such a way that an enterprise can legitimately declare that it is not owned up to 25 % by one or more enterprises falling outside the definitions of an SME.

The present recommendations of the EU give the following definition for a SME: Small and Medium-sized enterprises have fewer than 250 employees. Their annual turnover should not exceed 40 million or their annual balance-sheet total should be less than 27 million.

To recapitulate, in this master thesis the act of Commission Recommendation (96/280/EC) of 3 April 1996 is used, concerning the definition of small and medium-sized enterprises [Official Journal L 107 of 30.04.1996].

Knowledge intensive work that is conducted in the companies aimed at with the decision tool, is hard to specify. This is the case in much of the ICT work. The knowledge transfer in these cases are as we already discovered difficult. For parts of the knowledge transfer it is probably possible to be comprehensible and describable in specifications, however much is tacit knowledge, which is hard to share. Only providing software specifications thus will not work, more guidance of offshore projects is needed, especially as we saw with the organizational and national culture aspects, which are not describable in the specifications.

With these definitions the SMEs and meaning of knowledge intensive work are determined on which this decision tool aims and consequentially relevant components of the tool can be determined.

⁶ <http://europa.eu/scadplus/leg/en/lvb/n26001.htm>

§ 4.2 Cost-price calculation

There are several ways to determine the cost-price of products and services. First of all methods concerning integral cost-price calculation or absorption costing. Hereby all costs are to be specified in a certain way. Then there are also methods to calculate cost-price only taking into account the variable costs (Rustenburg, de Gouw, de Geus, and Smal, 1999).

Fixed costs are the costs that are independent of the number of goods produced, or the costs incurred when not producing any goods.

Variable costs, which are just the opposite of fixed costs; these are the costs that do change when we production increases. In other words variable costs, or direct costs, are expenses that change in direct proportion to the activity of a business. Together fixed costs and variable costs make up the two components of total production cost.

Total Production Costs = Fixed Costs + Variable Costs

Methods of integral cost-price calculation or absorption costing, taking all costs into consideration in a certain proportion, are the first two options mentioned next. The other methods to calculate cost-price only take into account the variable costs.

- Singular increasing method
- Multiple increasing method
- Variable cost calculation
- Differential cost calculation

Singular increasing method

A cost-price calculating method that tries to detect a bond between the indirect, variable costs and a part or the total of the direct, fixed costs. The cost-price is calculated by adding an increase for the indirect costs to the fixed costs. In the singular increasing method all indirect costs are related to the sum of a part or the total fixed costs in one percentage, usually raw material and cost of labor.

Multiple increasing method

This method is a refinement of the singular increasing method. The increase in cost-price for the variable costs is divided into multiple increasing aspects. Hereby can one increasing aspect be linked to raw material and another to cost of labor and even yet another to both.

Variable cost calculation

Cost-price calculation method also referred to as direct costing. This method only takes into consideration in production the variable costs. Fixed costs are directly accounted for in the profit-and-loss account. Included costs are material, labor and variable production overhead. The product is considered to contribute to the result of the company when fixed costs are already accounted for.

Differential cost calculation

This method of cost-price calculation also postulates that the fixed cost are already accounted for by other projects, as well as is the case with variable cost calculation. The difference between the turnover and the total variable costs is then the contribution to the profit. Both variable cost and differential cost calculation thus, aim at short-term

coverage of variable costs, in contrary to the first mentioned increasing methods of price calculation. These distinction is related in offshoring to the revenue models and business models discussed in the previous chapter. A cost-price calculation only considering variable costs is likely to be combined with the task-oriented revenue models and absorption costing the process-oriented, this has probable implications for the choice of business model as we have seen in the previous chapter. In the next paragraph a closer look is taken into how one can determine whether offshore outsourcing of knowledge intensive work is preferable.

§ 4.3 Offshore Outsourcing Decision Tool

We already discovered that in offshore outsourcing production costs need to decrease due to the workings of arbitrage. The benefits from this concept need to outweigh the contradicting force of transaction costs. We already reduced the transaction costs to seven main points of attention in chapter 3. The sum of increase in these transaction costs need to be lower than the increase in benefits gained from arbitrage to be appealing. In some cases however one focuses more on the non-financial benefits discussed, increased flexibility in production capacity and enlargement of available knowledge and skills. This is of course not regardless of the balance between arbitrage and transaction costs, if this ends up costing a whole lot more than producing in-house one will wonder how substantial these additional non-financial benefits are. In other words how much is one willing to pay for these benefits.

Next we also already saw that this all leads to different kinds of business models to structure the relationship with the offshoring partner. This relationship with the offshore party is dependable on the specificity and complexity. Starting out with negotiating the best deal financially, over time becoming increasingly appealing to structure an ongoing relationship to benefit from an intimate relation. Related are again the revenue models discussed. These also vary from being more loosely task-oriented to a more intimate process-oriented model. This is combined in table 3.2.

Now we are interested in at what point offshore outsourcing of knowledge intensive work becomes interesting and how can we determine this. We already saw in chapter 3 when offshore outsourcing is attractive and what the requirements are, now we need to develop a tool. In chapter 2 we saw the concept of TSOS (Carmel and Tjia, 2005). This method measures the feasibility of offshoring in retrospect, using a portfolio of projects studied over a period of time. This leads to a typical cost and benefit flow, with the cumulative savings leading up to a break-even point where the cumulative savings start being positive. This TSOS concept is constructed as shown below.

$$\text{Transaction Costs} + \text{Total Direct Cost Savings} = \text{Cumulative Savings}$$

Figure 4.1

TSOS thus takes the transaction costs and the cost savings, which together are the cumulative savings. Transaction costs decrease over time and total direct cost savings increase. Break-even is when these cumulative savings begin being positive.

We now need a tool to determine on forehand whether or not to offshore outsource. In this tool the previous discussed aspects are required together with the cost-price

calculations of the previous paragraph. When the relationship with the offshore partner is not very intimate, for instance with a revenue model like T&M or fixed price it might be that only the variable costs are taken into account. If the relationship becomes more intimate the cost plus revenue model and risk-reward revenue model become more interesting and fixed costs are also added to the evaluation.

The basic principle of the tool is the comparison between the situation of production in-house and the offshore outsourcing situation. Basically, not considering the increase in flexibility in production capacity and enlargement of available knowledge and skills, the situation of offshore outsourcing needs to be financially beneficial over producing in-house.

The costs of producing a project in-house at higher labor costs with lower transaction costs, compared with offshore outsourcing of this project with the financial benefits of arbitrage and the contradicting force of the increase in transaction costs. For both in-house and offshore outsourcing the labor costs for this project are determined. Then all aspects of the transaction costs are added for both in-house and offshore outsourcing. When this is done one can compare the total costs for a project in the two situations and determine whether or not to go offshore.

Production in-house		Production outsourced offshore	
Labor costs	Bargaining costs	Labor costs	Bargaining costs
	Monitoring costs		Monitoring costs
	Market costs		Market costs
	Costs related to managers		Costs related to managers
	Restructuring		Restructuring
	Infrastructural costs		Infrastructural costs
	Efficiency		Efficiency
	+		+
Σ LC +	Σ TC	Σ LC +	Σ TC
Total production costs in-house >		Total production costs offshore outsourcing	

Table 4.1

The table shown above offers a possibility to compare an in-house and offshore outsource situation for entrepreneurs. In the previous chapter we already saw how this table works for the offshore outsourcing side. Now the in-house situation is added in the equation. In this model the sum of the labor costs (LC) is also increased with sum of transaction costs (TC) if applicable for the in-house situation. The final step is, as already described, to compare the total production costs in-house with the total production costs when offshore outsourcing would be chosen. And to justify the offshore outsourcing process the total production costs in-house should be higher than offshore.

For the in-house situation the bargaining costs are less applicable, however on the other hand it could be if extra temporary personnel is needed for a project.

Monitoring costs are probably lower than in the offshore outsourcing situation.

Knowledge and skills stay in-house, no difficulties with knowledge transfer and related traveling cost and cultural difficulties.

Cost related to managers or employees obstructing the outsourcing process is in-house of course not an issue.

Restructuring costs can be a necessity in keeping a project in-house. This can be in the shape of retention costs for indispensable programmers or training costs for programmers learning new techniques or products. Or perhaps even hiring new programmers is necessary to be able to handle the project if the required knowledge and skills are not in-house. Another possibility is working with Dutch freelance programmers, their costs are lower per hour than in-house programmers. Disadvantage of these programmers is that low commitment is plausible and time and costs are involved for setting up a pool of freelance workers to achieve reliable flexibility.

Infrastructural cost could also be necessary when new hardware and/or software with additional licenses are required for a project regardless whether it is outsourced or done in-house.

Efficiency will probably, especially initially, be higher than when a project is outsourced. The required knowledge, skills and experiences need to be mastered. This could also be the case in-house when the knowledge, skills and experiences are new for all programmers.

Table 4.1 are all these aspects summarized for both the in-house as the offshore outsourced situation. When entrepreneurs of SME ICT organizations fill in this table for their situation, the comparison ends up with the basic principle already discussed.

$$\Sigma \text{ In-house production costs} > \Sigma \text{ Offshore outsourcing production costs}$$

Figure 4.2

This basic principle of the tool is the comparison between the situation of production in-house and the offshore outsourcing situation. When entrepreneurs fill in this comparison critically for their organization a more solid foundation can be achieved whether or not to commence offshore outsourcing activities.

The savings in production costs should outweighing the total increase of transaction costs involved with offshore outsourcing, in order to be beneficial over production in-house. Commencing offshore outsourcing would be a rational option when production cost savings of outsourced offshore work outweigh the additional transactional costs incurred (Carmel and Nicholson, 2005). In this perspective the definition is reduced to:

$$\text{Production cost savings once offshore outsourcing} > \Sigma \text{ transaction costs incurred}$$

Figure 4.3

Additional to this make or buy decision in which this tool needs to assist, is the incentive of an increase in flexibility in production capacity and enlargement of available knowledge and skills, what entrepreneurs could take into consideration.

Next to the relationship between the company and the offshore partner discussed in the previous chapter and the arbitrage corrected for the transaction costs, a third aspect is of importance. Important is to consider ones customers involvement in the production process in relation with the type of work to outsource offshore. When close participation of the end customer is required due to the type of product, offshore outsourcing will in all probability complicate the process in such a manner that offshoring results in higher production costs.

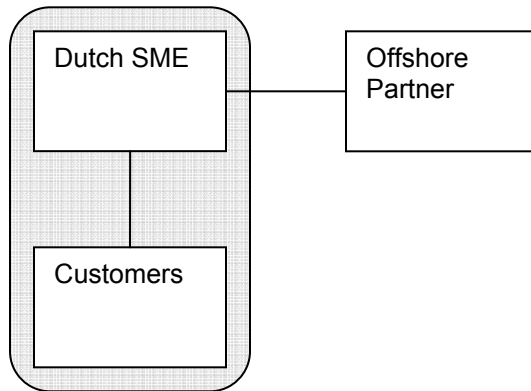


Figure 4.4

Off-the-shelf, standard products with a low level of customer participation are more suitable for offshore outsourcing than made-to-measure projects or customized products with a high level of customer involvement in the process. In figure 4.5 below this is illustrated schematically. For offshore outsourcing the bottom right field is the best suitable situation regarding type of product and end customer participation.

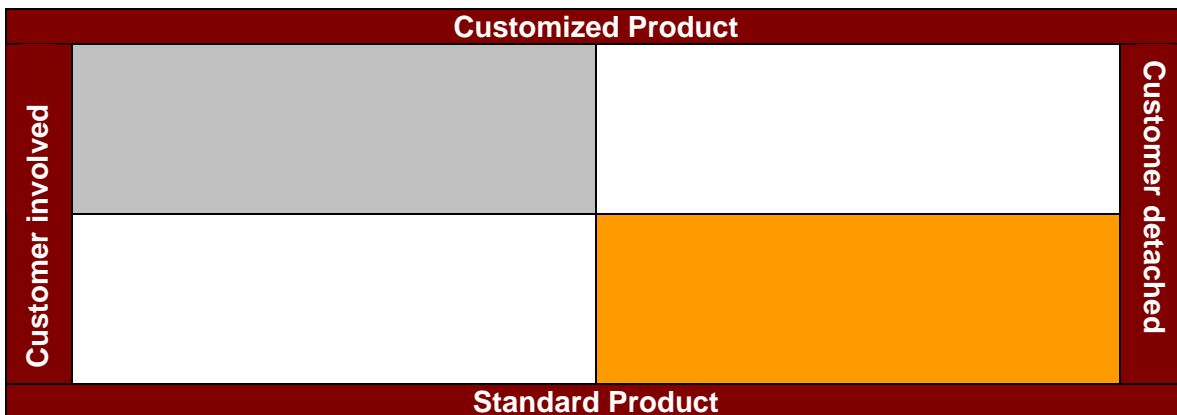


Figure 4.5

This reduced description of the offshore outsourcing decision consists of the aspects, extensively discussed. . From literature on arbitrage versus total transaction costs incurred, components are extracted which form the decision tool described in figure 4.6 underneath.

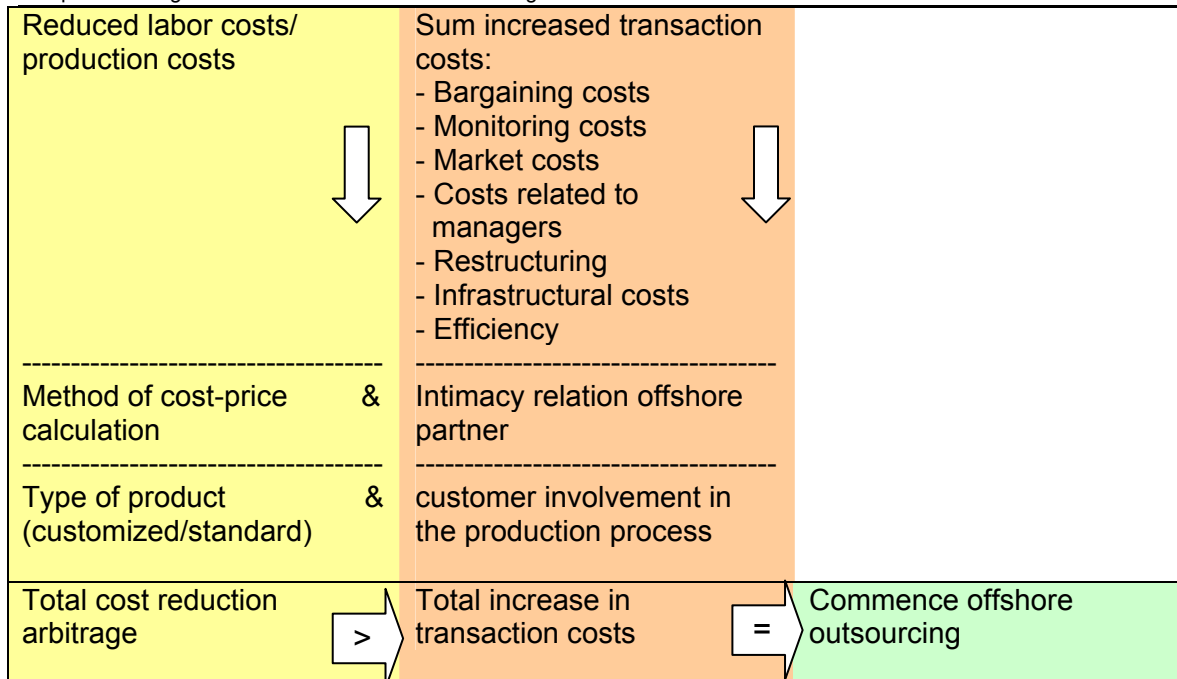


Figure 4.6

§ 4.4 Concluding comments

In this chapter first of all is defined for what kind of enterprises and types of work the decision tool is designed. Next the relevant components of the tool were determined. Which has led to the decision tool, table 4.1, which can be filled in to find out whether or not offshore outsourcing knowledge intensive work is financially interesting for a SME. For a SME offshore outsourcing of knowledge intensive work is financially appealing when the costs of production and transaction costs in-house are higher than total costs of offshoring with the corresponding transaction costs. In chapter 2 we already saw the TSOS method of determining whether or not offshore outsourcing was interesting in retrospect. TSOS verifies the breakeven point, where cumulative savings start to give a positive result. At this point the total savings of offshore outsourcing exceed the extra transaction costs involved. The decision tool of this chapter is designed to give entrepreneurs of SMEs on forehand a structured method to determine whether or not offshore outsourcing of knowledge intensive work in their situation is beneficial.

For this decision tool the beneficial aspects and possible obstructions of offshore outsourcing discussed in chapter 3 are combined with the in-house situation. The implications of keeping a project in-house instead of offshore outsource this work are considered. Important are the costs involved and the associated benefits. Costs that are likely to be incurred in the offshore and in-house situation and what is the revenue and business model to use. And then the type of products and the customer detachment in the production process is important to determine feasibility.

In the next chapters the decision tool is assessed on its ability to determine whether or not a particular ICT SME would benefit from offshore outsourcing knowledge intensive work. This is done by case studies.

Chapter 5: Case studies – Dutch ICT SMEs

In the case studies the decision tool as constructed in the previous chapter is judged in practice, whether or not it provides good guidance in the decision for SMEs to offshore outsource knowledge intensive work or not. The definitions for these aspects are also stated in the previous chapter, an additional limitation is the limited amount of Dutch SMEs with offshoring experience.

§ 5.1 2Yellows B.V.

For 2Yellows offshore outsourcing started with an unfulfilled vacancy. There was a growth of demand, which could not be supplied with the resources available within 2Yellows. The SMEs interviewed for this thesis differ in size in order to obtain a broad view on the matter, 2Yellows can be considered as a small organization under the Dutch SMEs in this group of interviewees. The background of 2Yellows is described in appendix 4. To resolve the mentioned issue of growth of demand, a lack of alternatives within the Netherlands led 2Yellows to turn to offshore outsourcing, not the price so much. 2Yellows aims at natural growth by recognizing and seizing opportunities presented, for instance with overseas partners which offers them an increase in resources and possibly creativity as well.

The first experiences of 2Yellows with offshore outsourcing was with their core product, LiveFeed. This first project resulted in a considerable amount of misunderstandings and lessons learned. The method of supplying specifications needed to be intensified. Fully specifying every little detail, leaving out or clarify anything that could be open for interpretation. 2Yellows was used to work with a certain degree lot of freedom in coming up with a creative simple solution for a particular problem. This approach however quickly proved to be difficult to maintain in offshore outsourcing.

Nowadays 2Yellows has structured its offshore outsourcing activities around one committed team member, Federico Mikaelian, based in Argentina at Los Programadores. There he has the tools and facilities to work and is full team member of the 2Yellows Product Development team. This relationship is focused on creating a mutually beneficial situation in an environment that is both challenging and supportive. This situation requires a learning curve for all parties involved, trust is deemed important by 2Yellows. In order to understand each other, for instance concerning differences in culture and customs intensive communication takes place and to learn even more about the Netherlands Federico Mikaelian has spend some time onshore.


		Business Models			
Revenue Models		<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
	Task-oriented	<i>Time and material revenue model</i>			
		<i>Fixed-price revenue model</i>			
	Process-oriented	<i>Cost plus revenue model</i>			
		<i>Risk-reward revenue model</i>			

Table 5.1

In the table above insight is given in the business model chosen for offshore outsourcing by 2Yellows and the associated revenue model.

The business model used by 2Yellows is one of pure contract offshore outsourcing. A part of the business process activities are offshore outsourced, also called selective outsourcing. This is a basically a make-versus-buy decision. In the case of 2Yellows it was either hiring personnel in the Netherlands to obtain growth, increase of capacity, with the related costs and risks or benefit from an increase of flexible production capacity by an offshore outsourced employee with other costs and risks. And the revenue model used by 2Yellows is strictly fixed-price in which timing and risk sharing concepts on possible cost or time overruns are negotiated upfront. An upfront negotiated fixed price for the entire completion of a project, with precise specifications and deliverables is paid.

