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Customer Perceived Value

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Customer Perceived Value

A survey of small enterprises' perception of value, in a mobile data services context.

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Sundsvall, 23rd of November, 2000.

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Abstract

To succeed in a fierce market situation, companies have to offer the customers higher value than the competitors. According to theory, value consists of two major parts, benefits and sacrifices. The value can be enhanced by either increasing the benefits or by decreasing the sacrifices. Some authors argue that the most efficient way is by reducing the sacrifice. The sacrifice determinants are divided into monetary and non-monetary costs. The monetary costs are composed of purchase price, acquisition cost, installation cost, transportation cost, order-handling cost, costs for maintenance & repairs and costs associated with the risk of failure or poor performance. The non-monetary costs comprise of time, energy and psychical costs. The aim of this thesis is to investigate and describe the sacrifice determinants, which are crucial in an offer in general as well as crucial to Swedish companies with up to ten employees. To accomplish this, a survey of 300 companies has been carried out in co-operation with Företagarnas Riksorganisation. Our findings indicate that the major concerns of the very small enterprise, lies in the purchase price, the risk of failure or poor performance, and active time cost, when evaluating a mobile data service. Other determinants that do have an impact on value are the acquisition cost, the installation cost, the passive time cost, and the psychical cost.

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1 Introduction

In this section the background, our problem discussion and the research problem of this thesis will be presented.

1.1 General background

The twentieth-century man has witnessed a tremendous amount of technological advances. The telephone, the aeroplane, numerous medicines and the computer are just some examples. The pace of these breakthroughs shows no signs of slowing down, but rather go even faster which Sterling points out:

> "I used to think that cyberspace was fifty years away. What I thought was fifty years away, was only ten years away. And what I thought was ten years away... it was already here. I just wasn't aware of it yet." (Sterling).

Many things that are common today, like the Internet was almost unknown for the majority just 10 years ago. The area with the fastest growth right now, is the field of telecommunications and information technology. This growth is fuelled by the increased competition due to globalisation and deregulation. Yet another reason for the fierce competition is the high stakes involved in this field. For instance, the auctioning of the licenses for the next generation of mobile communication system, Universal Mobile Telecommunication System (UMTS), in Germany yielded 98,8 Billion DEM, which translates into approximately 425 Billion SEK (Dagens IT, 2000). The same can be seen in most of the countries that are going to introduce UMTS. Furthermore, as the fast pace of technological development enables firms to offer more complex services, it would be reasonable that it also contributes to the continuous growth of the service market. In consequence, there are a growing number services in the telecommunications industry that can be offered to customers. This includes for example the areas of mobile services, mobile Internet and mobile e-commerce.

The Swedish telecommunications market, consisting of several service providers, has changed rapidly and considerably during the recent years. The deregulation of the market has left the field open for new players. This have, in turn, made the competition more intense, when all players on the market tries to appeal to customers by offering the most attractive product or service. One specific area, within the telecommunications sector, that has drawn a lot of attention is the mobile communications area. On the Swedish mobile communication's market, Telia Mobile AB is the dominating player with 55 percent market share (Post och Telestyrelsen, 2000). Currently there are five companies offering mobile services and these are Telia Mobile AB; Tele2/Comviq; Europolitan; Tele 1 Europe and Sense (Ibid.). In addition to this yet another company, Dial´n´Smile, has declared that they plan to enter the in the next year (Dial´n´Smile, 2000). In all, two major points can be made when describing the present Swedish market situation. First, many new players are planning to enter the market; Second, there is a trend of decreasing prices for mobile services, due to increased competition (Post och Telestyrelsen, 2000).

The market for mobile services in Sweden has developed in same way as the sector as a whole. In 1994 the value of the Swedish market for mobile services was approximately four

Billion SEK. In 1999 the same market was valued to approximately 12.7 Billion SEK. (Ibid.) This means that the value of the market has increased by more than 300 percent, in five years. The definition of value in this case is the monetary income from the industry each year. (Post och Telestyrelsen, 2000)

In a market situation where the expectations are very high, exemplified by German UMTS auction where tremendous amounts of money were invested, it is natural that there are a lot of companies interested in sharing the potential profits. These companies are struggling to get a customer base, by offering superior services. To be successful the companies need to satisfy their customers better than their competitors, by offering services, that in the eye of the customer delivers the highest value.