Labor and Transaction Costs

The beneficial aspect of reduction in production costs by the workings of arbitrage is regarded as being minimal. The experiences with offshore outsourcing are very positively rated, however it is not considered to be financially beneficial. Barriers needed to be overtaken, which requires time and energy. Financial benefits are believed to be marginally possible when the cooperation is set up well.

The transaction costs are different for the type of projects 2Yellows does offshore. On the one hand, there is the dedicated offshore employee and on the other hand implementation projects. In the case of the dedicated offshore employee the bargaining costs are eliminated due to the fact that setting up specifications, requirement and schedules are negotiated directly with the programmer. There is no management layer in between, this is the case with implementation projects. However this does not result in noteworthy bargaining costs.

The monitoring costs are for instance of importance in the difficulties in the communication. The personnel in Argentina is almost overqualified for the type of work that is offshore outsourced, however it requires intensive communication and close cooperation in a continue process. The difficulty with this is that there is a distance and time difference between them. Practically this results in long working hours in the overlapping time zones to keep the process continuing. In such a small team, intensive cooperation is the way of business conduct and intensive setting up specifications costs relatively to much time and energy. That is why is chosen to work 15 hours when necessary. This is also due the cultural difference between a Dutch and an Argentinean employee. A Dutch employee is very assertive and not very hierarchical at heart, contradictory to the Argentinean employee. This means that a Argentinean employee would not seize responsibility as quickly and monitoring is necessary in the shape of close cooperation or well-defined specifications. Communication is done in both intensive contact and extensive specifications. Also has Federico Mikaelian been to the Netherlands to learn more about the Dutch and the company specific culture. In the case of the implementation projects the monitoring is done before the product goes to the customer. This has been just as much a learning curve as is the case with the offshore developer, initially work has gone back and forth between the Netherlands and Argentina too much. The quality of the work now however is fine.

The market costs in both implementations and the offshore employee are not of significance. The opportunity arose and not much examination has been done to the competition on the market of the offshore partner. A comparison of the alternatives in the Netherlands for the increase in demand for production capacity with the opportunities in Argentina was crucial in the decision process.

Costs related to managers or other employees trying to obstruct the offshore outsourcing process where absent, there was more work to be done than capacity. This demand was fulfilled with this new offshore employee and increased flexible workforce for the implementations. This also is the reason why restructuring costs are not the case. There are no employees redundant or indispensable in the way that retention costs needed to be incurred.

Infrastructural costs are also minimal on both sides, required hardware and software with the additional essential licenses where already in place. The only aspect in this is the already mentioned difficulty in communication with the distance and time difference. This required a learning curve for the parties involved, however this has not led to an increase in infrastructural costs as such.

Related is the efficiency, this was initially lower due to these difficulties and resulted in higher costs thanks to work that got send back and forth between the Netherlands and Argentina too often. This increasingly got better, especially between 2Yellows and the offshore programmer, however the implementations are still not efficiently enough.

The offshore outsourcing benefits complied with the expectations of 2Yellows, regarding the output. The amount of input required was much higher than expected. The entire outsourcings trajectory up until now has been based on stumble-and-then-succeed. With the knowledge gained in this process some suggestion can be made in the approach, however all are embedded in the learning curve both parties need to go through. With the knowledge they have know this perhaps would have gone faster, however both parties need to learn to cooperate with each other. Due to the ultimately positive results with an offshore employee, 2Yellows sees opportunities in a recent development on

Amazon.com. On this site an increasing amount of offshore developers offer their digital products and services, according to the conclusions of editorial staff of Emerce and Computable (Boogert, 2006). There are increasingly more online marketplaces, which have emerged to provide match-making and thus provide the SMEs with relative low search costs (Carmel and Nicholson, 2005). Though this is a very recent development and some question marks can be placed by the reliability and controllability of this medium.

Components offshore outsourcing														
	+	+	+	+	+	+	+	+	+	+	+	+	+	
	Influence on production costs													
	++	+	+/-	-	--									
Arbitrage														
Bargaining costs														
Monitoring costs														
Market costs														
Costs related to managers														
Restructuring														
Infrastructural costs														
Efficiency														

Table 5.2

Table 5.2 above is a schematic overview of the influence the components in offshore outsourcing have financially on production costs, based on statements in the interview. In the left field from the middle components are considered to have a positive influence on production costs, the right side is used to provide schematic insight when components have a negative influence on production costs. These blocks are filled in to illustrate the level of influence.

- 1-3 Blocks nil through minimal influence;
- 4-6 Blocks mediocre through noteworthy influence;
- 7-9 Blocks substantial through considerable influence;
- 10-14 Blocks significant through major influence.

In order to achieve this schematic overview statements of all interviewees on the different components where compared against each other and classified.

When we look at the above mentioned components of the decision tool, compared with the costs of producing in-house will become clear that in this case offshore outsourcing is not directly financially beneficial. However due to the increase in efficiency and understanding of both parties this is improving.

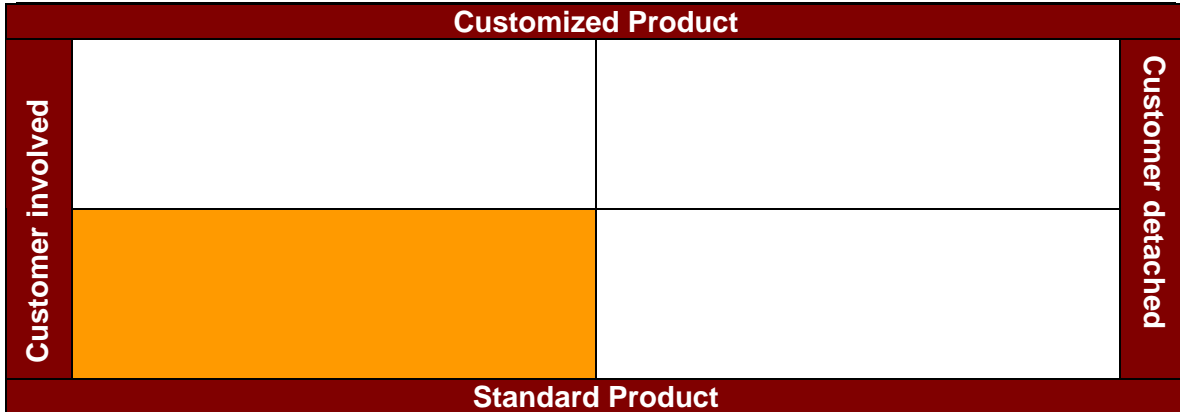


Figure 5.1

Then there is the aspect of the customers and their involvement in the production process. 2Yellows focuses on being technically progressive with their products, however the products of 2Yellows are off the shelf, with a possibility to adjust aspects to the specifications and requirements of the customer. The process of implementation and adoption is given special attention, which means in close cooperation with the end customer. The standard products are beneficial for the offshore outsourcing process, however the customer involvement is not advantageous in this process.

However upfront it was due to a lack of alternatives this trajectory is chosen. Important where also the additional benefits of an increase in flexibility in production capacity and enlargement of available knowledge and skills.

§ 5.2 Evident Interactive B.V.

Evident is one of the intermediate sized SMEs interviewed, more background information on this company can be found in appendix 5. Evident has outsource experience both nearshore as well as offshore. Nearshore in Ukraine and offshore in Argentina. In both cases the front end, the interactional design or the user friendliness being style and emotion turned out to be impossible to outsource. This aspect is, as already mentioned highly culturally influenced and individual preferred which makes outsourcing practically impossible.

The backend is more straightforward, exclusively being developed using Microsoft products and techniques and this aspect is being outsourced by Evident.

Evident structured their outsourcing activities around hiring dedicated nearshore and offshore programmers. This relationship engagement is based on a pure contract outsourcing business model. The external provider is hired to program a small section of the business process, selective outsourcing. This is a make-versus-buy decision, a trade off between financial benefits and higher transaction costs due to increased complexity, time and energy.

The used revenue model is time and materials (T&M), a straightforward method of billing. In made to measure projects where extent, requirements and realization of projects are not always as easy to estimate upfront T&M is an appealing option. This method does make monitoring very important. The table below shows the business and revenue model mix.


Business Models						
			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
Revenue Models	Task-oriented	<i>Time and material revenue model</i>				
		<i>Fixed-price revenue model</i>				
	Process-oriented	<i>Cost plus revenue model</i>				
		<i>Risk-reward revenue model</i>				

Table 5.3

Labor and Transaction Costs

The workings of arbitrage is ought to provide financial benefits when commencing in outsourcing. The difficulty however is that projects are made for measure, no generic

product for a large group of customers. The production costs nevertheless are financially attractive offshore, however the increased transaction costs make Evident less positive.

First of all the bargaining costs are not that much of importance. Due to the revenue model chosen, is this aspect not deemed to be that important. Evident hires programmers directly based upon a time and material method of billing. Upfront the bargaining costs are not that significant because extent, requirements and realization are hard to estimate. However this method makes monitoring crucial. By enforcing the offshore programmers to work on internal Evident systems insight is assured in the development, progress and possible problems. This way Evident tries to control the extent of the project and the pace of realization with the correct requirements.

In both the case of nearshoring to Ukraine and offshoring to Argentina there has not been an extensive research into the amount of suppliers in both countries once it was clear that they would be financially attractive concerning the labor cost aspect in the production off the partner. The market costs where thus not significant. Costs related to employees and managers at Evident where not a problem as such, however the difficulties in communication by the project manager where mentioned. This nevertheless did not result in friction or obstruction in the outsourcing process. The restructuring costs also where not very significant, the internal operations did not change considerably. The method of setting up specifications although had to be more extensive and detailed. Another change in operations was that there continually an employee at Evident was available to receive phone calls from the Ukraine. This additional task was necessary to try to make sure that the programmer in Ukraine is able to constantly be operational. Costs in the infrastructure are considered by Evident to be the responsibility of the offshore partner. The efficiency is deemed to be to low in the experiences Evident has with programmers in Ukraine and Argentina. To much management efforts are necessary in order to have a working relationship, which results in to much additional costs, which nullifies the benefits gained by the workings of arbitrage. Evident states that they have not jet found the right method for them.

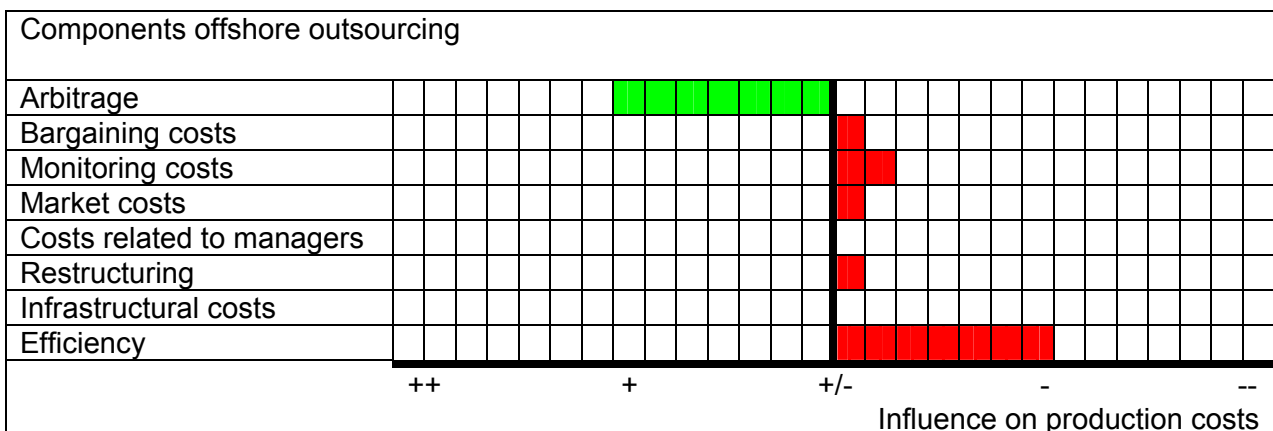


Table 5.4

In table 5.4 a schematic overview is given of the influence the components in offshore outsourcing have on production costs. The blocks are filled in to illustrate the level of influence according to the classification explained in the previous paragraph.

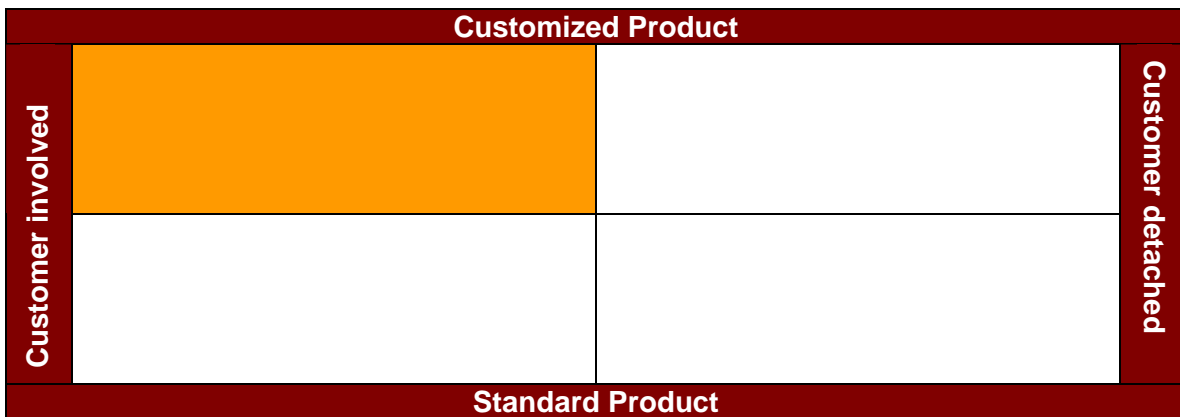


Figure 5.2

Customer relations of Evident are based on a long-lasting partnership, however all projects, products and solutions are designed, build, developed and implemented made to measure. Customers are from a variety of sectors and dependability is considered to be low. This diversity is also considered to grant Evident stability.

This mix of customer involvement and customized products however is considered to be least beneficial for the offshore outsourcing process. This mix complicates the process.

Thus far the offshore trajectory has been one of stumble-and-then-succeed, there is good faith in better results in the future. However at the moment Evident is not satisfied with their results of nearshore and offshore outsourcing.

§ 5.3 Lost Boys N.V.

Lost Boys, being the largest company of the group of SMEs interviewed, has no experience with offshore outsourcing as such. However as stated in their profile outlined in appendix 6, they are used to work with multiple parties on a single project. Core business is in the initial 60% of a project, analyzing the situation and problem of a company and come up with a suitable innovative and creative solution. The expertise lays in this area. Lost Boys does see possibilities for offshoring, however mainly at the end of a project in the execution and production stages. The technical aspects are a result of the previous stages in a project.

Speculating on offshore outsourcing main motives would be cost reduction and increased flexibility in workforce resources. This relationship would probably not be structured to be very intimate, per assignment detailed specifications as they are used to do for the different parties who do the finalization for projects currently. The relation with the offshore party speculatively will be based on a pure contract business model with time and material or a fixed-price revenue model. A relation in the top-left corner of the table below, not eager to be to intimate however willing to benefit from arbitrage.


		Business Models				
		 LOSTBOYS	Pure contract offshore outsourcing	Joint ventures	Offshore Development Center	Captive offshore subsidiary
Revenue Models	Task-oriented	Time and material revenue model				
		Fixed-price revenue model				
	Process-oriented	Cost plus revenue model				
		Risk-reward revenue model				

Table 5.5

Labor and Transaction Costs

For the hypothetical situation that Lost Boys would commence offshore outsourcing, arbitrage or labor cost reduction would be the main incentive. Another is the increase in available resources.

The increase in costs and complexity involved in commencing offshore outsourcing are not expected to be substantial. The bargaining costs first of all are not deemed that significant. The current manner of conducting business is set up in such a way that connects well with offshore outsourcing. Business now is all done by multiple parties on

a project. This is also due to the size of the customers and their related pattern of spreading possible risks over multiple partners.

Lost Boys is as already stated mainly involved in the initial part of a project, meaning analyzing situation and problem and coming up with a suitable innovative and creative solution. Actual implementation, execution and production of this solution is usually not done by Lost Boys. This though, is the area where Lost Boys sees possibilities for offshore outsourcing. This is the part of the project that usually requires a lot of time and the main benefits lie in a good analysis and solution. This front end of a project is harder to do offshore, because of the influence needed by the customer in these stages. The back end of a project is not that much of high priority by the customer, this is not visible and if it functions this usually is deemed adequate.

The monitoring costs are not expected to be extensive. Specifications just need to be defined down to the last detail. Leaving no room for interpretation minimizes the need for intensive monitoring.

On the market costs no clear image was present at Lost Boys due to the fact that they had no experience in offshore outsourcing. Therefore no insight could be given in the market costs.

Costs related to managers is not expected, because of the current manner of business conduct. This does not differ to much from going offshore. Next to this aspect, the work to be offshored is not considered as challenging as front end work. This also reduces the risk of cost related to obstructing managers or employees.

In restructuring and infrastructural also no considerable costs are expected by Lost Boys, should they commence outsourcing offshore. Layoffs, severance pay and retention costs for indispensable employees are not expected to be likely, due to the type of work that would be offshored hypothetically. The possible infrastructural costs in hardware, software and licenses are also not considered to be significant.

Initially a lower efficiency is expected by Lost Boys would they start offshoring. However these additional costs in increased development time required is to be weighed against the benefits gained by the workings of arbitrage.

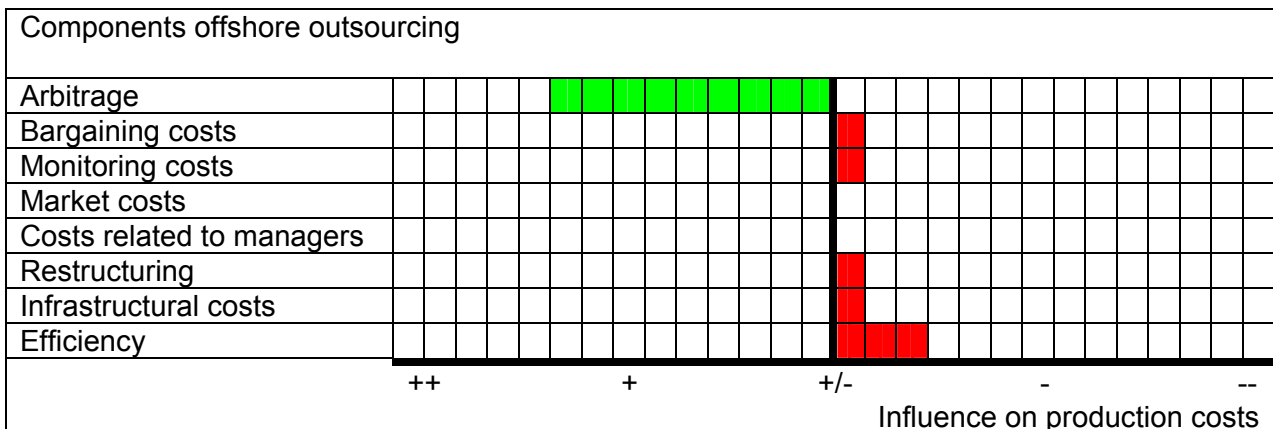


Table 5.6

Table 5.6 gives a schematic overview of the influence the components in offshore outsourcing have on production costs. The blocks are filled in to illustrate the level of influence according to the classification explained in the first paragraph of this chapter.

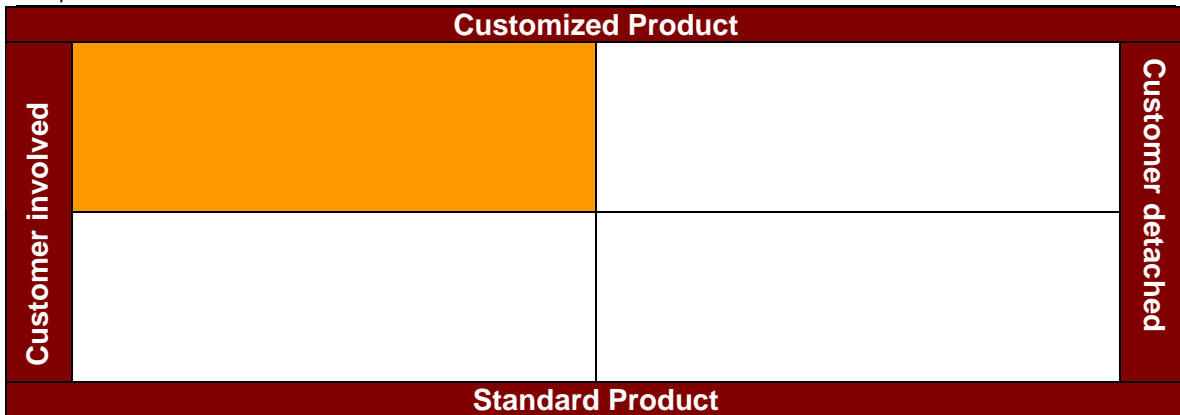


Figure 5.3

Lost Boys is mainly concerned with the creative innovative part of large projects. Usually Lost Boys works on the first 60% of a project in analyzing a company with a particular problem and contemplating possible solutions for the situation. This are made-to-measure processes. One of the expertise's of Lost Boys is in interactive channels and new technologies to organize the pre-sales, sales and services process in a different way. This is a method they call 'Guided selling', this involves a high rate of self service for customers, which ought to result in a high level of customer intimacy. The implementation of the worked out solution is usually done by other parties. This mix of customer involvement and a customized product is less suitable for offshore outsourcing, due to an increase in complexity and thus production costs.

Lost Boys, especially J. Kuijper does see possibilities for offshore outsourcing in the back end more standardized programming sector. Even though this is not the part of business important for Lost Boys currently. The focus of Lost Boys is now on the front end of a project and here no possibilities for offshore outsourcing are supposed to subsist.

§ 5.4 PB webdesign

Putting the outsourcing experience of PB webdesign side by side with Lost Boys, it becomes clear that both have little. However PB webdesign and Lost Boys are of considerable different size, both are intrigued by the concept. PB webdesign is the smallest of the SMEs used, being a one-man organization. The profile and background information of PB webdesign is given in appendix 7.

PB webdesign has endeavored in setting up offshore relations, despite of company size and financial means. Efforts have been undertaken with parties in Vietnam, India and Australia. Regardless of not yet succeeding in setting up lasting relations with offshore parties, PB webdesign still sees possibilities for offshore outsourcing in the future.

Motives for PB webdesign to commence offshore outsourcing are first of all cost reduction and also the increase in flexibility in production capacity and enlargement of available knowledge and skills are mentioned. Considering that PB webdesign is a one-man organization, these motives are deemed rather important. However cost reduction is the main motive in initiating offshoring.

Speculating on setting up a future offshore outsourcing relationship, resulted in a task-oriented revenue model. Preference exists for a fixed-price revenue model combined with a pure contract business model, when initial assignments are completed to full satisfaction growth towards a joint venture is deemed desirable. Future developments into an increasingly intimate relationship offshore is considered to be important to pursue. A mix of process-oriented and a joint venture or subsidiary is believed to be the best way to profit from the workings of arbitrage.


Business Models						
			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
Revenue Models	Task-oriented	<i>Time and material revenue model</i>				
		<i>Fixed-price revenue model</i>				
	Process-oriented	<i>Cost plus revenue model</i>				
		<i>Risk-reward revenue model</i>				

Table 5.7

Labor and Transaction Costs

As already mentioned above, the main incentive for PB webdesign in commencing offshore outsourcing is benefiting from the workings of arbitrage. Another is the increase

Table 5.8 provides the schematic overview of the influence components in offshore outsourcing have on production costs. The blocks are filled in to illustrate the level of influence according to the classification explained in the first paragraph of this chapter.

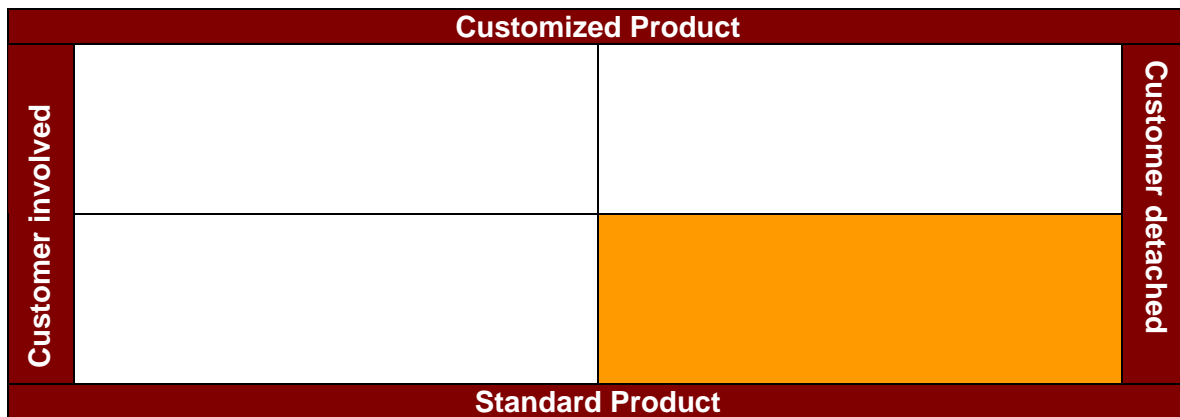


Figure 5.4

The main product of PB webdesign is a CMS with possible additional components and modules. This is a highly standardized product. Next to this product PB webdesign offers additional service for instance consultancy, analysis to determine the required functionalities, project management and more. However the core product is a standard product.

PB webdesign aims at building long term relationships with their customers based upon satisfaction concerning the provided product and additional service. Customer intimacy however is not considered to be relative substantial in the production process. This combination of customer detachment and standardized product is beneficial for an offshore outsourcing process.

§ 5.5 Finalist IT Group B.V.

Finalist IT Group is of the interviewed SMEs an intermediate sized company. Their profile can be found in appendix 8. Finalist IT Group has in the beginning of 2004 decided to study the possibilities for offshore outsourcing to China. China, formerly well-known for production of hardware, not for ICT offshoring as much. A main reason in choosing China was the belief that the most important motivation for offshoring is and ultimately will remain cost reduction. Because of the low labor costs, the foundation for their choice for China was laid. Other motivations are the vast potential of talent and a relative good infrastructure, both in IT and road architectural.

The aim of Finalist is to produce an growing proportion of projects offshore. Profitability lays in simply enlarging the quantities of work being outsourced offshore. Investments are made in a method of conducting business including offshore outsourcing to China. Nowadays even R&D is done offshore. Thus far Finalist is content with the current situation and achievements in cost reduction by offshore outsourcing. A third of the labor costs for a programmer makes the difference. China now does a lot of programming work for the Dutch developers, which results in an improved competitive position. Finalist believed they had to outsource offshore due to an increase of publications and insights on the subject. Everybody appeared to talk about offshoring, who ever managed to offshore the best would win. Offshoring seemed to be the trend.

Finalists offshore outsourcing activities are structured around hiring dedicated offshore programmers. This relationship engagement is a pure contract outsourcing business model. The Chinese provider is hired to do an ever growing proportion of the business. This is the discussed make-versus-buy decision, a trade off between financial benefits and higher transaction costs due to increased complexity, time and energy.

The used revenue models are time and materials and the fixed-price revenue model as methods of billing. In made to measure projects where extent, requirements and realization of projects are not always as easy to estimate upfront T&M is the appealing option. This method does make monitoring very important. The fixed-price method uses upfront dedication on timing and the risk sharing concept on possible cost or time overruns. An upfront negotiated fixed price for the entire completion of a project is paid, with well-defined specifications and deliverables. The table below shows the business and revenue model mix. In the future, a more intimate relation structure in the shape of a joint venture or subsidiary is plausible. Finalist sees opportunities in adding value in process improvement and marketing.


Business Models						
Revenue Models			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
	Task-oriented	<i>Time and material revenue model</i>				
		<i>Fixed-price revenue model</i>				
	Process-oriented	<i>Cost plus revenue model</i>				
		<i>Risk-reward revenue model</i>				

Table 5.9

Labor and Transaction Costs

For Finalist the main incentive for offshore outsourcing is the reduction of labor costs. Therefore the mix of the workings of arbitrage and increased transaction costs is important.

The bargaining costs in searching and contracting is an aspect to bear in mind. Proposals from China for projects initially required hours where estimated four times higher then their own. This would result in higher price then necessary. This turned out to be the typical Chinese phenomenon of negotiation of the price and haggling. Chinese always use an high price and expect customers to bargain, this is the local custom. Searching and contracting is to be done carefully. Specifications, requirements and schedules need to be set up extensively whereby good communication is a necessity.

Monitoring is mainly done extensive communication with their ‘remote team members’ and well-defined specifications and deliverables. Hereby is the time difference of 6 hours also an issue in daily business. Eventually a routine formed whereby Finalist developers checks all work of China on Friday, so China can resume on Monday with perhaps some adjustments. This way work is monitored frequently. Additionally approximately three times a year Finalist heads of to China in order to strengthen the relationship.

Market cost is an aspect that is beneficial to Finalist. On the market of the offshoring partner a lot of suppliers are present resulting in a high level of competition.

Costs related to managers or other employees trying to obstruct the outsourcing process appeared to be not an issue. Many developers at Finalist even seemed glad to be relieved of the type of work that initially was outsourced offshore. And for the future also



no problems are expected, because the challenging work always needs to be done in-house near the end customer.

Restructuring costs in layoffs, severance pay or retention costs for indispensable employees is also no issue. The result of offshoring development work is that programmers in-house lose less time on work out and finalizing projects.

The infrastructural costs in required hardware and software, with the additional licenses is an issue to be addressed by the Chinese partner. Due to the current relationship Finalist does not interfere with internal matters of this kind. For Finalist to do business with this partner, they have to have their hardware, software, and additional licenses in order. This is also related to the fierce competition on the Chinese market.

The efficiency of the offshore partner is dependable on the communication between Finalist and the offshore partner. Finalist needs to conduct active project management. The Chinese developers are more reactive by nature than their western counterparts. Project management needs to be done pro-actively towards the Chinese team members in order to avoid future difficulties due to communicative misconceptions. This is a cultural difference to bear mind. Another point of attention is difficulty Chinese have with the language. In writing the control is adequate, however in speech is for many still very difficult. However Java appears to be a fine ‘lingua franca’, common language, for the developers.

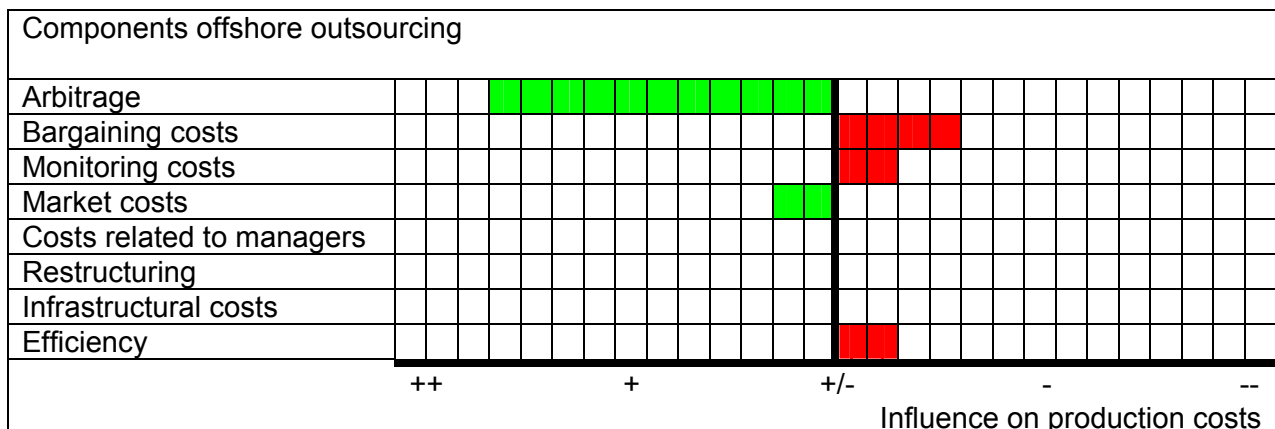


Table 5.10

Table 5.10 is the schematic overview of the influence components in offshore outsourcing have on production costs. The blocks are filled in to illustrate the level of influence according to the classification explained in the first paragraph of this chapter.

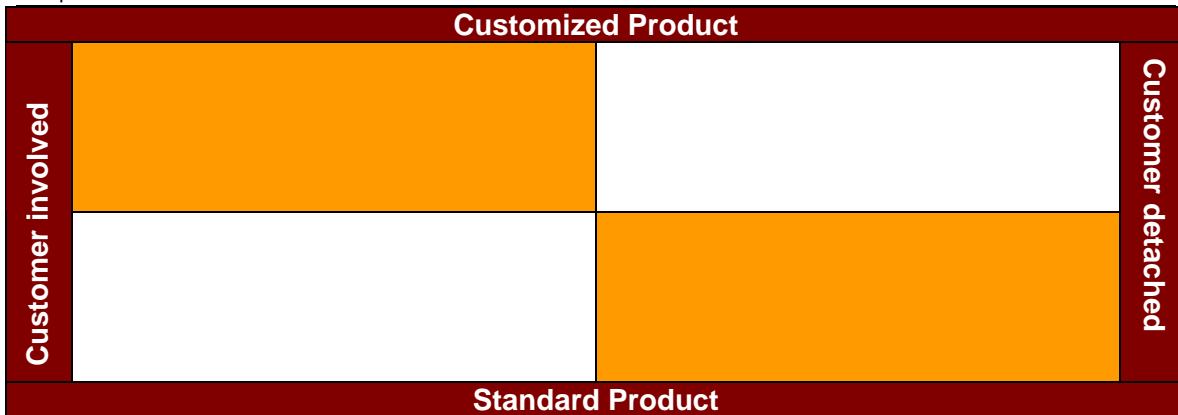


Figure 5.5

Finalist IT Group specializes in technical consulting and development services for the Internet, based on open source and Java technology. Finalist develops software both in house on a project basis and at the Client location, as part of a team. All projects are made-to-measure. Their only off-the-shelve product is content management.

Customer involvement is rather considerable in many projects. Cooperation is essential in most made-to-measure projects. With the off-the-shelve product customers are more detached of the process. These made-to-measure projects have not the best suitable combination of customer involvement and customization of product for offshore outsourcing.

However all in all, Finalist is satisfied with current state in which they are presently. They are confident offshore outsourcing has the future and the manner of conduct will improve even further in the future. Communication between multiple establishments of one company in the same country already gives difficulties. And with offshoring although the distance increases the difficulties are comparable. Good communication is an art and this will gradually improve.

The manner in which Finalist commenced offshore outsourcing, they would not have done a great deal differently in retrospect. They started out small-scale and expanded steadily.

§ 5.6 Func. Internet Integration B.V.

Of the interviewed SMEs, Func. Internet Integration B.V. is an intermediate sized company. Background information and profile can be found in appendix 9. A part of the business of Func. consists of smaller companies demanding a website once every two years. And it is not to be assumed that this kind of customers return to the same provider every time. So this is non-repetitive business. Often for these customers this is a major investment and therefore have high demands and monitor the process very critically and intensively. This is very comprehensible, however Func. is more interested in the more repetitive, technically challenging and higher profitable business, being projects of more affluent companies demanding portals and web applications. Func. has set up their organization to operate best in this environment of project management.

Offshore outsourcing projects are organized in a similar manner. Specifications are communicated via an internal wiki⁷ website. Here questions and obscurities can be added by the programmers on which Func. then can respond and clarify. A crucial addition in the communication is the use of telephone and peer-to-peer communication software programs like msn messenger.


Business Models						
Revenue Models			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
	Task-oriented	<i>Time and material revenue model</i>				
		<i>Fixed-price revenue model</i>				
	Process-oriented	<i>Cost plus revenue model</i>				
		<i>Risk-reward revenue model</i>				

Table 5.11

There are private links between Func. and Los Programadores, however this is not the case in business. The business relationship is one of pure contract offshore outsourcing. Func. is one of the customers of Los Programadores. A part of the business process activities is outsourced, Func. estimates this to be about 10% of total business. Therefore it is necessary that Func. personnel is technical skilled, it is not the goal to outsource all programming work in which Func. remains a sales department. And even when that would be the case these technical skills are vital to understand the business.

⁷ Wiki is a type of website that allows the visitors themselves to easily add, remove and otherwise edit and change some available content. (<http://en.wikipedia.org/wiki/Wiki>, 2006)

Func. uses the task-oriented revenue models, both fixed-price and time and material. There is a strong preference of Func. to structure projects in a T&M approach. In T&M there is intensive direct contact with the programmers via wiki, e-mail, msn and telephone. Table 5.11 on the previous page gives a clear view of the business and revenue model mix used by Func.

The more straightforward fixed-price projects go through S. Hekking. In practice the quality of this method is lower than with a T&M approach. Often the specifications and requirements of the projects are formulated to vague and hard to interpret. The translation of the project and supervision is done by S. Hekking, however often these project gets misinterpreted and ends up going back and forth before finalizing. This is why Func. prefers the T&M approach, in which programmers on both sides are in direct contact with one another. This reduces the difficulties in interpretation and translation difficulties.

At Func. the time-difference is even considered to be beneficial. At the daily kick-off the work that has been done the previous night in Buenos Aires is reviewed, status and work progress is determined and the task for that day is clear. At 15.00 (GMT +01.00) work starts in Argentina. Then there is direct contract between programmers determining the tasks for the working day in Argentina. This means that work is done in an extended sub sequential cycle.

As stated communication is structured via internal systems of Func. Interpretation of the specifications is done through amongst other means wiki. The project is posted there and programmers can respond with questions and remarks on which programmers of Func. then can respond. This works fine, however it takes time to set up a good working relation with a programmer working for you remotely. For this Func. uses a 'buddy'-system. One of the programmers is then responsible to ventilate and communicate in team meetings for the programmer working for Func. at Los Programadores.

Labor and Transaction Costs

The bargaining costs are not that significant in this situation. Negotiations with Los Programadores go through S. Hekking and do not result in difficulties. Specifications and requirements are communicated directly with the involved programmer. Possible delays in the schedules are communicated towards the customers, has not resulted in difficulties up till now.

Monitoring costs are comparable to programming in-house. Monitoring is done based on an hour justification system, both internally as well as externally with the offshore programmer. Important is forward planning, determining which techniques will have the future and making sure that also programmers offshore share this idea and follow in learning these new techniques.

The market costs in Argentina are relatively high. The hourly wage of a programmer at Func. is the starting point. A programmer in Argentina is 55.5% less expensive an hour. However a Dutch freelance programmer of a comparable level of expertise is also 44.4% cheaper an hour. Beneficial is that you have a partner, a company being your contact not individual programmers. This company has a pool of skilled programmers available on a short term, this means a high level of flexibility. To set up a pool of Dutch

programmers by Func. will result in high investments, especially in the current stressed market, where there is scarcity in personnel.

Costs related to managers or other employees trying to obstruct the outsourcing process has not been an issue.

Restructuring costs were not applicable in this situation, however there is the buddy system in which a programmer at Func. acts as a channel for the programmer at Los Programadores. This does demand some time of the programmer involved, however this is not all that significant.

The infrastructural costs are also not that prominent, all required hardware and software was already in place, installed and implemented. It was a matter of making it all accessible for the offshore party.

Efficiency becomes increasingly higher. This is due to a Dutch office manager who can translate and act as a guide in certain situations, however cultural differences are not that big between the Netherlands and Argentina is the experience of Func.