1.2 Background of this thesis

The instigator of this thesis is Telia Mobile AB, who has felt the need to focus on the creation and deliverance of services with high customer-perceived value. To be successful, any company needs to cultivate the relationship with the customer. One way of doing this is by providing the customers with services that delights, or at least satisfies them.

Telia Mobile AB is the company representing the mobile business unit within Telia AB. The mobile business area offers a wide range of mobile communications services to consumers and business customers in Sweden, other Nordic markets and in the Baltic's. In order to be successful, one critical strategy is to deliver new services to the customers, when aiming at increasing revenues through increased usage of mobile services. For Telia Mobile AB the development of new services are of strategic importance.(Telia AB, 2000)

One segment where Telia Mobile AB has a potential to strengthen their position on the market is the very small enterprises segment, with one to ten employees (Liljestam, 2000). This segment is relatively unexposed to the service providers' offers, which have had a focus upon consumers and companies larger than this segment. One of the reasons for this could be that it is easier to design offers aimed at the consumer market and the industrial market for large companies. It is plausible that the purchasing activities in large companies are planned and guided by strategies, whereas these activities in small companies are done in an ad hoc manner, regarding choice of product, time of purchase, amount, etceteras (Carson *et al*, 1995). Nevertheless, it is an opportunity to try to provide this segment with mobile services suited to their business.

The mobile services in Sweden are predominately based on a mobile system called GSM (Global System for Mobile Communications). Today the network is mostly used for verbal communication and only as little as five percent is used for data communication (Post och Telestyrelsen, 2000). The data communication consists of the possibilities to send e-mail, fax and SMS (acronym for Short Message Services, which makes it possible to send and receive text messages with a mobile phone). There is also possible to access the Internet with the use of a mobile phone and a Laptop. WAP (Wireless Application Protocol) is a protocol that makes it possible to access modified Internet sites with a mobile phone. With WAP, the user gains access to many services on the Internet through the mobile phone like the possibility to read news, reserve tickets and also make transactions such as banking etceteras. Also the use of e-mail via the mobile phone is easier to handle using WAP than without WAP. (Telia Mobile, 2000)

1.3 Problem discussion

The growth of the service sector is observed by Hoffman *et al.* (1997) that states that the trend is moving towards an increase in services as share of Gross Domestic Product. Moreover, Hoffman *et al.* (1997) states that the lion's share of the economies in most of the western world is made up by the service sector. This is also the case in Sweden, where as much as 69 percent of all employees is working in this sector and it contributes with 66 percent of Gross Domestic Product (Swedish Association for Quality, 2000). It is more than in most of the other members of the European Free Trade Association and the European Union (Ibid). Alongside the growth of the service sector, there has been a shift in marketing from an exchange perspective to a relation's perspective (Grönroos, 1996). This would seem rational, since all transactions have an element of relation, but this is especially so in the case of service marketing due to the nature of services. The nature of a service is different from a product. A service can not be stored, it has no physical form, the outcome depends upon the supplier and the customer, and it is produced with the effort of the supplier and the customer. It is logical that the customer-supplier interaction is an important part of the production of a service. This is in line with Haas (1995), who states that the ability to create and maintain relationships has become an important skill in contemporary business marketing. This is further emphasised by studies that have shown that 95 percent of profits comes from long-term customers via profits derived from sales, referrals and reduced operating costs (Lowenstein, 1993). Zeithaml *et al* (1996) offers a concurring view:

> "Both parties in the customer/firm relationship can benefit from customer retention. That is, it is not only in the best interest of the organisation to build and maintain a loyal customer base, but customers themselves also benefit from long-term associations." (Zeithaml *et al*, 1996, p. 173)

The mutual benefits of maintaining a relationship between service provider and customers appear to be rational; the satisfied customers know what they are getting from the service provider and, in turn, the service provider gets a good reputation and the possibility for more contracts. This would generate a positive upward spiral for the service provider, which is one of the motives for focusing upon retaining the customers. Zeithaml *et al* (1996) argues that customer satisfaction paves the way for customer retention and increased profits. This, according to Zeithaml *et al* (1996), leads to employee loyalty and quality services, which subsequently facilitates customer satisfaction. (Figure 1)