In table 5.12 a schematic overview is provided of the influence components in offshore outsourcing have on production costs. The blocks are filled in to illustrate the level of influence according to the classification explained in the first paragraph of this chapter.

Arbitrage																			
Bargaining costs																			
Monitoring costs																			
Market costs																			
Costs related to managers																			
Restructuring																			
Infrastructural costs																			
Efficiency																			
	++			+			+/-			-			--						
	Influence on production costs																		

Table 5.12

In offshoring the same costs need to be taken into considerations as internally, this is the method of integral cost-price calculation or absorption costing. Func. wants to be able to access extra personnel flexibly, without having to hire extra personnel. Func. does not want to grow into a huge company, however it does want to be able to do large projects. As already mentioned freelance programmers could be an option, being not that more expensive. However this relationship is less intimate, because this programmer does a project for you and afterwards leaves for the next project. It's hard to get a freelancer to be dedicated for your company when you do not have a constant demand for his services. And when there is a constant demand for his services and expertise's it is of course more interesting to enroll him as an employee. And next to that it will demand a huge investment in money and time setting up a freelancers pool to operate as flexible

as is the case with an offshoring company. The labor costs are the main aspect of production costs and these account for about 60% of total costs.

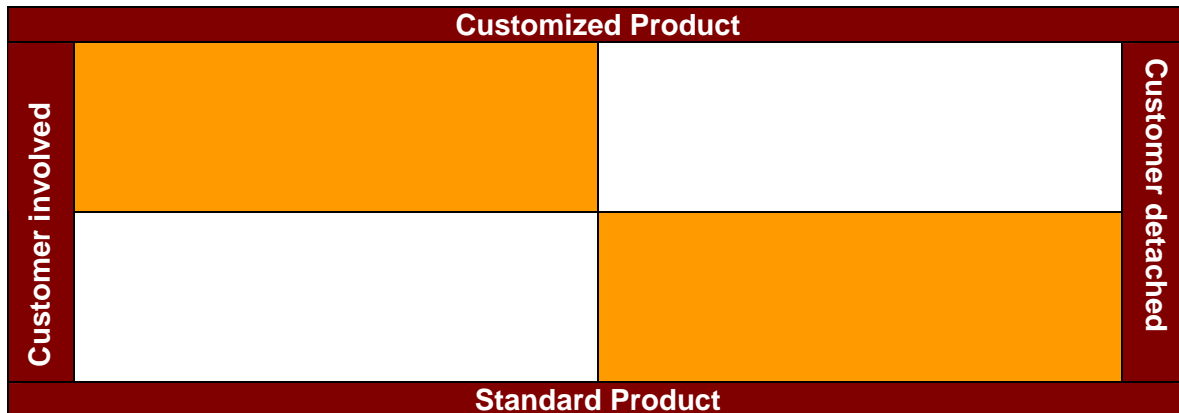


Figure 5.6

Func., as mentioned earlier, aims at more repetitive, technically challenging and higher profitable business, being projects of more affluent companies demanding portals and web applications. This is suitable for offshore outsourcing. Func. has set up their organization to operate best in this environment of project management. There is however a twofold in the products and customer involvement in the process. On the one hand there are straightforward projects with more standardized products and low end customer involvement. And on the other hand customized made-to-measure products where in the process customers are highly involved. This is schemed in figure 5.6 above, in which the situation in the bottom right cell is the most appropriate for offshore outsourcing.

In the process of offshore outsourcing the complexity has increased and has led to longer time of delivery in some cases. However this has not consequentially led to difficulties with customers, this was often in projects with new techniques. Func. and Los Programadores are more or less on the same page as it comes to expectations of techniques in the future.

The experiences with offshore outsourcing have been positive. The initial cause to initiate offshore outsourcing next to the opportunity that arose, was that the branch was talking about it, it was the thing to do. Now the notion is that it turned out working well. Next to being more flexible in the workforce and more working hours in a working day, it also added the fun of doing business as it is being described by Func. In other words it is not a burden on the company. It is relatively expensive, however they now work with a company that makes sure there is a highly skilled pool of programmers available on short notice. And Func. increased its awareness on long term planning. The set up of the relationship between Func. and Los Programadores is satisfactory. The communication channels are efficient and mostly web enabled what keeps the overhead low.

§ 5.7 Concluding comments

The case studies have provided insight in the offshore outsourcing process from the SME ICT organizations perspective. Hereby the used business models and related revenue models were first determined. Then the workings of arbitrage and the consequential transaction costs were the second issue attended to.

Business and Revenue Models

The Dutch ICT SMEs interviewed generally declared to use or would use a business model which would not involve an extensive intimacy with the offshore partner. A pure contract engagement of offshore outsourcing seemed common, basically a make-versus-buy decision. A dedicated programmer or several programmers within an offshore partner company was often preferred. This combined with a fixed-price or time-and-material revenue model. A relationship results with the offshore partner concentrated in the top-left corner of the table below.


Business Models						
Revenue Models			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
		Task-oriented	<i>Time and material revenue model</i>			
<i>Fixed-price revenue model</i>						
Process-oriented	<i>Cost plus revenue model</i>					
	<i>Risk-reward revenue model</i>					

Table 5.13

Labor and Transaction Costs

Offshore outsourcing is generally done in order to benefit from the workings of arbitrage. Overall the interviewed SMEs considered the workings of arbitrage to be beneficial in the process offshore outsourcing. We have already seen that the contradicting force on this phenomenon is the transaction costs which increase the costs of the offshore outsourcing process.

The first aspect of transaction costs are the bargaining costs, which are considered or thought to be not significant by most interviewed Dutch ICT SMEs. Although in many offshore countries haggling is a common cultural phenomenon in business conduct.



Monitoring costs lie in the communication difficulties and the knowledge transfer. This can be hard due to the physical distance, time difference, cultural differences and language problems. This aspect is by many SMEs attempted to attend to by intensifying contact, understanding and the overall relationship with the offshore programmer. By increased knowledge of each other these costs are deemed to be dealt with. This is done by arranging physical contact, by going offshore or inviting offshore programmers to the Netherlands. Additionally intensive communication is practice and extensive specifications, requirements and schedules are set up.

The SMEs generally had no, or expected no extensive market costs. This does depend on the used techniques and the amount of suppliers of that expertise in that particular field offshore.

Costs related to managers or other employees trying to obstruct the offshore outsourcing process did not appear to be an issue at the interviewed SMEs. This was due to the type of work to be outsourced offshore, being less challenging or appealing. Onshore employees expected to have more time for the interesting work and outsource the straightforward programming work.

In the process of offshore outsourcing restructuring can be a necessity. For the interviewed SMEs restructuring costs in layoffs, severance pay or retention costs for indispensable employees seemed no significant issue. This could be because European offshore outsourcing projects start small.

The possibility of infrastructural costs in acquiring required hardware and software with the additional licenses where not an issue. Often it was already in place and just left accessibility issues for distance and time difference to be resolved and structured. And apart from that several SMEs consider the offshore partner responsible for these costs.

The final aspect of transaction costs lie in the efficiency of an offshore partner. At all the interviewed SMEs this aspect was recognized. All considered efficiency to be initially low, this was expected to or was gradually improved. Both sides needed to learn how to operate with a partner offshore. With growing understanding, expertise and practice efficiency gradually increased and companies proceed on the learning curve in the process of offshore outsourcing. In table 5.14 these components in offshore outsourcing are set out schematically against the above mentioned overall view of the interviewed SMEs on the influence of these components on production costs.

Components offshore outsourcing																					
Arbitrage																					
Bargaining costs																					
Monitoring costs																					
Market costs																					
Costs related to managers																					
Restructuring																					
Infrastructural costs																					
Efficiency																					

Table 5.14

The last aspects should not outweigh the benefits obtained by the workings of arbitrage. The SMEs interviewed overall consider the transaction costs to weigh heavily on the benefits achieved in offshore outsourcing. Small firms do face relative high transaction costs when undertaking offshore software outsourcing. This is due to the fact small firms are disadvantaged relative to large firms in a wide range of resources crucial to coordination et al.

Then there is the aspect of that off-the-shelf, standard products with a low level of customer participation are more suitable for offshore outsourcing than made-to-measure projects or customized products with a high level of customer involvement in the process. The interviewed SMEs did not all have this in the most appropriate mix suitable for offshore outsourcing.

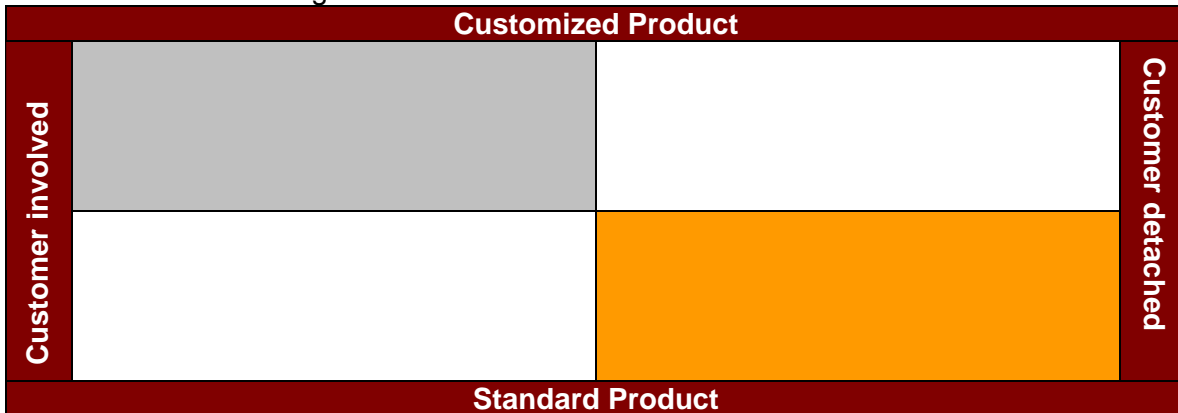


Figure 5.7

These aspects were all embedded in the decision tool, formed to judge whether or not to commence offshore outsourcing knowledge intensive work. Not all aspects were considered to be as significant as perhaps assumed from theory. These aspects which are deemed to be not important are removed from the decision tool below.

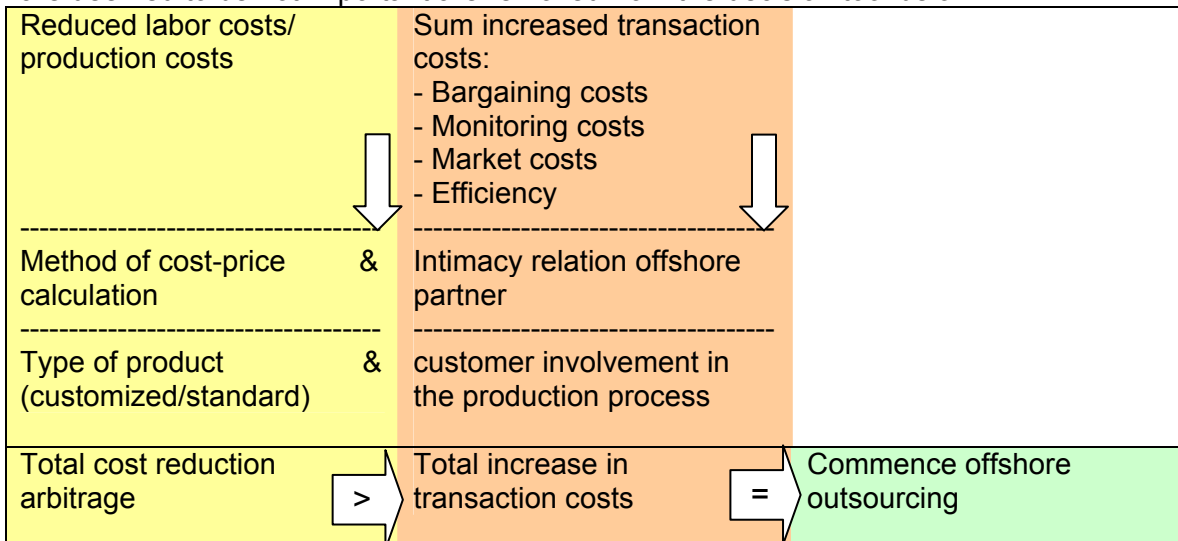


Figure 5.8

In the next chapter the specialists perspective on the matter of offshore outsourcing will be outlined. This is necessary in order to complete the decision tool with insights from all different perspectives.

Chapter 6: Specialists in Offshore Outsourcing

In the previous chapter insight is given in the vision of multiple companies of diverse size on the offshore outsourcing phenomenon. All are SMEs, however their sizes differs from PB webdesign being a one-man organization, a small organization like 2Yellows and intermediate sized companies like Evident, Finalist IT Group and Func, to Lost Boys being considerably larger.

In this chapter insight is provided from a different perspective, specialists in offshore outsourcing. Two service providers in offshore outsourcing and two leading authors on this subject give their opinion on the matter.

§ 6.1 *Los Programadores B.V.*

Los Programadores B.V. is as already stated a spin-off company in Buenos Aires, Argentine. Los Programadores provides programming services to Func. and other partners. In appendix 2, the relation with Func. is clarified. Initially relative uncomplicated products where to be outsourced to Los Programadores. Gradually this could grow into outsourcing of more complete products and eventually possibly to outsourcing of a large part of the production process to Los Programadores.

Los Programadores works for Dutch SMEs based upon a fixed-price and time and material revenue models. The business model is one of pure contract offshore outsourcing. Fixed prices are used for straightforward work, standard product, which are well definable and specifiable. Time and material is a revenue model that is preferred and increasingly used by Los Programadores.

This is the case because working with the time and material revenue model clients have dedicated programmers which they instruct and guide themselves. This is preferred due to the managerial aspects are handled by the clients. Specifications otherwise need to be very precise, leaving little room for interpretation and not many projects are suitable for this approach used with the fixed price revenue model.

Los Programadores intends to increasingly do more programming work on a time and material basis for Dutch customers of mediocre size. However is not proposing to grow into a joint venture or subsidiary and build up intimate relations with customers.

The Argentina programmers produce high quality. There is a real hardworking culture. On the other hand they are less reliable in agreements, regarding to understandings about timelines. Work will be done, however not always on the time agreed upon. Offshoring does increase programming time compared with producing in-house according to Los Programadores. However due to the workings of arbitrage this matter of conduct will be beneficial.

Dutch freelancers are more expensive than the Argentines programmers. Starting with 20% less labor costs, with rapidly decreasing rates the longer the project runs. This financial beneficial aspect needs to match or outweigh increased transaction costs.

Bargaining costs are minimal. Searching and contracting does not take account of many costs. Opportunistic behavior in setting up specifications, requirements and schedules can be an initial consequence of the learning curve both parties need to go through. This can increase the cost in the beginning, however this will reduce over time.

Offshore outsourcing is done intuitively by Dutch SMEs. There is an learning process for both parties involved. One needs to learn to know one another, and the matter of business conduct. Efficiency increases over time. This is called streamlining by Los Programadores. Both the client and the programmer need to have their input every morning and evening in order for business to run smoothly. This increasingly improves over time, due to a better understanding between both parties. The infrastructure needs to be in order and online resources need to be available for the offshore programmer. There is less face-to-face communication with the Argentine programmers, which makes setting up adequate specifications and deliverables crucial.

The time difference between the Netherlands and Argentine can be a positive aspect of offshoring. This forces the offshore partner to work in phases. In the morning the comments and questions of the client are processed and in the evening progress is formulated in order for the customer to be able to comment and ask questions again. This way working hours are prolonged and well spend. This reduces also the need to communicate all during working hours.

Downside is that you can't always get instant feedback due to unparallel working hours. This is the manner in which the monitoring is done, which reduces the costs involved.

Costs related to managers or employees obstructing the offshore outsourcing process is an issue which Los Programadores had no experience with. The same is the case basically with restructuring costs in layoffs, severance pay and retention costs for indispensable employees.

Investments in new technologies is not directly up to clients of Los Programadores. An assessment is made by Los Programadores determining the estimated business of new technology.

A Dutch contact in Argentina is an important acquisition aspect for Los Programadores. For the possible required communication Dutch SMEs like to have the possibility to turn to a Dutch contact, however basically all communication is directly with the Argentine programmer.

The perspective of the offshore specialist

Los Programadores anticipates an attractive future for offshore outsourcing for Dutch SMEs. However based on a pure contract business model and a time and material revenue model for themselves. The main incentive for offshore outsourcing is to benefit from the workings of arbitrage. Transaction costs are controllable up a certain degree and due to the discussed learning curve the process over time will gradually increase in efficiency and benefits consequentially enlarge.

Setting up a more intimate relationship with customers is not estimated to be more beneficial. Setting up detailed specifications is crucial in the process.

§ 6.2 *Eastern Enterprise B.V.*

Another offshore outsourcing service provider is Eastern Enterprise B.V.⁸. Their business conduct differs from Los Programadores. Instead of setting up a company offshore, Eastern Enterprise has set up a pool of approximately 100 already existing Indian companies offering ICT services. For every Dutch customer the appropriate party is chosen from this pool. This depends on the techniques required and services to provide.

Eastern Enterprise uses different mixes of business models and revenue models. The first is the fixed price, with fixed time revenue model combined with a pure contract business model. Appropriate by projects with clear goals and method of approach in advance. Next the time and material revenue model is used, also combined with the pure contract business model. This mix is used when demarcation is difficult in advance. A third option offered by Eastern Enterprise is a dedicated model. For a period of time capacity is offered offshore. A group of programmers or just one is dedicated cooperating and together with the Dutch client the knowledge basis is build. This a business model more towards an offshore joint venture in which the companies are pooling their combined resources to perform a business project together. In this case of offshore IT work, a Dutch company finds a local firm best suitable to be a partner. Because of the longer term focus in striving for gains from offshore outsourcing this business model is best combined with the cost plus revenue model or the risk-reward revenue model.

India already has considerable experience in offshore outsourcing of about 20 years, being amongst the first countries offering offshore outsourcing services in ICT. High quality is delivered by 1 out of 10 companies in India. Eastern Enterprise is for about 100 of these high quality parties in different areas a good partner in order to find suitable offshore outsourcing work for them.

Offshore outsourcing is difficult. Projects can not spill a lot of time, as much work needs to be done offshore and the margins need to be monitored in order for offshore outsourcing to be financially beneficial. Risks lie in offshore partners making promises they can not keep, lower quality then expected and difficulties in the knowledge transfer. Eastern Enterprise supports in this offshore outsourcing process, linking a Dutch and a Indian partner together. Dependable on the techniques and services required every co operational relationship is unique.

Then there are possibilities for instance for Dutch non ICT SME companies, to offshore outsource that department, for SME ICT companies to enlarge their knowledge base or to set up a virtual team which enlarges capacity and flexibility.

Bargaining costs in this process are reduced by the assistance of Eastern Enterprise. The costs of searching and contracting is reduced through their experience and expertise. This also includes setting up specifications, requirements and schedules.

Due their experience and knowledge of India Eastern Enterprise succeeded in setting up the mentioned pool of Indian companies. Based on mutual respect and dependency

⁸ <http://www.easternenterprise.com/>

monitoring is structured. Eastern Enterprise is dependable on their Indian partners, however these partners just as much because of the good fit of the provided clients with their expertise. And assistance is provided in the knowledge transfer setting up comprehensible and complete specifications. For the tacit knowledge much communication and guidance is necessary. This due to possible misunderstandings due to interpretation matters or perhaps cultural differences. Cultural differences however are much an issue of the past. Nowadays due the years of experience many India providers have with offshore clients, this gives minimal setbacks. Eastern Enterprise does travel frequently to India in order to be able to monitor and adjust the process from both sides. However this does not influence the price for in individual client.

The market situation is beneficial for European countries desiring to offshore outsource to India. Meaning that there are many suppliers on the market, resulting in fierce competition. It is however difficult to find the right partner, matching best with the required techniques and services. There is discrepancy between promises and actual ability to deliver. Downside of this authority status of European companies according to Eastern Enterprise is that this often results in unreasonable demands.