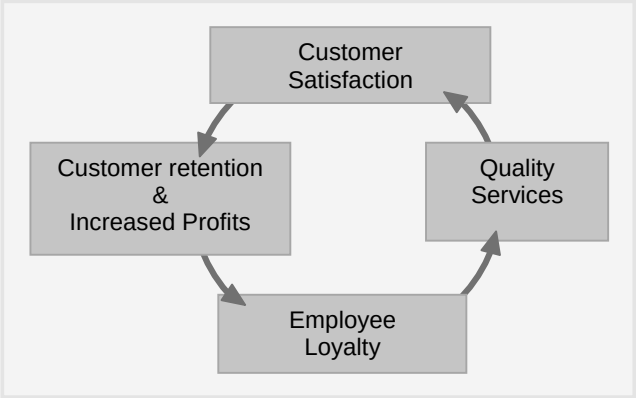

Figure 1. The underlying logic of customer retention benefits to the organisation, (Zeithaml et al, 1996, p.176).

Patterson *et al* (1997) provides a model of the customers purchase intentions. Based upon an empirical study, they state that there exists a linkage between value, intentions and satisfaction. The results showed that value was found to have a strong and significant impact on satisfaction, and satisfaction in turn has a significant effect on intentions.

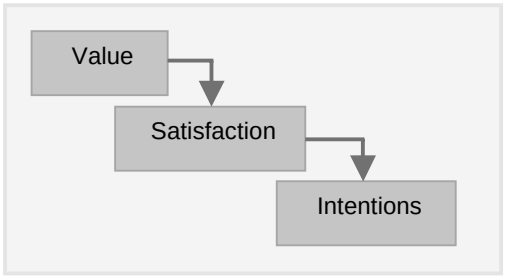

Figure 2. The linkage between intentions, satisfaction and value, (Patterson et al, 1997, p. 427).

Comparing the model of Zeithaml *et al* (1996) (Figure 1), with the results from Patterson (Figure 2) the conclusion is that both value and quality have an impact on the satisfaction. A definition of quality is "It's ability to satisfy, or exceed the customers needs and expectations" (Bergman *et al*, 1995, p.13). However, Bolton *et al* (1991) argues that the perceived value is a more comprehensive appraisal of customers' overall assessment of a service than perceived service quality. Moreover, value has been advocated as securing competitive advantage (deChernatony *et al*, 2000; Matthyssens *et al*, 1998). In light of this, the value concept seems like an interesting issue to pursue.

To be able to discuss value, there is a need to define what value really is. Monroe (1990) defines perceived value as the ratio between perceived benefits and perceived price (Figure 3). The perceived benefits are some combination of physical attributes, service attributes and technical support available in relation to the particular of the product, as well as the purchase price and other indicator of perceived quality. The perceived price includes all the costs the buyer faces when making a purchase: purchase price, acquisition costs, transportation, installation, order handling, repairs and maintenance, risk of failure or poor performance. Furthermore, Kotler (2000) defines customer delivered value as the difference between total customer value and total customer cost. Total delivered customer value is the bundle of

benefits customers expect from a given product or service. Total customer cost is the bundle of costs that customers expect to incur in evaluating, obtaining, using, and disposing of the product. (Figure 4.)

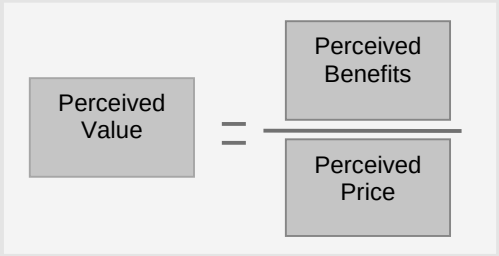

Figure 3. Perceived value, (Monroe, 1990, p. 88).

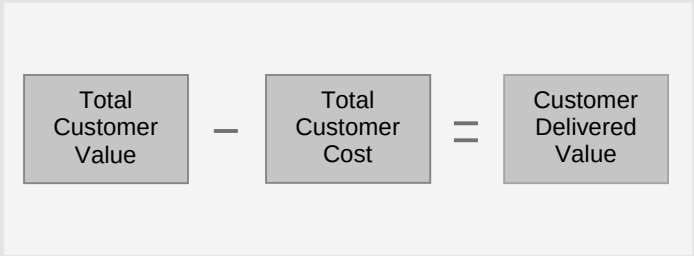

Figure 4. Value according to Kotler (2000).

On the other hand, Zeithaml *et al* (1996) who has a services marketing approach, states that perceived value is the consumer's over-all assessment of the utility of a service based on what is received and what is given. (Figure 5.)

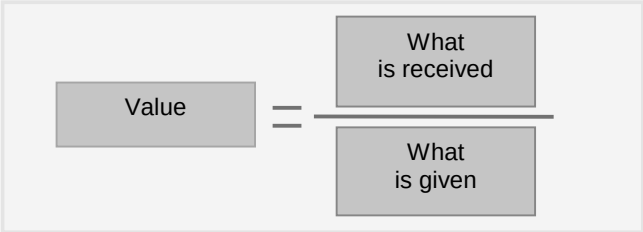

Figure 5. Value based upon Zeithaml *et al* (1996).

Lapierre (2000) offers yet another view of value, where 13 value-based drivers form value. Furthermore, his value concept is divided into benefits and sacrifices. These 13 drivers, whom he calls the determinants that express the characteristics of an offer, are related to product, service and relationship.

There are similarities between the definitions above; most obvious is that they all define value as consisting of a positive and a negative side, or as they hereafter are called; benefits and sacrifices. However, they differ somewhat in their conception of what these benefits and sacrifices contains; Monroe (1990) states that the sacrifices mainly revolves around monetary issues, whereas Kotler (2000) argue that the sacrifices are all the cost surrounding the purchase and use of a product or service. Furthermore, Zeithaml *et al* (1996) describes value from a consumer's point of view, which Kotler (2000) explains from a business-to-business perspective.

As value consists of both benefits and sacrifices, a company could enhance the value by increasing the benefits or by reducing the sacrifices. The value that a customer perceives in mobile services could be increased in many ways. Enhancing the benefit part, by offering an additional function, a more technical skilled support or higher quality of the services, could increase the perceived value. On the other hand, the value could be improved by reducing the sacrifices. It could be done by lowering the price, reducing the fear of uncertainty or by making the service more user-friendly. However, Monroe (1990) proposes that the sacrifice component exert the greater influence on buyers' value perceptions. This is further supported

by Ravald et al (1996), that argues that reducing sacrifice are a more effective way of enhancing value. However, the benefit part of value is harder to improve as it, according to Lapierre (2000), comprises of properties like service quality, service customisation, responsiveness, flexibility, reliability, technical competence, image, trust and solidarity. The most significant property, the service quality, is an entire field of its own. Thus, it is easy to understand that the benefit part is very complex. The sacrifice part, entailing properties like monetary costs, time, energy and psychical costs would seem to be less complicated to alter in order to obtain higher value. Subsequently, the focus of this thesis will be on investigating the sacrifice part of value.

The sacrifices can be divided into monetary and non-monetary cost (Kotler, 2000; Zeithaml *et al*, 1996; Bolton *et al*, 1991). The monetary costs revolves mainly around the purchase price, but the entire sacrifice part (i.e., purchase price, acquisition costs, transportation, installation, order handling repairs and maintenance, risk of failure or poor performance) proposed by Monroe (1990) are likely to fit into the monetary cost. The non-monetary cost comprises of such costs derived from time, energy and psychic exertion (Kotler, 2000; Lapierre, 2000). The reduction of monetary and non-monetary components could be somewhat difficult – there are already fundamental strives to reduce monetary costs in profit-maximising companies, and the extent of the non-monetary costs are not easily ascertained. All in all, the sacrifice concept is complex, and any company attempting to reduce sacrifice will have a tedious task forthcoming. Nevertheless, if a company would set out to reduce the sacrifices, what would be the most profitable action? In order to determine a course of action, the company needs to know the factors that affect the customers' perception of sacrifice?

In the literature of marketing the value concept is rarely seen, because this area is relatively new in a marketing perspective. Furthermore, in marketing literature there are very few written works, which deals with the very small (one to ten employees) enterprise segment. Subsequently, the material that contains the value concept, in the small enterprise context is very rarely seen (Carson *et al*, 1995; Hultman *et al*, 1999). Nevertheless, this segment is of major interest to our client. This segment is rarely exposed to offers designed especially for them. This leaves the mobile services providers with a window of opportunity to gain market share. However, there is little known about the companies with less than ten employees, as opposed to larger companies that has been thoroughly penetrated in marketing literature. However, it would seem rational that very small enterprises have other priorities than, for instance, a multinational corporation. It would be plausible that one or a few individuals in the very small company handle all aspects of business, such as purchasing and marketing to mention a few (Carson *et al*, 1995). On the other hand, the multinational company could have departments, with policies and professional staff, wholly devoted to these matters. Furthermore, the segment of the very small enterprises represents 14% of the Gross Domestic Product of the European Union (Bulletin EU, 1999). As this segment represents a quite large share of European Union Gross Domestic Product, and also is of interest to our client, in combination with the scarcity of studies, the segment is found to be interesting to explore.