Costs related to managers or other employees trying to obstruct the outsourcing process via power and political tactics is not an issue for Dutch SMEs Eastern Enterprise encountered. Also restructuring costs in layoffs, severance pay and retention costs for indispensable employees thus far has also not been come across.

Infrastructural costs, in the shape of required hardware and software, including possible additional required licenses is dependable on the project and to which offshore partner this is outsourced. However Eastern Enterprise attempts to get the best fit per project, which will probably also result in a partner which already has all required hardware, software and licenses.

The efficiency issue being the ratio comparing the productivity of the onshore situation with the new offshore partner. This often initially is lower offshore. Due to increased knowledge, skills and experiences this level will rise over time. Efficiency however also gives difficulties due to Dutch SMEs reluctant to entrust the project to the Indian partner hired. For offshore outsourcing to be beneficial the offshore partner needs to be involved as early in the project as possible. This way you benefit from arbitrage and in the end the partner needs to do the programming anyway. Early on they can start to cooperate and get a clear understanding of what is requested from them in that particular project. The developing and contemplating of new software is entangled with the actual creation and production of this software. In order to do this qualitatively, economically and flexible the offshore partner needs to be earlier and more involved and entrusted.

The perspective of the offshore specialist

Eastern Enterprise considers offshore outsourcing purely to benefit from arbitrage as step one and step two being reorganizing the organization lean and mean. Increasing possible activities and more flexibility. This is regarded as being the future of optimizing the use of offshore outsourcing. Intimacy between partners is considered to be essential. And again due to the learning curve in which knowledge, skills and experiences will increase over time, efficiency rises and benefits enlarge.

§ 6.3 Drs. Paul Tjia - GPI Consultancy

On the subject of offshore outsourcing Information Technology Drs. Paul Tjia is a Dutch leading author, as well as senior consultant at GPI Consultancy⁹. Drs. Tjia has written highly respected articles and a handbook on offshore outsourcing Information Technology in cooperation with professor Erran Carmel of the American University in Washington, information from this book is as already mentioned also used for this master thesis. GPI advertises global sourcing by organizing offshore seminars, study trips, give presentations and publish articles and books.

Motivation for offshoring is the expected reduction in production costs. Hereby the increase in transaction costs or hidden costs are important to bear in mind. Additionally availability of flexible specialized resources is beneficial.

GPI has experience with multiple offshore business models in different countries. Depending on the situation a pure contract offshore outsourcing relation, joint ventures, offshore Development Center or captive offshore subsidiary is advised. The revenue model also depends on the offshore situation, however is usually conform the mix clarified in table 3.2.

In the past multinationals and very large organizations where able to offshore outsource IT projects. The threshold for offshore outsourcing is however recently reducing, making it within reach for SMEs as well. Hereby it is important that the overhead and efforts in time and material remain within acceptable limits.

Offshoring is however not as mature as it ought to be. In the United States there have been experiments for thirty years now and in the Netherlands, companies have twenty years of experience. However this where primarily the multinationals and large companies, only recently possibilities arose for SMEs. During the late 1990s, SMEs from the UK and America had recruitment problems due to high costs of IT skills and the inability to provide the perks and career paths that large companies could offer (Carmel and Nicholson, 2005). Companies where compelled to look offshore to resolve this issue. British and American SMEs are however more likely to source offshore compared to SMEs from Europe in order to cut production costs, due to the relatively high competition intensity on the local IT markets.

GPI does estimate that in 2006 a growth in offshoring outsourcing of 50% in the Netherlands was the case. There also has been approximately just a year of media attention on this subject. Offshore outsourcing does seem to be growing in popularity and maturity.

In 85% of the Dutch offshore outsourcing projects, India is the destination. And in India nowadays nearshoring of parts of these projects is redirected towards China. This all in order to benefit from the workings of arbitrage.

The experience of Paul Tjia is that offshore outsourcing of Dutch SMEs is now still in its infancies. SMEs do discuss the topic extensively, however there are only a few companies that actually have taken the step to offshore outsource. And those companies that do outsource abroad, have the tendency to commence outsourcing nearshore to Eastern Europe.

⁹ <http://www.gpic.nl/>

When offshore outsourcing, SMEs have higher bargaining costs, search costs due to limited staff support and they incur relatively high set-up costs relative to the transaction size. Usually SMEs do not have the resources to have specialized personnel in-house for strategic software development projects. Both managerial and operational tasks are usually up to the entrepreneur in SMEs. A lack of resources, compared to large companies make offshore outsourcing of IT work a very difficult undertaking for SMEs. That SMEs cannot benefit from economies of scale to gain advantage is an important distinction from larger companies in offshoring.

Another issue are the costs related to setting up contracts, specifying requirements, judging an offer and creating schedules. These costs occur regardless of the transaction size and consequently weigh heavily on smaller projects. This aspect has also to do with limited resources in disciplines within a SME, there are not for all matters employees with the required knowledge in-house. Meaning expertise has to be obtained by hiring in, or by education, or something alike.

Time zone differences may lead to coordination difficulties, next to possible cultural differences, accents and language ability these aspects might influence the monitoring costs. Another important aspect is the knowledge transfer. Because of the explicit, well definable part and the tacit part of the buildup of this aspect. Traveling costs can be a result of this knowledge transfer, to manage and guide offshore projects, especially the organizational and national culture aspects which are not describable in the specifications. Appropriate measures for monitoring include process measures and outcome measures. This can be threshold costs for SMEs.

On the other side can monitoring costs be controlled due to strong network ties, intimate or even personal relations reduce these costs dramatically. Monitoring is namely time consuming and costly.

Market costs can be present in the level of competition on the market of the offshoring partner. A small amount of suppliers on the market will probably result in higher prices, furthermore there is haggling, a widespread cultural aspect in numerous countries to bear in mind.

Then there are costs related to managers or other employees trying to obstruct the outsourcing process via power and political tactics. This can be extremely costly and needs to be avoided as much as possible.

Restructuring costs in layoffs, severance pay and retention costs for indispensable employees is not that significant for European companies, because the offshore outsourcing projects start smaller.

Infrastructural costs, in required hardware and software, with the additional licenses can also be an issue. This completely depends on the relationship with the offshore partner, the revenue model and business model mix.

Over time the offshoring partner's efficiency is to rise as they master the required knowledge, skills and experiences. Firms fail on their first or second episode, and then give up on outsourcing or achieve success in subsequent attempts. Thus, success stems from experience, or in the language of transaction costs, economies of experience (Carmel and Nicholson, 2005). Both sides involved need to advance in the offshore outsourcing learning curve.

At technological SMEs the educational level is higher than in the general population of SMEs. This is beneficial in the offshore outsourcing process. Because there is a high competitive pressure on the time-to-market, offshoring provides these SMEs flexible and financially beneficial resources to reduce this time. Hereby it is important that SMEs advance rapidly through the involved learning curve of offshore outsourcing. On the other hand contradictory to this information is the communication difficulty experienced between IT programmers. With the physical distance they find coordination and communication difficult, more difficult than for example managers experience this issue. A lack of communication richness and a reduced sense of being a team are portrayed.

The perspective of the offshore specialist

However Dutch technological SMEs need to mature in their offshore outsourcing experience and understanding, Paul Tjia identifies opportunities. When SMEs manage to maintain lower transaction costs than the benefits of arbitrage are, flexible resources are obtained within the workforce with a high quality level and perhaps even strategic possibilities. For instance bringing about capacity for extra experimenting, offering new IT services or products and a way into new offshore markets, which become accessible through the offshore outsourcing process.

Difficulty lies in SMEs usually not possessing the resources required to have specialized personnel in-house for strategic software development projects. A lack of these resources, compared to large companies make offshore outsourcing of IT work a very difficult undertaking for SMEs.

§ 6.4 Professor Leslie Willcocks - London School of Economics

Finalizing comments in the case studies of this master thesis come from Professor Leslie Willcocks, Professor of Technology Work and Globalization London School of Economics. Under offshore IT outsourcing specialists professor Willcocks is considered to be the authority and leading author in the field.

Specialists in the field of offshoring nowadays often regard the workings of arbitrage as an initial trigger for offshore outsourcing, next to the hype and fear of missing out. In order to enhance benefits from this process even more, a learning curve as in appendix 11 ought to be pursued. This learning curve is associated with the idea of table 3.2. In order for offshore outsourcing to mature, relations between partners need to be more intimate. Both parties involved need to benefit and in order to do so they need to help each other. When both parties advance through this learning curve offshoring over time becomes even more beneficial. Related is the already discussed TSOS learning curve of Carmel and Tjia.

Over time one should arrive in phase 3 and 4 of the Willcocks learning curve, meaning markets mature. Richer practices emerge here. Focus is on quality, transformation and value-added, instead of the initial focus on costs.

Regarding the transaction costs, professor Willcocks states that these will reduce when network ties are tight and intimacy is high. Parties are in offshore outsourcing together and are both responsible for operating in the best manner possible. By sharing information, knowledge and having mutual objectives long-term gains are to be achieved as well as through more effectiveness in the business operations. The more intimate the ties are, the better for instance the knowledge transfer will proceed. In appendix 12 an example of how these combined knowledge resources improve the knowledge transfer, is schematically described.

Because of available resources offshore IT outsourcing by western countries became increasingly appealing, however one should not think in resources, but in supplier capabilities that build competencies. British and American SMEs are further advanced in the offshoring learning curve in comparison to Dutch SMEs, they are still in its infancy because of their commencing in this field a decade later.

The perspective of the offshore outsourcing specialist

The workings of arbitrage can be regarded as an initial trigger for offshore outsourcing, in order to enhance benefits one needs to advance in the learning curve involved in offshore outsourcing. Relations between offshore partners need to be intimate. When network ties are tight and intimacy is high transaction costs will be reduced. In recent years offshore outsourcing became increasingly appealing for western countries, at this time however offshore outsourcing by Dutch SMEs is still in its infancy.

§ 6.5 Concluding comments

The case studies have provided insight in the offshore outsourcing process first as seen by the ICT SMEs and in this chapter from the specialists perspective. Hereby the used business models and related revenue models are looked at, what mixes are used by the SMEs and which are recommended by the specialists.

The workings of arbitrage and the consequential transaction costs where the second issue. Hereby the differences in perception between SMEs themselves and specialists in offshore outsourcing where examined. This all ought to lead up to what extent, based upon the decision tool of this thesis, can be judged whether or not to offshore outsource knowledge intensive work.

Business and Revenue Models

In the previous chapter the Dutch ICT SMEs interviewed declared to use or would use a business model which would not involve an extensive intimacy with the offshore partner. A pure contract engagement of offshore outsourcing was often preferred. A relationship with the offshore partner which concentrated in the top-left corner of the table below.




Business Models							
			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>	
Revenue Models	Task-oriented	<i>Time and material revenue model</i>					
		<i>Fixed-price revenue model</i>					
	Process-oriented	<i>Cost plus revenue model</i>					
		<i>Risk-reward revenue model</i>					

Table 6.1

The specialists in offshore outsourcing on the contrary see the future in more intimate relations and network ties. The business model of pure contract offshore outsourcing combined with a fixed-price or time-and-material revenue model, is a preliminary method to commence in offshore outsourcing. Motivation still is often the expected reduction in production costs. Important is to control the transaction costs involved. In order to control these costs and increase benefits from offshore outsourcing network ties need to be tight and intimacy should be high, making both parties responsible for the results and hereby creating interdependency. Proceeding from the top left, to the bottom right part of the table above. This is understood to result in better results in offshore outsourcing on the long-term. However on the other hand, certain situations will still require a mix of pure

contract offshore outsourcing business model with fixed-price or time-and-material revenue model.

Labor and Transaction Costs

The benefits from the workings of arbitrage is generally the incentive to commence in the process of offshore outsourcing. The contradicting force on this phenomenon, the transaction costs, which increase the costs of the offshore outsourcing, are discussed next.

The bargaining costs are the first aspect of transaction costs. Most interviewed Dutch ICT SMEs consider, or thought these costs to be not significant. Specialists in offshore outsourcing do note that bargaining costs need to be considered, however some regard them to be controllable. Other experts state that SMEs have higher bargaining costs, search costs due to limitations within their staff support and they incur relatively high set-up costs in relation to the transaction size.

Costs in field of communication difficulties and the knowledge transfer are the monitoring costs, which occur due to the physical distance, time difference, cultural differences and language problems. As discussed earlier do many SMEs attempted to attend to this issue by intensifying contact, understanding and the overall relationship with the offshore programmer. By increasing mutual understanding and knowledge of each other, these costs are to be dealt with. Intensive communication is done and extensive specifications, requirements and schedules are set up. Specialists in offshore outsourcing also speak of a learning curve both parties involved need to undergo. Hereby again the intimacy is considered to be crucial in the process.

The interviewed SMEs in chapter 5 generally had no, or expected no extensive market costs. This does depend on the used techniques and the amount of suppliers of that expertise in that particular field offshore. This is confirmed by the specialists in offshore outsourcing. SMEs should ensure the best matching partner is pared up with depending on the required techniques and services.

Costs related to managers or other employees trying to obstruct the offshore outsourcing process did not appear to be an issue at the interviewed SMEs. This was thought to be due to the type of work to be outsourced offshore. This is work considered to be less challenging or appealing. Onshore employees expect that offshore outsourcing results for them in having more time for the more interesting and challenging work by outsourcing the straightforward programming work. The specialists do consider this to be an issue to bear in mind, however the offshore outsourcing service providers did not encounter difficulties in this field until now.

The interviewed SMEs considered the restructuring costs in layoffs, severance pay or retention costs for indispensable employees not to be a significant issue. The offshore outsourcing service providers claimed indeed to have little experience with this aspect. Specialists argue this is the case because European offshore outsourcing projects start small.

Infrastructural costs in acquiring required hardware and software with the additional licenses where not an issue at the interviewed SMEs. This was often already in place and only left accessibility issues for distance and time difference to be resolved and structured. Several SMEs even consider the offshore partner to be responsible for these infrastructural costs. Specialists in offshoring on the other hand regard this to be an

issue for both parties. When intimacy and cooperation is high, both partners are responsible for the optimal manner of business conduct also including the infrastructural costs for the offshore partner. However when the relationship is based on pure contract offshore outsourcing, this attitude can be comprehended.

Finally there is the aspect of efficiency of an offshore partner. All the interviewed SMEs recognized this aspect. All considered efficiency to be initially low. Efficiency was expected to improve or had gradually improved. Both parties involved needed to learn how to operate with an offshore partner. With growing understanding, expertise and practice efficiency gradually increased. Specialists in offshore outsourcing confirm this learning curve in the process. This will increase by improved knowledge, skills and experiences over time. Another aspect however is the attitude of Dutch SMEs, being reluctant to entrust the project to the offshore partner hired. In order to benefit from offshore outsourcing it is important both sides advance in the learning curve. It is absolutely not only the responsibility of the offshore partner.

In table 6.2 the discussed components in offshore outsourcing are again set out schematically against the above mentioned overall view of the interviewed SMEs and completed with the specialists view on the influence of these components on production costs. The blocks are filled in to illustrate the level of influence according to the classification explained in the first paragraph of the previous chapter.

Components offshore outsourcing																								
	++				+				+/-				-				--							
Arbitrage																								
Bargaining costs																								
Monitoring costs																								
Market costs																								
Costs related to managers																								
Restructuring																								
Infrastructural costs																								
Efficiency																								

Table 6.2

With the insights of the specialists added to the view of the interviewed SMEs on the issue of offshore outsourcing, the perspective is completed. The specialists in offshore outsourcing repeatedly point out the importance of intimacy in the offshore relationship. Not all aspects in offshore outsourcing where considered to be as significant as perhaps assumed, however this depends considerably on the perspective of the judges. SMEs and specialists where not unambiguous in all fields. As in table 6.2 schematically is described, for Dutch ICT SMEs certain components in offshore outsourcing are important. It has become clear that for Dutch ICT SMEs the implications of costs related to managers and restructuring are not significant. The main incentive is arbitrage and components to bear in mind are bargaining costs, monitoring costs, market costs, infrastructural costs and the efficiency level. These aspects of transaction costs should not outweigh the benefits resulting the workings of arbitrage. SMEs face relative high transaction costs when undertaking offshore software outsourcing, due to the fact small firms are disadvantaged relative to large firms in a wide range of resources. In order to counteract these cost effects the intimacy level with the offshore partner is mentioned recurrently. And then there is the combination of the cost-price calculation in comparison

with the reduced labor costs, which aspects are to be taken into account. And there is the aspect of off-the-shelf, standard products with a low level of customer participation which are more suitable for offshore outsourcing than made-to-measure projects or customized products with a high level of customer involvement in the process.

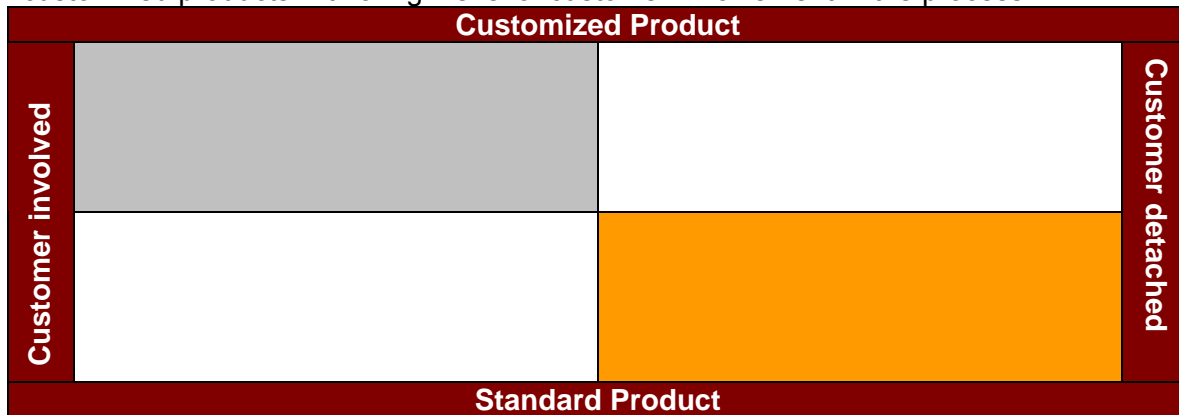


Figure 6.1

This is embedded in the decision tool, figure 6.2, created to judge whether or not to commence offshore outsourcing knowledge intensive work.