1.4 Research Problem

Based upon the discussion above, we find it interesting to investigate and describe the sacrifice determinants, which are crucial in an offer in general, and crucial to Swedish companies with one to ten employees, in a mobile telecommunications context. In all, these issues constitute our research problem.

In order to be able to describe the sacrifice determinants, we will try to provide answers to the following questions:

- Which components of sacrifice are associated to mobile data services, in case of very small Swedish companies?
- Which of the sacrifice components are most important to small companies, when evaluating mobile data services?

2 Literature Overview

In this section a presentation of the theories relevant to this thesis will be given. This contains a penetration of the value concept as well as the elements surrounding value.

2.1 Customer retention and satisfaction

The ability to make customers loyal to a specific company and repeatedly purchase from this company, also known as customer retention, is a matter of growing importance. Kotler (2000) means that one major reason for this is the fact that it is five times more costly to attract a new customer, than to keep the current.

The expenses surrounding the attraction of new customers is mostly due to stiff competition. In many cases, the products and services on the market today, displays only minor differences in advantage for the customer. This small differential advantage increases the risk of brand disloyalty, from a company's point of view. In turn, this is further fuelled by the easy access to market information provided by the Internet and the companies' ambitions to attract new customers. Another reason for the high cost when trying to attract new customers is that it is hard to get the customers' attention in the present media setting. (Hoffman *et al*, 1997)

The benefits of customer retention for a company can be found in profits derived from sales, from lower operating costs and from customer's referrals of the company. Profits from sales are partly generated by repeated sales. In addition to this, the customers are willing to pay more for a firm's offering, due to the fact that the customer has become accustomed to the firm, its employees, and the manner in which the service is delivered. Studies have shown that a 5 percent increase in customer retention can translate into 85 percent higher profits for a branch bank, 50 percent higher profits for an insurance company and 30 percent higher profits for an auto-service chain (Hoffman *et al*, 1997). Profits from reduced operating costs comes from the fact that when a relationship between a customer and a supplier becomes closer, the customer becomes more receptive to the firm's marketing efforts, and therefore, it becomes easier to sell new services. Furthermore, as the customer becomes accustomed to the firm, its employees, and the manner in which the service is delivered, the customer asks fewer questions and has fewer problems. This reduces the firm's operating costs. The profit that comes from referrals is due to positive word-of-mouth advertising generated by satisfied customers. The satisfied customer often refers businesses to friends and family, which in turn reinforces their own decision. (Hoffman *et al*, 1997; Zeithaml *et al*, 1996)

Furthermore, Zeithaml *et al* (1996) describes that another benefit from customer retention is that it is easier to retain employees with a solid base of satisfied customers. In turn, this is an important part in delivering quality services, which subsequently leads to satisfied customers. In all, this leads to a positive upward spiral, shown in figure 1.

As mentioned in the previous section, Patterson *et al* (1997) shows in an empirical study, that the repurchase intentions are closely linked to the customer satisfaction. Kotler *et al* (1996) states that customer satisfaction depends upon how well the performance of an offer, matches the customer expectations. The customer might experience various degrees of satisfaction. If the performance of an offer falls short of expectations, the customer is dissatisfied. If the

performance matches the expectations, the customer is satisfied. If the performance exceeds the expectations, the customer is highly satisfied or delighted. (Ibid.)

In addition to this, Patterson *et al* (1997) shows that customer satisfaction is tightly linked to customer value. The results from the empirical study showed that value was found to have a strong and significant impact on satisfaction, and satisfaction in turn has a significant effect on intentions. (Figure 2) (Ibid.)

2.2 Elements surrounding value

Having a service marketing approach, Zeithaml *et al* (1996) states that it is not a simple task to define the meaning of value. When customers discuss value they use the term in different ways. Many different attributes and components will come up when a customer defines value. This refers to that the perception of value is highly personal (Ibid.). Furthermore, the customer-perceived value of an offering is highly situation specific. One example of this is when the car breaks down in the middle of nowhere. At this time even a very expensive repair that turns out to last no further than the destination might still result in a high perceived value (Ravald *et al*, 1996).

One way to describe the value concept is to investigate the different linkages that surround the concept. Zeithaml *et al* (1996) provides a means-ends model relating price, perceived quality and perceived value. This model also describes how different levels of abstraction are related to each other, from tangible attributes to high level abstract concept as value.

The “means” in the model are the paths by which the service is linked by the customer through a chain of benefits, the “ends”. The most distinct and specific means are the rectangular boxes without shading. The next level in the model, the hexagonal boxes, represents the next level of abstraction, that is the perceptions of lower level attributes. Furthermore, the more abstract the concept, and closer to the ends, the illustrations are ellipses followed by even more shaded ellipses. (Ibid.)

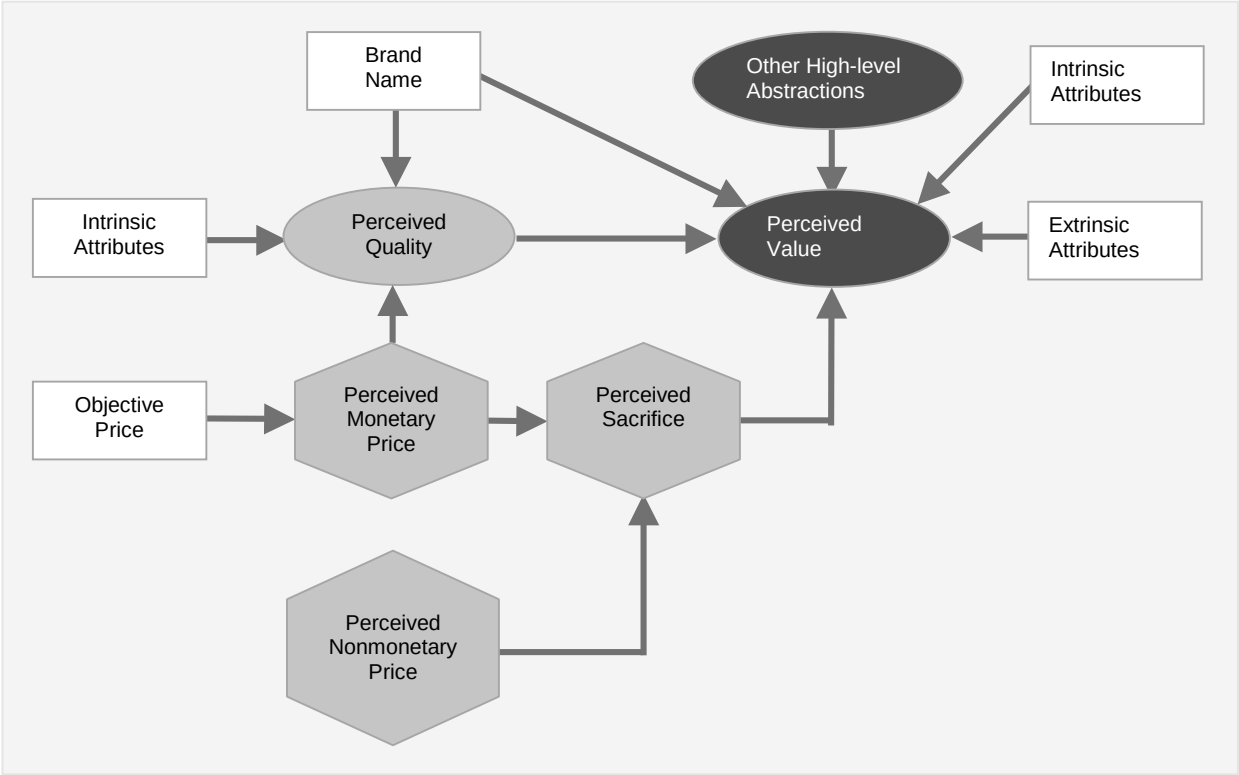

Figure 6. Means-end model. (*Zeithaml et al, 1996, p. 500).*

Service Features or Cues. These are the most concrete and simplest elements in the model (shown in rectangular boxes without shading). There exists different categories of these cues where many of these are *intrinsic attributes*. These includes the specific features of the service itself, such as duration of the service, times of availability et cetera. Another of these categories is *extrinsic attributes*, which refers to things like price, brand name and level of advertising, that consumers associate with the service. This category is not an inherent part of the service. Brand Name and Objective Price are the most frequently used extrinsic attributes and are therefore shown in separate boxes in the model. (Ibid.)