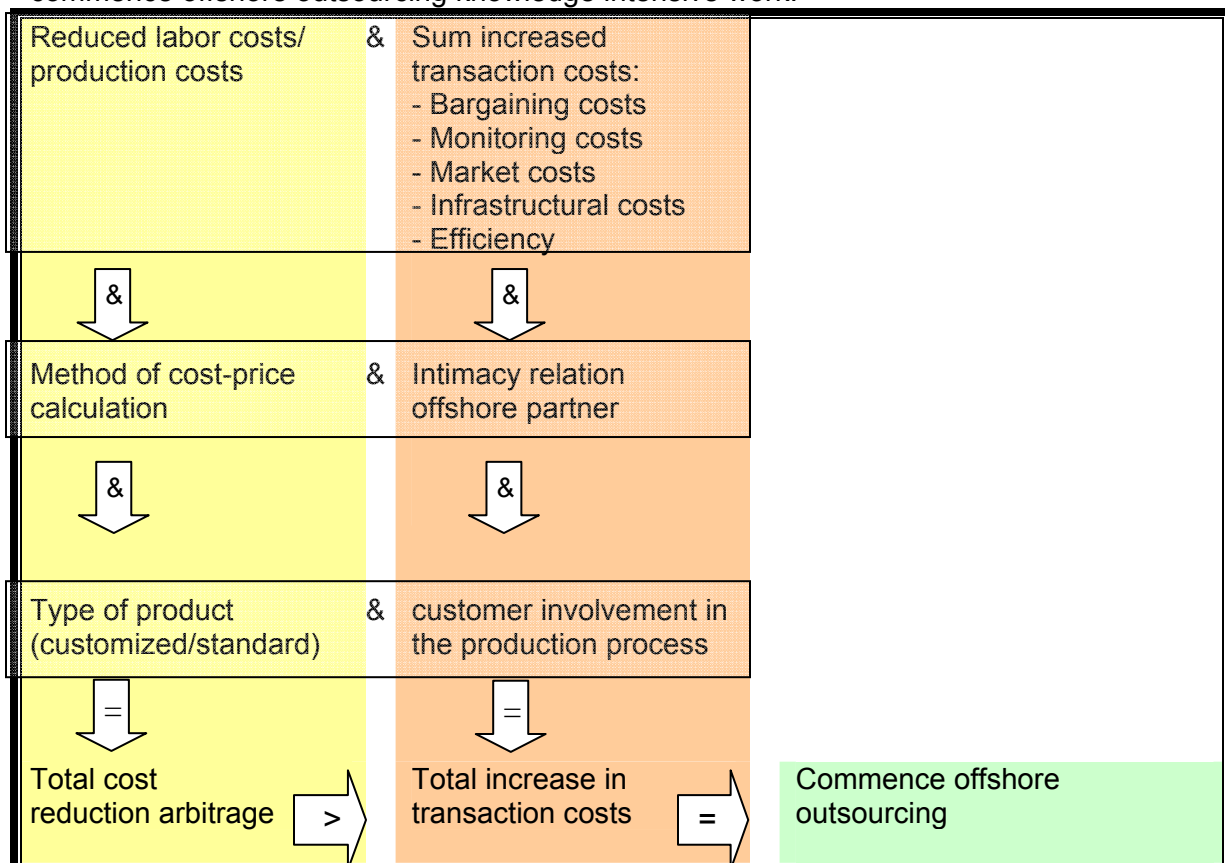


Figure 6.2

In the next chapter the overall conclusions and recommendations of this master this will be outlined.

Chapter 7: Conclusions and recommendations

§ 7.1 Conclusions

In this master thesis a subjective dissatisfaction identified at Func. regarding a noticeable trend on the market of ICT SMEs outsourcing knowledge intensive work offshore needed to be examined. Which phenomenon's actually occur when SME ICT organizations outsource knowledge intensive work offshore? Because of little preliminary research, this study is done in a qualitative, cross-sectional and explorative manner.

The workings of arbitrage appeared to be the beneficial aspect of offshore outsourcing. Arbitrage occurs when an equal product or good is not traded at an equal price on all markets. In this case entrepreneurs strive to benefit from lower labor costs for identical quality programming work offshore.

The force counteracting the workings of arbitrage are the increasing transaction costs in the process of offshore outsourcing. Because of these costs total costs for offshore outsourcing may actually be higher despite of the low offshore wages. When the force of arbitrage is stronger than the contradicting pressure of transaction costs, outsourcing becomes a appealing option. The transaction costs involved in offshore outsourcing are:

- Bargaining costs
- Monitoring costs
- Market costs
- Costs related to managers
- Restructuring
- Infrastructural costs
- Efficiency

This became apparent from extensive research in offshore outsourcing restricted mainly to large enterprises. Utilization of globalization by offshore outsourcing of ICT projects used to be reserved for the larger organizations, recently also possibilities arose for SMEs. Only 27% of all Dutch companies, both multinational as SME have implemented offshore outsourced activities. However 17% is considering to commence in offshore outsourcing activities, including for a large part SMEs.

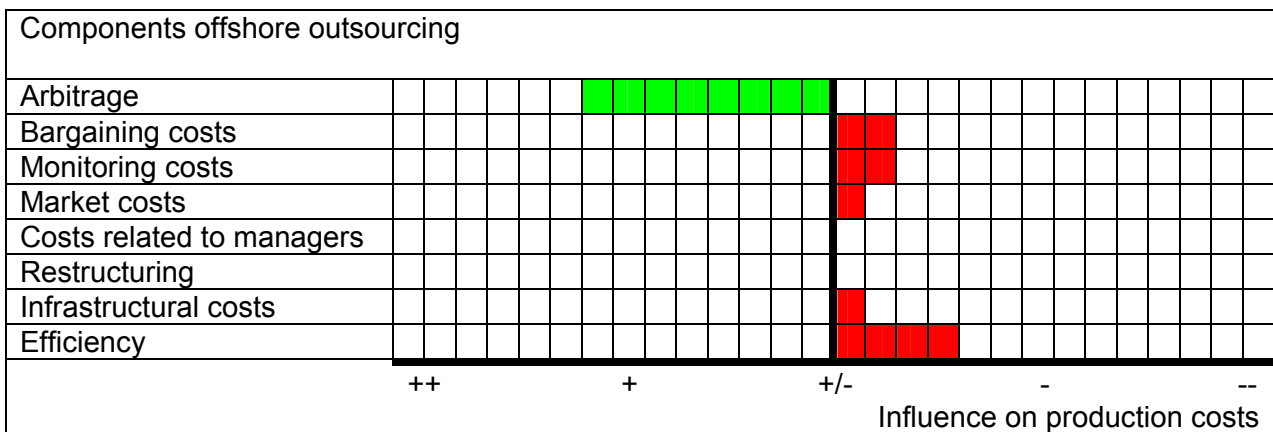


Table 7.1

The attractiveness of offshore outsourcing as stated depends on the two contradicting forces, arbitrage and transaction costs. Additionally a possible increase in flexibility in production capacity and increase of available knowledge and skills can be deemed to be decisive. Table 7.1 provides a schematic insight in the components in offshore outsourcing and their influence on the production costs based upon thoughts, experiences and insights of both Dutch ICT SMEs and specialists in offshore outsourcing. This schematic overview of the influence the components in offshore outsourcing is based on statements in the interviews. In the left field from the middle components are considered to have a positive influence on production costs, the right side is used to provide schematic insight when components have a negative influence on production costs. These blocks are filled in to illustrate the level of influence.

- 1-3 Blocks nil through minimal influence;
- 4-6 Blocks mediocre through noteworthy influence;
- 7-9 Blocks substantial through considerable influence;
- 10-14 Blocks significant through major influence.

In order to achieve this schematic overview statements of all interviewees on the different components were compared against each other and classified.

Recurrantly throughout this master thesis table 7.2 clarifies the different possible combinations of business models and revenue models. Offshoring usually starts out focusing on negotiating the best deal financially, over time however, with a steady demand and gained experiences it will become increasingly appealing to structure an ongoing relationship to gain benefits through a more intimate relation.


Business Models						
			<i>Pure contract offshore outsourcing</i>	<i>Joint ventures</i>	<i>Offshore Development Center</i>	<i>Captive offshore subsidiary</i>
Revenue Models	Task-oriented	<i>Time and material revenue model</i>				
		<i>Fixed-price revenue model</i>				
	Process-oriented	<i>Cost plus revenue model</i>				
		<i>Risk-reward revenue model</i>				

Table 7.2

With this gained insight in the workings of arbitrage and the related combinations of business models and revenue models a decision tool could be designed.

For a SME offshore outsourcing of knowledge intensive work is financially appealing when the costs of production costs and transaction costs in-house are higher than total costs of offshoring with the corresponding transaction costs. Hereby the chosen combination of business model and revenue model influence both the production costs savings as well as the transaction costs incurred.

Production cost savings once offshore outsourcing > Σ transaction costs incurred

The case studies gave necessary insight in both the Dutch ICT SMEs perspective as well as the specialist perspective on offshore outsourcing knowledge intensive work for SMEs.

Hereby a contrast became apparent between the SMEs and the specialists in offshore outsourcing. By the SMEs a dedicated programmer or several programmers within an offshore partner company was often preferred, combined with a fixed-price or time-and-material revenue model. The specialists in offshore outsourcing on the other hand have a preference for intimate relations and network ties. In order to control transaction costs and increase benefits from offshore outsourcing network ties need to be tight and intimacy should be high, resulting in making both parties responsible for the results and hereby creating interdependency. This is believed to lead up to better results in offshore outsourcing on the long-term.

The labor and transaction costs involved in offshore outsourcing have also been examined in the perspective of ICT SMEs and specialists in offshore outsourcing for SMEs. There appeared to be some contradictions in their opinions.

The first aspect of transaction costs, the bargaining costs, are considered to be not significant by most interviewed Dutch ICT SMEs. Specialists in offshore outsourcing contradict that, however some regard them to be controllable. Other experts state that SMEs have higher bargaining costs, search costs due to limitations within their staff support and they incur relatively high set-up costs in relation to the transaction size.

Monitoring costs are by many SMEs attempted to be handled by intensifying contact, gaining understanding and intimating the overall relationship with the offshore programmer. Specialists in offshore outsourcing also describe a learning curve which both parties involved need to undergo. Intimacy is considered to be crucial in the process.

Market costs depends on the used techniques and the amount of suppliers of that expertise in that particular field offshore. This is stated by Dutch ICT SMEs and confirmed by the specialists in offshore outsourcing. SMEs should ensure to pare up with the best matching depending on the required techniques and services.

When work is outsourced offshore which is deemed to be less challenging or appealing for programmers, costs related to managers or other employees trying to obstruct the offshore outsourcing process appears not to be an issue. Specialists do classify this aspect as one to bear in mind, however the offshore outsourcing service providers interviewed did not encounter difficulties for SMEs in this field until now.

The costs in layoffs, severance pay or retention costs for indispensable employees, in other words the restructuring costs are not considered to be significant for European SMEs.

SMEs considered the infrastructural costs in acquiring required hardware and software with the additional licenses not to be an issue. Specialists in offshore outsourcing however regard this to be an issue to be addressed by both parties in an intimate manner, compelled to cooperate in order to achieve an optimal manner of business conduct. Both partners are responsible for their results and thereby for the costs incurred.

Finally there is the issue of efficiency of the offshore partner. This aspect of the transaction costs was widely recognized. Both SMEs as the specialists in offshore outsourcing speak of a learning curve in the process. This will gradually increase by improved knowledge, skills and experiences over time on both sides of the partnership. An additional aspect in this field is the attitude of Dutch SMEs. Reluctance to entrust the project to the offshore partner appears to be an occurring complication.

These aspects of transaction costs need to be taken into account in order of significance. SMEs need to bear in mind that they face relative high transaction costs when undertaking offshore software outsourcing. This is due to the fact small firms are disadvantaged relative to large firms in a wide range of resources. These transaction costs should not outweigh the benefits incurred by the workings of arbitrage, this is embedded in the decision tool. The decision tool is formed to judge whether or not to commence offshore outsourcing knowledge intensive work, how to structure this process and which underneath laying issues need to be considered.

For this decision tool one more aspect is of importance. That is the aspect that off-the-shelf, standard products with a low level of customer participation are more suitable for offshore outsourcing than made-to-measure projects or customized products with a high level of customer involvement in the process. In figure 7.1 below this is illustrated schematically. For offshore outsourcing the bottom right field is the best suitable situation regarding type of product and end customer participation.

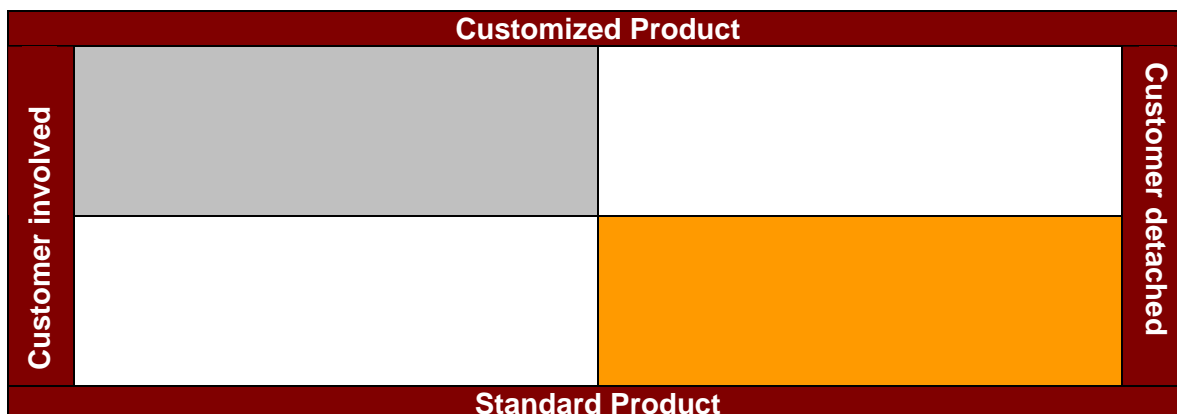


Figure 7.1

The possibilities of companies to focus on operational excellence, best product or customer Intimacy are discussed earlier (Treacy and Wiersema, 1995). This again means you can focus your business conduct on efficiency. Or to set your business up in

such a manner that you continuously develop and have rapid market introductions of state-of-the-art products in the case of best product. Customer intimacy means focusing on goods made-to-measure combined with extensive service. All three strategies have their implications on the intimacy and involvement of the end customer in the production process and ability to standardize the products. The customer intimacy strategy for instance makes the offshore outsourcing process quite complex and difficult, which will result in higher production costs. Also with the other strategies companies need to determine the suitability of their product and involvement of customers in the production process for offshore outsourcing.

The research goal for this master thesis was to provide insights in ways of dealing with the possibilities of offshore outsourcing, for Dutch ICT SMEs. To do this the decision tool, figure 7.2 is developed. Which has embedded the main aspects to bear in mind for Dutch ICT SMEs when contemplating offshore outsourcing knowledge intensive work, extracted from the case studies summarized above and in table 7.2. This decision tool provides Dutch SMEs a good structured method to judge whether or not to commence offshore outsourcing. This tool provides Dutch ICT SMEs insight in what the consequences of outsourcing knowledge intensive work offshore for ICT SMEs are, which was the knowledge problem of this master thesis.

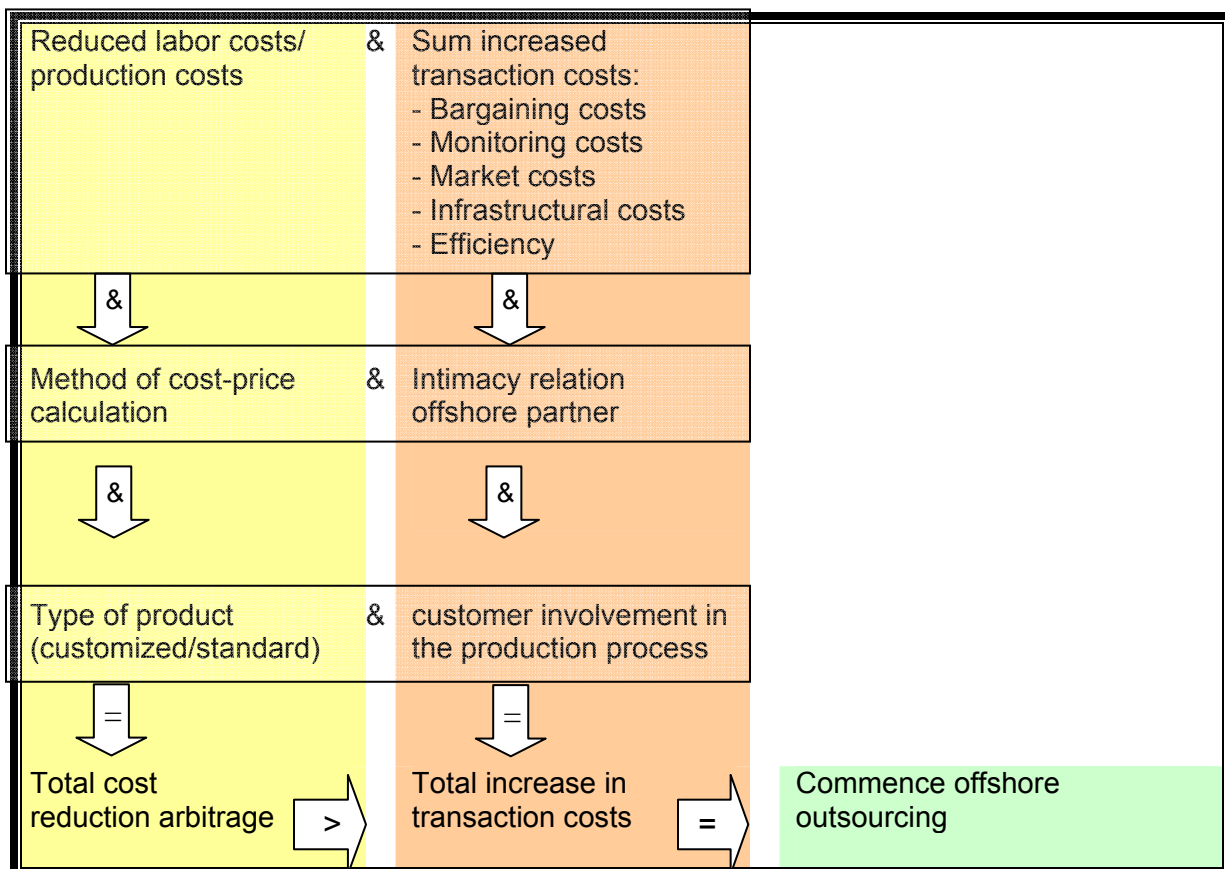


Figure 7.2

With the outcome of the knowledge problem the link can be made towards Func. Internet Integration B.V., which needed these results for their operational problem. The

operational problem is whether or not to offshore outsource in their particular situation and if so in which manner should this be structured.

First of all of course should the benefits from arbitrage outweigh the transaction costs. Therefore the transaction costs in the situation of Func. were inquired. As we already have seen in the previous chapter the different transaction costs were not rated to be very significant. However on the other hand the expected gains from the workings of arbitrage were also considered not to be that high compared to the price of Dutch freelance programmers of comparable level of expertise. In order for the company to have a pool of skilled programmers available on a short term, Func. could set it up itself or offshore outsource. A high level of flexibility is demanded. The time and costs involved in setting up and maintaining a pool of programmers in-house is deemed not desirable.

Offshore outsourcing thus became the appealing option. Through this explorative research in offshore outsourcing possibilities for SME ICT enterprises in the Netherlands insight is gained in issues to address in this process. With this SME specific knowledge in this field a well considered method of business conduct can be defined.

The current manner of business conduct is justifiable. The benefits of arbitrage do appear to outweigh the additional transaction costs. This relationship is however based on one of pure contract offshore outsourcing, with task-oriented revenue models both fixed-price and time and material. There are private links between the partners which increases intimacy of the relationship. Intimacy is also considerable with the dedicated programmer, through intensive direct contact. By intensifying contact, understanding and the overall relationship with the offshore programmer costs in monitoring, communication difficulties and the knowledge transfer, can be strived to control. Specialists state that both parties need to undergo a learning curve.

The relationship between Func. and Los Programadores can be considered to be a good match regarding the required techniques and services. After a period in which knowledge, skills and experiences in offshore outsourcing increased for both partners efficiency gradually increased. This is again a necessary learning curve which parties involved need to go through. Intimacy and mutual trust is beneficial in this process.

§ 7.2 Recommendations

Recommendations following this master thesis are twofold. First recommendations for further research in this field concerning the knowledge problem and secondly regarding the operational problem recommendations for Func.

Further analysis of this decision tool and offshore outsourcing of knowledge intensive work as a whole is desirable. Many specialists in offshore outsourcing state that offshore outsourcing of knowledge intensive work by Dutch SMEs is still in its infancies. Large enterprises, British and American SMEs do have acquired knowledge in this field which can be elaborated on. It does require a different approach due to the fact that it concerns offshore outsourcing by SMEs, work being knowledge intensive and done by Dutch entrepreneurs with cultural implications.

From this research insight is gained in where Dutch SMEs stand in the offshore outsourcing process and what means of dealing with outsourcing possibilities for SME ICT enterprises in the Netherlands are.