Perceived Monetary Price. This refers to perceived price in the eyes of the customer, for the usage of the service, whereas the *objective price* is the actual price. There are differences in how customers perceive the price, expensive or cheap. Some customers do not take notice of the price. (Ibid.)

Perceived Non-monetary Price. This price represents the other costs than the monetary and refers to time costs, energy costs and psychic costs. (Ibid.)

Perceived Sacrifice. Perceived sacrifice includes all that the customer perceives has to be given up to obtain a service. In this both monetary and non-monetary cost are feed into this perceptual concept. (Ibid.)

Perceived Quality. The concept is defined as the customer's judgement about a service's overall superiority or excellence. This decision of the service quality is an abstract valuation that includes many dimensions of services (reliability and responsiveness etceteras). The judgement also includes variables as the service features, behaviours or actions. (Ibid.)

Perceived Value. The definition of perceived value is the customer's overall assessment of the utility of a service based on perception of what is received and what is given. (Ibid.)

Other High-Level Abstractions. This refers to other abstractions than perceived quality and value. For example this can be exemplified with knowledge, maturity and skill development in the case of a university marketing situation. (Ibid.)

2.3 Customer perceived value

What is customer perceived value? The expression is frequently used in service marketing but any clear definition is difficult to find. The value concept exists only to a limited extent in the marketing literature. However, there are some definitions of value to be found in the literature. The most frequent opinion is that customer value consists of two different parts. The first is the benefit part that a customer gains by using the product or service. The perceived benefit contains many different attributes like the physical attributes and service attributes and other things that the customer demands. The other part is sacrifice, which includes all the costs the customer faces when making a purchase. These cost can be monetary as well as non-monetary. (Kotler, 2000; Zeithaml *et al*, 1996)

All these authors provide almost the same definitions, but nevertheless they all have some kind of differences as well. In the pricing literature Monroe (1990) has defined perceived value as the ratio between perceived benefits and perceived price (Figure 3). The meaning of benefits and sacrifice or price will be penetrated later on in this chapter.

Haas (1995), working in an industrial marketing context, has the same opinion as Monroe (1990) who has a consumer point of view. Also coming from an industrial context, Kotler (2000) describes customer delivered value as "*the difference between total customer value and total customer cost"* (Kotler, 2000, p.34) In his definition the total customer value is the bundle of benefits customers expects from a given product or service. (Figure 4)

In the service marketing area the value concept appears frequently but any clear definition are rarely seen (Ravald *et al*, 1996). Zeithaml *et al* (1996) stresses this issue in a service marketing approach. Moreover, they state that "*perceived value is the consumer's overall assessments of the utility of a service based on perceptions of what is received and what is given*" (Zeithaml *et al*, 1996, p. 498). (Figure 5)

Lapierre (2000) offers yet another view of value, where 13 value-based drivers form value. These drivers are product-, service- and relationship related. Furthermore, they are divided into benefits and sacrifices. The benefits that are associated with the product concern things like alternative solutions, product quality etceteras. The benefits associated with service are for instance responsiveness flexibility and technical competence. In the benefits that are associated with the relationship, Lapierre (2000) includes for instance concept like image and trust. In the sacrifice part the price is associated in both the product and service. Furthermore, time, effort and energy as well as conflicts are included in the relationship associated sacrifice part. These drivers will be penetrated in the benefit and the sacrifice sections of this chapter.