Limited staff support is the case at SMEs compared to large multinationals. These limited resources in having specialized personnel in-house for strategic software development projects, make offshore outsourcing for SMEs a difficult undertaking. Func. Internet Integration B.V. has structured their offshore outsourcing in a manner focusing on negotiating the best deal financially, with additional benefits in increased flexibility in workforce and available techniques. As stated, this manner of business conduct is justifiable. However experts in offshore outsourcing recommend to intensify intimacy even more as currently is the case. A learning curve is needed to undergo by both parties involved. Hereby the intimacy is considered to be crucial in the process. When intimacy and cooperation is high and both partners are responsible for the optimal manner of business, offshore outsourcing ought to turn out to be even more beneficial. Then finally there is the aspect of the end customer and type of product. The best suitable mix for offshore outsourcing is a standard product with low customer involvement in the production process. The companies strategy, product types and related end customer intimacy need to be considered in the offshore outsourcing process. In conclusion three aspects need to be beard in mind in determining whether or not to commence offshore outsourcing.

- The workings of arbitrage and the consequential transaction costs;
- Business model and intimacy of the relation with offshore partner combined with the cost-price calculation and used revenue model;
- The end customers involvement in the production process and the type of product.

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Appendixes

Appendix 1: Adam Smith - Arbitrage

Adam Smith, a Scottish political economist and moral philosopher, is one of the founders of the arbitrage philosophy. In his *Inquiry into the Nature and Causes of the Wealth of Nations*, one of the first studies into the development of industry and commerce in Europe was done. This work was deemed the basis for justification for free trade, capitalism¹⁰ and libertarianism¹¹.

Arbitrage in other words is when one benefits from the imbalanced situation between two or more free trade markets. Entrepreneurs seek these arbitrage markets to create profits. Arbitrage is when a product or good of equal quality is not traded at an equal price on all markets.

For entrepreneurs this is reason to outsource offshore and make use of countries where the wages for work are lower than in the western developed country where the company is located and usually the customers are as well. One of the main motives for western companies to outsource offshore is financial gain. Other motives are an increase of flexibility in their production capacity and possibly an enlargement of knowledge and skills that is then available for the company and one expects to keep better pace with relevant technological developments.

The *Wealth of Nations* was influential in arbitrage since it changed the mindset in the field of economics. In the Western world the book has been very influential. When the book appeared in 1776, it became a manifesto against the ruling economic system mercantilism¹². This economic system aimed to increase a nation's wealth by government regulation of all of the nation's commercial interests. Following the publication of the book of Adam Smith a strong sentiment for free trade emerged, mainly in Britain and America due to economic adversity and poverty caused by the American War of Independence. The American War of Independence was the war between Great Britain and revolutionaries within thirteen British colonies. These colonies declared their independence as the United States of America in 1776. Not all parties involved were immediately convinced of the advantages of free trade. Britain still abided to mercantilism for many of the following years.

One of the main characteristics of *The Wealth of Nations* is that the free market, while it appears to be chaotic and without restraints, is actually rather guided to produce the correct amount and variety of goods by a so-called invisible hand (Smith, 1759). When for instance a product scarcity occurs, consequently its price rises, resulting in a profit margin that creates an encouragement for other entrepreneurs to enter production, sooner or later resolving the scarcity. If too many entrepreneurs enter the market, the

¹⁰ Free-market system: an economic system based on the private ownership of the means of production and distribution of goods, characterized by a free competitive market and motivation by profit (Encarta World English Dictionary, 2007)

¹¹ An ideological belief in freedom of thought and speech (Encarta World English Dictionary, 2007)

¹² Economic theory and system: an early modern European economic theory and system that actively supported the establishment of colonies that would supply materials and markets and relieve home nations of dependence on other nations (Encarta World English Dictionary, 2007)

increased competition among manufacturers and increased supply would lower the price of the product towards production cost, the so-called natural price.

There would even be reason to produce goods and services at break-even point¹³, because all costs of production, are included into the price of the goods. If prices fall below break-even point, entrepreneurs will withdraw from the market; profits above break-even point, will motivate entrepreneurs to enter the market.

Smith was heavily opposed to the old-fashioned governmental method of mercantilism to increase a nation's wealth using governmental regulation of all of the nation's commercial interests. These restrictions were hindering industrial growth. He was opposed to the majority of governmental interference in the economic process, arguing that this ultimately leads to inefficiency and higher prices. Smith stated that even though human incentives are frequently egotistical and greedy, competition in the free market tends to benefit the entire society anyway. This thought evolved into the laissez-faire school of economic thought, a widespread principle of the 19th century. The principle concentrates on the concept that the economy works best if private industry is not regulated and markets are free.

Meritocracy is an important theme in the work of Smith. This social system gives opportunities and advantages to people on the basis of their ability rather than, for example their wealth or seniority. Neglecting talents and decide on positions on other motives than abilities of employees leads to inefficiencies.

¹³ The point or level of financial activity at which expenditure equals income or the value of an investment equals its cost, with the result that there is neither a profit nor a loss (Encarta World English Dictionary, 2007)

Appendix 2: Oliver E. Williamson - Transaction Costs

A prominent author in the area of transaction cost approach economics is Oliver E. Williamson. In the article *The Economics of Organization: The Transaction Cost Approach* one is forced to think about whether to buy, build, or partner. Additional costs as mentioned in the theory of Coase frequently determine whether an entrepreneur uses internal or external resources for products or services, in essence the make-or-buy decision. At the time Coase constructed his theory, transaction and coordination costs were very high. Information and supplies flowed rather slow but steady, consequentially companies often chose to maintain the entire supply chain of production internally. In those days this often was the most beneficial option. A good example of such a company is the Ford Motor Company. Ford introduced their own method for large-scale manufacturing of cars. Ford combined highly efficient factories, well salaried workers, and low prices which revolutionized manufacturing and eventually even became known as Fordism by 1914. To make this all feasible, Ford made their own steel, glass, and tires, and then also assembled the parts at the same site. To obtain enough control over the process this all needed to be done in-house.

Over time this method of doing business made way for an outsourcing approach. This is mainly due to decreasing costs and difficulties in transaction and coordination of outsourcing activities. Vertical integration gradually gave way to horizontal integration across companies. This increased the opportunities for outsourcing and therefore made transaction cost economics ever more significant. In this time period Oliver E. Williamson wrote his article *The Economics of Organization: The Transaction Cost Approach*. Transaction cost economics became used to clarify a number of different behaviors. Frequently this involves taking into consideration as transactions not only the obvious buying and selling, however also everyday emotional interactions, informal gift exchanges, etc. According to Williamson determining factors of transaction costs are frequency, specificity, uncertainty, limited rationality, and opportunistic behavior.

Appendix 3: Attractiveness Balance Offshore Outsourcing

Beneficial in Offshore Outsourcing	Obstructive in Offshore Outsourcing
<p>Arbitrage, benefiting from the situation when a product or good of equal quality is not traded at an equal price on all markets. The profits of arbitrage need to be larger than the sum of the increased costs of transaction to be beneficial. If this is not the case companies can better, from a financial point of view produce in-house or the next points of benefit need to be crucial.</p>	<p>Bargaining costs, the first of seven aspects of transaction costs specified. These costs lie in searching and contracting. Also included in this aspect is the costs related to opportunistic behavior in setting up specifications, requirements and schedules.</p>
	<p>Monitoring costs. Connectivity is one of the facets of monitoring costs, however diminishing due to technological developments. Knowledge transfer is hard to estimate. One part of the knowledge transfer is namely comprehensible and describable in specifications, in contradiction to the large tacit knowledge part. Traveling costs are a result of this knowledge transfer, in order to manage and guide offshore projects, especially the organizational and national culture aspects not possible to describe in the specifications.</p>
	<p>Market costs, means that one needs to examine the competition on the market of the offshoring partner. A small amount of suppliers on the market will probably result in higher prices.</p>
	<p>Costs related to managers or other employees trying to obstruct the outsourcing process via power and political tactics.</p>
	<p>Restructuring costs in layoffs, severance pay and retention costs for indispensable employees (However not that significant for European companies, because projects start smaller)</p>
	<p>Infrastructural costs, in the shape of required hardware and software, with the additional licenses.</p>
	<p>Efficiency, ratio comparing the productivity of the onshore, original unit. Initially probably lower offshore. Over time the offshoring partner's efficiency rises as they master the required knowledge, skills and experiences.</p>
<p style="text-align: center;">Total Cost Reduction ></p> <p>The aspects mentioned below are not direct financially beneficial, however can be motives to offshore outsource even if it might not be very financially interesting to offshore compared to production in-house.</p>	<p>Total increase in Transaction Costs</p>
<p>Increased flexibility in production capacity.</p>	
<p>Enlargement of available knowledge and skills.</p>	

Appendix 4: Profile 2Yellows B.V.

About 2Yellows B.V.

To improve collaboration and knowledge sharing is the mission of 2Yellows B.V.¹⁴ Knowledge sharing is used at its broadest: within a department, an entire company, or even just between people with shared interests. 2Yellows sees this knowledge sharing equaling the qualitative side of collaboration, to share individual experiences and ideas in order to become stronger as a whole.

The 2Yellows company consist of two team members in the Netherlands and one more based in Argentina. A small team that cooperates intensively, due to the time difference long hours are worked in the overlapping hours of both workdays, in the Netherlands and Argentina. This is supposed to avoid time loss in writing specifications.

Products, services and techniques

To achieve its mission, 2Yellows has developed three products:

- LiveFeed: Collaborative Blogging. A blog is an online diary; a personal chronological log of thoughts published on a Web page; also called weblog. This is 2Yellows' core product and the outing of their philosophy. Aimed at qualitative knowledge;
- GigaByte Hotel: Document Management. System to centrally store documents, complemented with extensive user rights and authorization levels, in order to spread documents. Additionally integration with LiveFeed is possible to share documents more efficiently;
- Santiago: Storytelling, Advanced search, Tagging, meaning labeling in such a manner that descriptions are given to pieces of data, e.g. to facilitate later retrieval. Another addition on LiveFeed, the core product of 2Yellows, in order to profit more from the knowledge that is built up in LiveFeed.

2Yellows aims at being technically progressive with their products. However even more important for 2Yellows is the effect that working with these products has on the customers. Special attention is given to the process of implementation and adoption. The products of 2Yellows are off the shelf, with a possibility to adjust aspects to the specifications and requirements of the customer.

Customer groups

The advantage that 2Yellows wants to offer their customers is time saving, pragmatic way of knowledge sharing, quieter way of working, easy finding and using of stored knowledge. The portfolio is build up by one customer being responsible for approximately 50% of the business and the resuming 50% is divided over about 10 other customers in a variety of segments.

¹⁴ <http://www.2yellows.org/>

Appendix 5: Profile Evident Interactive B.V.

About Evident Interactive B.V.

Evident Interactive B.V.¹⁵ is a full service interactive organization established in 1996 aimed at creating creative and technical solutions for interactive communication via internet and mobile phone. Statement about their workforce; “We are digital interaction specialists”. More than 50 internet specialists and generalists work at Evident on mostly large and complex database guided internet- and intranet projects.

Evident stands for and its mission is keeping business open and clear. To distinguish themselves focus is on simplicity and clarity. Simplicity in use and clarity in communication. Prioritization and selection is deemed to be very important.

The organization is divided into several divisions. Approximately half the employees of Evident are technically oriented and the other half sales oriented. Divisions are engaged in account and lead management, business consultancy, made to measure project organization divided in the front end part and the back end and finally the division client services.

Evident sees their business as being half marketing and communication and half ICT. And the ICT part is further divided in a front end part of the product and the back end. The front end is the look and feel and very culturally influenced aspect of a product. The back end are the techniques on which the front end runs.

Products, services and techniques

Evident is fourfold Microsoft Gold certified partner. This in the fields or competences ‘Information Worker Solutions’, ‘Business Process and Integration’, ‘Custom Development Solutions’ and ‘Data Management Solutions’. Evident thus is an established partner of Microsoft and develops .NET technology and frameworks. The idea of Evident is keeping it clear. Websites and applications can become very complex, resulting in higher costs, longer waiting and more problems are conceivable. Evident seeks to keep solutions concrete and maintain ideas simple aiming at practical effectiveness.

Furthermore Evident uses solutions such as Microsoft CMS 2002, Sharepoint Portal Server 2003, BizTalk 2004, Microsoft CRM and the content management system Flexsite 3.0.

The back end of products are exclusively developed using Microsoft products and techniques, for the front end also other non Microsoft products and techniques are used. The front end is style and emotion, which is rather determined by culture and individual preferences, which makes this aspect hard to outsource. Another part of the front end is the user friendliness, or the interaction design. This needs to be as straightforward and functional as possible.

¹⁵ <http://www.evident.nl/>

Evident has the following portfolio regarding their solutions and products.

Content Management	Tailor-made site management: with Flexsite 3.0 or Microsoft CMS 2002.
Lead Management	Advanced lead management on the web, with successful transactions as a goal.
E-Business	Links customer- and internal systems through the web, for instance SAP, Exact and Siebel.
Mobile	Mobile data, mobile office and SMS.
Interactive Marketing	Branding sites, micro sites, e-mail marketing, SMS and webvertising.
(Enterprise) Portals	From carportal to company portal. For instance Sharepoint Portal Server.
E-Health	Interactive applications in healthcare (Self Care).
Intranet	Internal web applications, for instance intranet and web services.

Table A.1

All products and solutions are designed, build, developed and implemented in a manner made to measure, or in other words tailor-made.

Customer groups

Evident in general works with their customers on a long-lasting partnership basis, however all projects are made to measure. Customers are from a variety of sectors and dependability is considered to be low. This diversity is also deemed to grant Evident stability. The clientele of Evident is furthermore divided into three segments: business-to-business, business-to-consumer and e-health/non-profit. Below a short overview of customers.

Akzo Nobel	KPN Hi	VNU Exhibitions Europe
DTZ Zadelhoff	Audi	UMC Utrecht
Mediportaal/Achmea	KNVB	GITP
GlaxoSmithKline	TNO	ENECO Energie
Hogeschool van Utrecht	Sanoma	Grontmij
Bartiméus	Geveke	Provincie Utrecht
Stork	Autobytel	
Raad voor de Kinderbescherming	Sectorfondsen Zorg & Welzijn	

Appendix 6: Profile Lost Boys N.V.

About Lost Boys N.V.

Lost Boys N.V.¹⁶ is an internationally operating organization. Together with MetaDesign, IconMedialab, Wheel, Linkhand and Escador they form LBicon.



Figure A.1

Lost Boys is established in 1993 and initially developed new media for CD-I¹⁷ and CD-ROM¹⁸ with Philips as their most important customer. In 1995 Lost Boys started to produce creative internet applications. Then in 1996 the Lost Boys Formula game development is set up. Here games are developed for different hardware platforms, such as PC and consoles, small electronic devices for playing computerized video games, such as Sony Playstation and Gameboy Color.

In 1999 Lost Boys opens their first office abroad in Barcelona. From the year 2000 Lost Boys starts to buy up multiple companies to expand their knowledge and expertise, in 2001 this expansion continues on an international level with the takeover of amongst others branding specialist MetaDesign.

In January 2002 Lost Boys and IconMedialab merge. IconMedialab is established in 1996 in Stockholm by Jesper Jos Olsson, Magnus Lindahl, Erik Wickström and Johan Staël. Lost Boys and IconMedialab are big European companies in the digital media. Together as LBicon they form an international full-service company offering an integrated approach to interactive marketing and Web technology solutions for high reputation clients.

Nowadays Lost Boys is positioned as being an innovator. The goal is to become the biggest innovative party in the world. This is done through structuring daily business in such a way that they can deal with the appropriate projects and the matching customers to achieve this goal.

Within the Netherlands is still a SME according to the definition of the European Union, however when one takes into consideration the entire LBicon organization it would be much to large for this research. Nevertheless for this research Lost Boys is deemed appealing, being such a large party with perchance a different view on offshore outsourcing.

¹⁶ <http://www.lostboys.nl/>

¹⁷ Abbreviation for Compact Disc - Interactive (Compact Oxford English Dictionary, 2006)

¹⁸ Abbreviation for Compact Disk read-only memory. Compact disk with fixed content: a compact disk containing a large amount of data, including text and images, that can be viewed using a computer but cannot be altered or erased (Encarta World English Dictionary, 2007).

Products, services and techniques

The expertise of Lost Boys lies in inventing innovative technical or creative solutions, not as much in producing this solution. They work for big companies who hire multiple companies for one project, usually Lost Boys works on the first 60% of a project in analyzing a company with a particular problem and contemplating possible solutions for the situation. This often is done with other contracted companies, the implementation of the worked out solution is usually done by other parties.

One of the expertise's of Lost Boys is in interactive channels and new technologies to organize the pre-sales, sales and services process in a different way. This is a method they call 'Guided selling', this involves a high rate of self service for customers, which ought to result in a high level of customer intimacy.

Another field in which Lost Boys have expertise is Intranets en Portals. Then there is Brand Interaction, creating creative concepts that reach customers, however also ought to have an effect on customers. Application Interaction is a service that guarantees availability of company and business critical web applications. Internet Customer Relationship marketing aims at building up relations between brands and the visitors of their websites. This through E-mail marketing, Website statistics, Online list broking (renting e-mail addresses via reliable partners), Online market research and CRM advice.

Finally Interactive Media is also an expertise of Lost Boys concerned with inventing, developing and executing innovative and controversial Interactive Media campaigns.

Lost Boys is mainly concerned with the creative innovative part of large projects. Personnel is therefore either technical or creative on a executive or strategic level. Additionally there are project managers monitor that the customers wishes and demands get realized. Then there is the last group of accommodating personnel. There is basically only one man sales oriented at Lost Boys in the Netherlands and that was my contact J. Kuijper.

Customer groups

Lost Boys has seen the market maturing and increasing in professionalism after the internet hype. Knowledge on possibilities that the digital environment can provide is enlarging, also at the customers.

Nowadays Lost Boys Works throughout the world for customers as Alitalia, Audi, Banco Commercial Portugues, Commerzbank, Empire BlueShield, BlueCross, Ferrari, ING Group, KLM, Lamborghini, MasterCard International, The Metropolitan Museum of Art, Novartis, Pirelli, Postbank, Sony Computer Entertainment, Unilever and Volkswagen. This are all large parties who, as already stated, use multiple companies for a project. Next to that is the portfolio quite diverse and extensive so interdependency between customers and Lost Boys is low.

Appendix 7: Profile PB Webdesign

About PB webdesign

PB webdesign¹⁹ is a Joomla! CMS²⁰ specialist, established in 2004. In the contrary to Lost Boys being such a large party, PB webdesign is a one-man organization considered to be interesting for this research. PB webdesign does not have extensive offshore outsourcing experience just as the much larger party Lost Boys. However PB webdesign has undertaken some efforts in order to set up an offshore outsourcing relation with parties in India.

PB webdesign aims at building long term relationships with their customers based upon satisfaction concerning the provided service. Freedom for their customers is important. Customers are free to chose other parties to work on their website, which is made more feasible by using the open source CMS Joomla!. This open attitude and focus on customer satisfaction is meant to result in long term relationships with their customers.

Products, services and techniques

The products offered and techniques used by PB webdesign is strictly based on the Joomla! CMS package. Within the Joomla! user community help and advice is offered towards Joomla! resulting in growing possibilities.

Basically PB webdesign offers customers a CMS with possible additional components and modules. This means customers gain control of the content and consistency of their webpages and have more possible functionalities on both the front-end as the back-end. Some of these additional products that PB webdesign offers is an ordering system, a dynamic poll, a scroll down situation selector and online questionnaires.

Next to the products PB webdesign offers, the service is crucial in their business conduct. The first aspect is consultancy. Requirements analysis is done in order to determine the required functionalities. Joomla! configuration advice is the next step to determine which Joomla! components and modules correspond.

Project management is another possible service aspect in the joomla! implementation. When the site is constructed PB webdesign can assist in adding additional functionalities or extensions. Also tips for writing webtexts and an internet strategy development are possibilities.

In the implementation different service levels can be distinguished. A balance between service level and service costs is the separator. Finally additional support and training is amongst the possibilities.

Customer groups

The customer group that PB webdesign focuses on are the relatively larger companies regardless of the sector of operation. Currently multiple customers are served in various sectors. Despite of the fact that PB webdesign has many customers, there is one party that can be considered to be a larger client. T2C is a company that has acquired a lot of work from PB webdesign in recent history, which results in a relationship of somewhat increased dependency. Other clients are Sopow, Lynxoffice, Alpaca, Colorful Connections, I-bike and Proefdiervrij.

¹⁹ <http://pbwebdesign.nl/>

²⁰ Open Source Content Management System, <http://www.joomla.org/>

Appendix 8: Profile Finalist IT Group B.V.

About Finalist IT Group B.V.

Finalist IT Group²¹ is an IT service provider in technical consultancy and development, currently specialized in Java technology and related techniques. Ever since Finalist IT Group B.V. was founded in 1994, focus was on developing new software and keeping up and adjusting to the latest developments and techniques. Currently 50 people are employed divided over three offices in Amsterdam, Eindhoven and Rotterdam. Their motto is "Never stop developing!".

Products, services and techniques

Finalist IT Group specializes in technical consulting and development services for the Internet, based on open source and Java technology. Java is rapidly becoming a defacto standard for software development in the Top500 companies.

Java is a programming language much like C developed by James Gosling at Sun Microsystems in 1995. Java has been adopted as a multipurpose, cross-platform language for network computing, including the World Wide Web. When users connect to a server that uses Java, they download a small program called an applet onto their computers. Finalist IT Group has specialized in Java technology.

Their know-how surpasses just Java, Finalists is also active in related fields of expertise. Namely XML²², SOAP²³, web services and several databases like Oracle, SQL²⁴ Server and MySQL.

Finalist develops software in house on a project basis or at the Client location, as part of a team. Because of their expertise often involvement begins in the startup phase of projects: building proof-of-concepts, design and architecture, feasibility studies. All projects are made-to-measure. Their only off-the-shelf product is content management. Technical consulting is the role Finalist plays in advising and assist in building these proof-of-concepts, pilot projects and implementation trajectories. Development services are in the field of designing, implementation and construction of e-business²⁵ applications.

Finally complete projects, support and additional training are part of the products and services provided by Finalist.

²¹ <http://www.finalist.com/>

²² Ex(tensible) M(arkup) L(anguage), A markup language, used to allow for the easy interchange of documents on the World Wide Web (The American Heritage® Dictionary of the English Language: Fourth Edition, 2000)

²³ Method of bi-directional communication. SOAP allows programs running under different operating systems to communicate with each other across firewalls using HTTP and XML as the exchange mechanisms (Hutchinson Encyclopedia, 2007)

²⁴ A standardized language that approximates the structure of natural English for obtaining information from databases (Encarta World English Dictionary, 2007)

²⁵ the conduct of business using Internet technology to create links between customers, suppliers, employees, and business partners (Encarta World English Dictionary, 2007)

Customer groups

Finalist IT Group has specialized in applying Java technology at the Top500 companies and (semi) government. Their customer portfolio is build up quite diverse. This has resulted in a low average dependency of under 10 percent. Below an overview of the customers and customer groups of Finalist is specified.

Government:

Gemeente Amsterdam
Gemeente Eindhoven
Gemeente Leeuwarden
Gemeente Doetinchem
Gemeente Goes
Gemeente Groningen
Gemeente Spijkenisse
Gemeente Nijmegen
CWI
EGEM
Haagse popserver

Financial sector:

ABN-AMRO
ING Group
Fortis Bank
Levob
SNS Bank

National Committee 4th and 5th of May:

www.4en5mei.nl
www.oorlogsmonumenten.nl
www.spion.nl
www.bevrijdingsfestivals.nl

Healthcare:

Nictiz
Association of Hospitals
UZorg
Plaga

Non profit:

SURFNet
Kennisnet
Martinus Monument Weert

Telecom:

Vodafone Nederland
Market XS

Media:

VPRO Omroepvereniging
VARA Omroepvereniging
IKON
TELEAC/NOT

Remainder:

Netwerk VSP
Vipmedia
Essent
CGCP
Premsula
Gallus Shoes GMBH
Vocognition
Planon

Appendix 9: Profile Func. Internet Integration B.V.

Func. Internet Integration B.V.²⁶ is a SME ICT organization established in 1998 and aimed at practical internet applications based on open industry standards. Func. uses as much as possible open source software and components also to keep development and maintenance costs as low as possible, next to this it also offers this method the customer more freedom of choice and there is no forced bond to Func. due to the choice of software or components. The aim of Func. is to let the bond come into existence out of free choice of their customers. Additionally is adjustability important with the choice for open source software and components.

In Figure A.2 below, the organization chart provides clear insight into that Func. has two initial founders and owners, Z. Kovačević and S. Hekking. These are represented by their personal holdings, Akaroa B.V. and Zelfs B.V. Both Func. Internet Integration B.V. and Los Programadores B.V. are subsidiaries of the personal holdings. Chief Executive Officer or operational manager for Func. is Z. Kovačević and for Los Programadores operational management is provided by Zelfs B.V., S. Hekking.

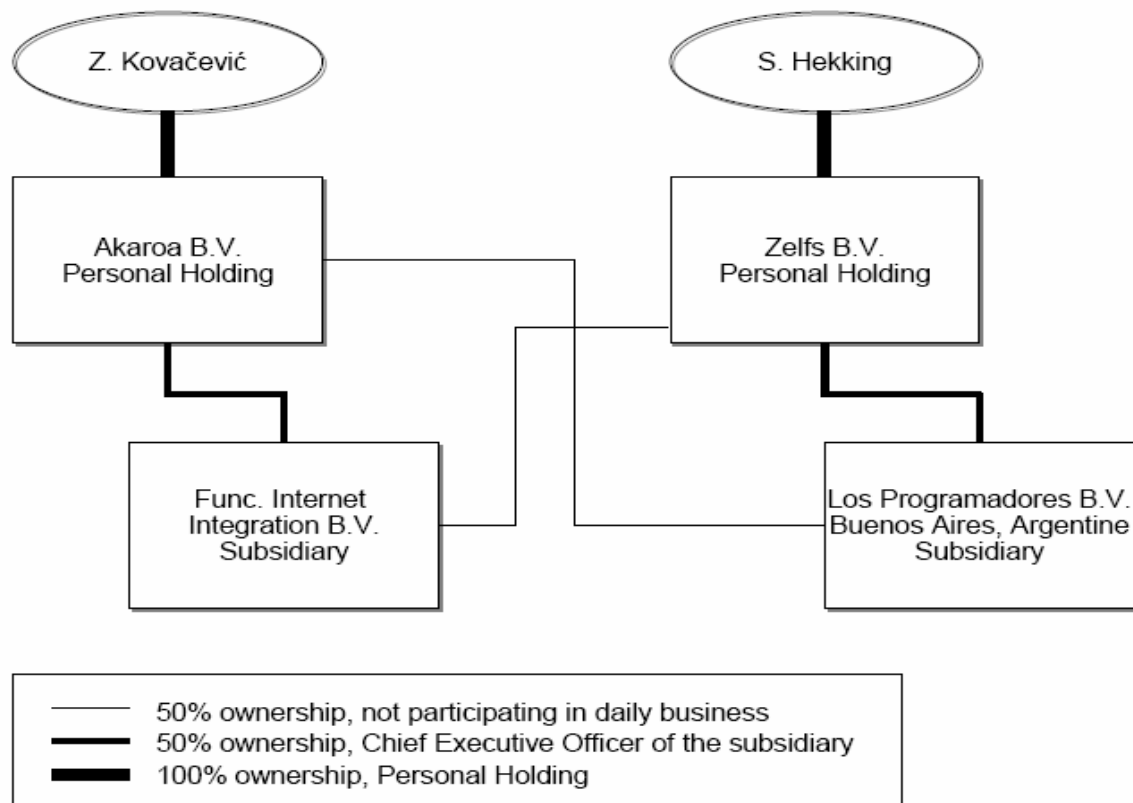


Figure A.2

²⁶ <http://www.func.nl/>

Vision, Mission and Strategy

Vision

The vision of Func. is described in threefold. First part is the idea of internet being everywhere, next the necessity of standards and finally the bond with open source components.

Internet Everywhere

The number of devices or equipment that will be part of the internet will continue to increase. These devices will eventually communicate amongst each other and processes will be integrated. Think about industry processes for example, which are linked and internet enabled in every possible manner. Current possibilities are in the shape of for example Radio frequency identification (RFID), identification with radio waves. This is a technique to remotely save data or to read so-called RFID-tags which are on or in objects. Another possibility is the PDA, or Personal Digital Assistant, this is a small portable device that combines computer, telephone, fax and network functions. Other possibilities are via the server, refrigerator, garage door, etcetera.

Standards

To be able to integrate processes, standards are a necessity. By implementing standards, interoperability between devices becomes possible. Recycling of software makes the development of standard components necessary.

Open Source Components

Commercial players develop components which aim to satisfy a (presence or absence of present) need. With a standardized components which ought to satisfy a certain need, so for the actual standard components, open source components shall eventually be the cheapest and best solution. Examples will be operating systems, browsers, word processors, etcetera.

Mission

The realization of useful solutions ought to satisfy the needs of the customer, based upon standards and open source components.

Strategy

In the past Func. has used many different kinds of knowledge, provided all sorts of services and served a wide variety of customer groups. This provided the positive result that Func. is able to rapidly embark upon new developments, has a flexible manner of business conduct. The negative effect is that Func. is not really specialized in any field and thus cannot profile itself in such a manner. The main strategy is to develop a focus, which has been absent thus far, on types of knowledge, services and customer groups.

Products and Services

Products

The products of Func. are dividable into three product groups, namely websites, portals and applications.

Websites

First of all there are the websites, wherefore Func. provides the technical know-how and this in close cooperation with communication, advertisement and design studios for additional aspects of the website. In the development of the website accessibility and user friendliness are fundamental aspects. This is done in conformity with guidelines determined by the LBT (Landelijk Bureau Toegankelijkheid) and WAI (Web Accessibility Initiative) accessibility guidelines. Func. websites are structured modular using Content Management System Joomla! . The product group websites itself usually does not provide a relatively high profit margin, however this product group is an important starting point for cross-selling towards product groups portals and applications.

Portals

The portals are the second product group. This group regards applications for sharing of data, documents and agendas of employees, partners, suppliers or customers. Possibilities are in intranet, extranet portals, communities and partner/enterprise surroundings. Goal of the portals is a optimal interaction between users, with location and device independency, which ought to result in industry processes via web portals running faster, cheaper and more transparent. These portal systems ought to provide a flexible platform for productivity profits and reduction of operational costs. Up until now are all portals measured made. New portals both intranet and extranet are to be developed based on portal standards.

Applications

The concluding product group are the applications. Func. wants to serve the customer with innovative internet applications using proven, often open source, software and existing components which determine the shape of web applications, both piece for piece standalone however also prove their services in cooperation with other applications. The emphasis is on the use of platform independent, fully integrated J2EE platforms which create an open market in which every supplier can supply to any customer. The J2EE technique is explained later in this chapter.

Services

The services in relation to the products of Func. are made up from three aspects. First of all a part advice, in which the situation of the customer is explored, inventoried and reviewed. This is done in the following manner:

- Performing a requirement analysis to define the system demands
- Making a proof of concept using prototyping
- Carry out an audit, testing produced projects and systems
- Performing a quick scan to determine and analyze bottlenecks of applications

Then a functional design is made and subsequently the course of the project is determined, in which Func. if necessary can take ownership of the management element of the project. Starting points are the goals, wishes and the budget of the customer.

Hereby it can concern a development of a connection of existing environments, realization of complete systems or work out sections of applications. The final aspect of the services regards the service desk to report malfunctions, for adding new users or placing content.

Techniques

Attention concerning knowledge development is aimed at two techniques, namely LAMP and J2EE. Clarification on these techniques is provided in this paragraph.

LAMP

LAMP is a acronym for the collection of open source software programs regularly used together to make dynamic websites or servers operate:

- Linux, the operating system;
- Apache, the web server;
- MySQL, the database management system;
- Perl, PHP, Python, and/or Primate, programming languages.

LAMP is an open source web platform to be precise. The programming language used by Func. with this is PHP. PHP is a script language designed in 1995. Initially PHP stood for Personal Home Page, the full name of the software was Personal Home Page/Forms Interpreter, PHP/FI. Since PHP version 3.0, the meaning is: "PHP: Hypertext Preprocessor". This name indicates where for the language is usually used: processing data into hypertext, generally HTML and XHTML. Nowadays this data is usually processed into graphical user interfaces, or GUI's for short.

J2EE

Java 2 Enterprise Edition (J2EE) is a development environment of the software company Sun Microsystems. It offers a component based approach for designing, developing, compiling and using enterprise applications. The platform offers a multitier distributed model (using several computers in a network for the distribution of a program), re-usable components, a security model, flexible transaction management and support for web services by means of a integrated data exchange based on XML. XML, eXtensible Markup Language, is a specific method to store data in a structured manner. This method is free to use by everyone. XML is designed is such a way that the code is readable for both a program and a human being. XML is not only fit for storing data, but is also ever more used to send data via the internet. Java is the corresponding programming language.

Java is an object oriented programming language. Object oriented programming distinguishes from procedural programming by the high level of modularity in the composition of the software.

Customer groups

Func. has defined customer groups in which acquisition ought to take place. Additionally a customer profile is maintained per customer to record them better. Underneath in table A.2 are the customer groups of Func. or 'MarktLuiken' as they are revered to internally.

Market	Direct Customers	Indirect Customers	Products
Healthcare and wellbeing	2zw	FvO FSB CG-Raad HKZ TGV	CMS Searchfindsystems
Publishers	Sanoma Uitgevers ThiemeMeulenhof	ANWB Centraal boekhuis	CMS PM Teamleader Architectural advise
Education and government	Axis ThiemeMeulenhof Ubicc	ICTPunt	CMS PM Virtual office
Financial services	Knowledge Values VNAB Allianz BossFinance	ABN-Amro	Detaching CMS Analyse
Aerospace	Transavia Kara-Tau		Availability Engine
Telecom	BT Ignite Versatel Zon	KPN Hi Ben	'Gratis op internet' cd's CMS Flash demo
Energy	Smartest buildings		CMS

Table A.2

The direct customers as stated in the 'MarktLuiken' above contacted Func. directly with a certain request. The difference with the indirect customers is that Func. has done work for them via a cross-selling party which bought in the expertise of Func. for a specific part of the project, because the second party had little or no skills in this field in-house. In that case a small section of the project was outsourced to Func., and the billing of Func. went through the middle party. This happened for instance for En/of Ontwerp B.V. frequently. En/of namely focuses on graphical design and communication, if their order demands technical aspects beyond their capability, this part usually gets outsourced towards Func. This was namely a company Func. shared office space with before they moved from Utrecht to Amsterdam. Func. now is moving ever more towards doing direct business with their customers.

Focus

Func. strives to apply focus in the following aspects of their business, that is products, services, techniques and customer groups. In other words try to determine Func.'s core business.

Websites - CMS	Advise, implementation and maintenance using Content Management Systems. Supplies CMS. Joomla!.
Portals	Advise, implementation and maintenance of portals. Up until now only made to measure. All new portals (intranet/extranet) ought to be developed based upon the portal standards.
Web applications	Advise, implementation and maintenance of lightweight J2EE web applications.
R&D	The development of applications in which the market does not provide yet. For instance Open Project Services (OPS). OPS is developed for the connection of different applicable services within a project organization for a optimal project process. Possibilities are for example e-mail, documentation, agenda, hour registration, etcetera. In traditional solutions these services are used separately. OPS interconnects these services by means of the project.

Table A.3

The current focus of Func. is on web applications. This is done on the basis of standard open source components, or building blocks, using the J2EE and LAMP techniques. The services with regards to the products should fulfill a prominent role. Judging by the product-market growth matrix by Igor Ansoff, Func. aims with their strategy on market penetration in order to enlarge turnover and growth. This means that Func. mainly serves present markets with present products. Current focus is on customer group education and government.

The lack of this focus in an adequate degree is an attention point, the feeling of having no direction and use dominates. At Func. one wants to work more innovatively, pioneering with technical and intellectual challenges.

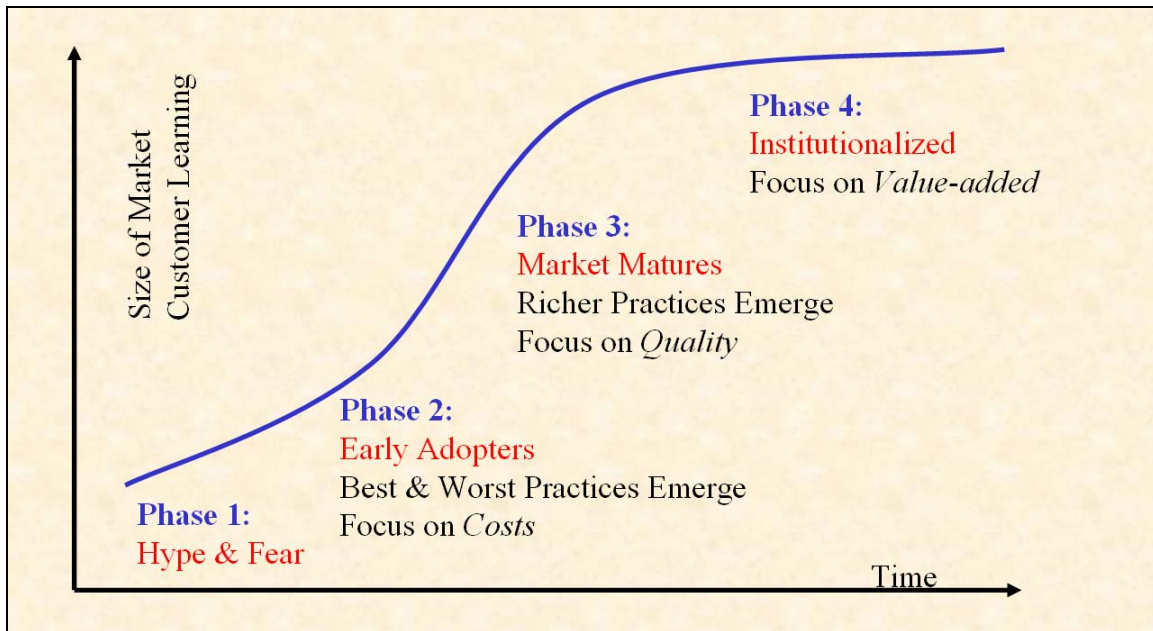
Appendix 10: World of Outsourcing



Tjia, P. (2006) Inleiding Offshoring. NGI Jaarcongres 2006, December 12, presentation slide.

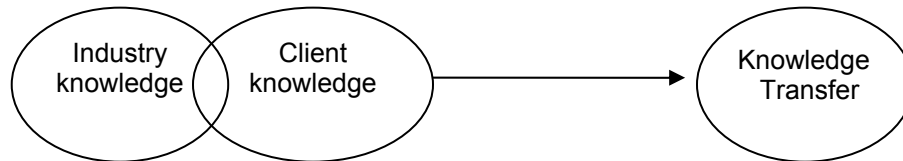
The dark star is where nearshore or offshore outsourcing is situated, size of the star depends on the quantity of outsourcing work. The light stars indicate where Dutch companies send their outsourcing work.

Appendix 11: Willcocks' Learning Curve



Willcocks, L. (2006) The Global IT Sourcing Future: Capabilities and Skills 2006-11, NGI Jaarcongres 2006, December 12, presentation slide.

Appendix 12: Willcocks' Knowledge Transfer



Willcocks, L. (2006) The Global IT Sourcing Future: Capabilities and Skills 2006-11, NGI Jaarcongres 2006, December 12, presentation slide.