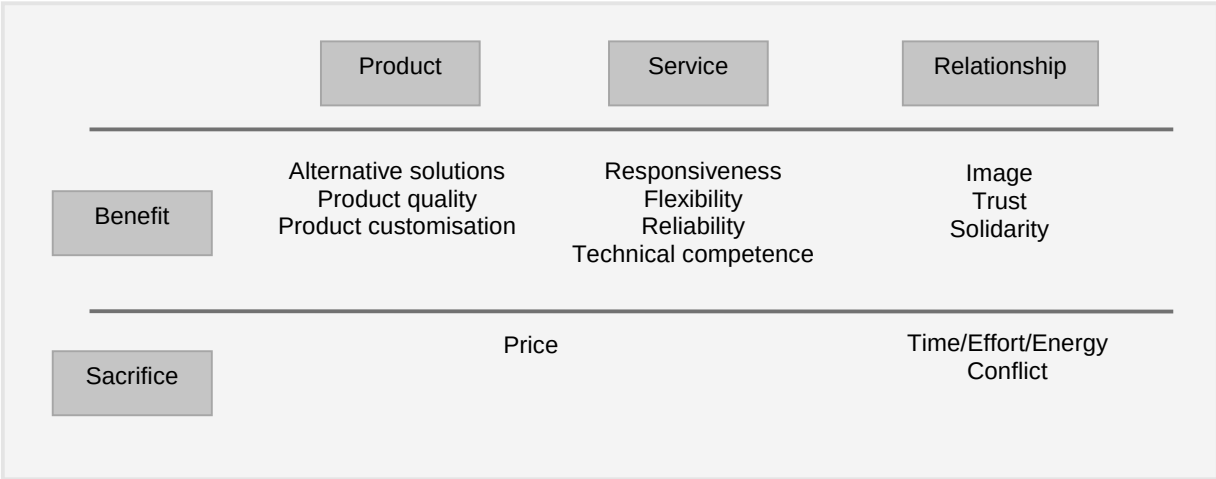

Figure 7. Total value proposition. (Lapierre, 2000, p. 125.)

2.3.1 Benefits

Authors describe the benefit part, by using different components or determinants that together fill up the perceived positive experience of buying the product or service. Monroe (1990) explains that in any purchase, the buyer is seeking to acquire benefits. In order to provide benefits, a product or service must have some crucial characteristics. First, the product or service must be able to perform certain tasks or functions. Second, the product or service has to solve identified problems and third, it must provide specific pleasures. Monroe (1990) describes that the perceived benefits are some combination of physical attributes, service attributes and technical support available in relation to the particular use of the product. The purchase price is also included in the perceived benefits, because both industrial buyers and consumers tend to use purchase price as an indicator of quality and value (Ibid.).

Kotler (2000) states that the benefit part consists of four different determinants:

1) Product value. This determinant stands for a product's reliability as well as durability. In the product value the performance that the product offer also is included. Last the resale value is one factor that influences a customers perception of product value.
2) Service value. The service value is the perceived differences that the customer identifies concerning things like delivering, training, maintenance.
3) Personnel value. The personnel of the delivering company can be more or less knowledgeable and responsive.
4) Image value. The brand of a company communicates different image. These differences are though influencing the perceived customer value. (Ibid.)

Zeithaml *et al* (1996) describes the value concept of the benefit part as *"what is received"*. In this approach the expectation of what to receive is strongly linked to what the customer wants. Some customer may want high volume as a primary goal and feels like the volume is crucial for the perception of a high benefit part. Other customers may value high quality as a primary factor. Another customer may favour convenience. (Ibid.)

Lapierre (2000) suggests that there exist 10 value drivers that create the benefit to the customer. These are:

Alternative solutions. This refers to the range of alternatives offered by the supplier. Also the supplier's capability to tailor their offerings to match the customers needs. Furthermore, the supplier's helpfulness in terms of assisting the customer in solving his problems is included. (Ibid.)

Product quality. This property entails such aspects as the durability of the product as well as the reliability of the products a customer buys over the years. Performance of the product is something that also influences to the product quality. The consistent improvement in product quality over the years is also something that Lapierre (2000) points out are included in the quality driver. (Ibid.)

Product customisation. This property comprises of aspects like the ability to meet unique specifications, for products offered by other competitors. Furthermore, the suppliers ability to provide custom-built products for a single firm. (Ibid.)

Responsiveness. This refers to the supplier's ability to provide quick answers and solutions to the customers' problems. And in this, of course, listen to the problems the customers explain is incorporated. Here is also the suppliers interest of better understanding the customers' business by visit them. (Ibid.)

Flexibility. Flexibility concerns the supplier's ability in responding to the customers' request and also the supplier's ability to adjust their products and services to meet unforeseen needs. The flexibility driver also includes the way the supplier handle change and their ability to provide emergency product and services deliveries. (Ibid.)

Reliability. This aspect revolves around such matters as the accuracy and clarity of the billing and overall ability of the supplier to do things right the first time is included in the reliability driver. Furthermore, their ability to keep promises and to guarantee the overall competence of employees. (Ibid.)

*Technical competence***.** This refers to the suppliers' specialised expertise in the customer's activity sector and their ability to demonstrate comprehensive process knowledge of the customers business. In this also the suppliers' skill to adopt new technology to generate solutions and to provide system solutions in response to customers' problems. The creativity of the supplier is also some kind of technical competence. (Ibid.)

Image. In the image value driver the supplier's reputation and also their credibility are in focus. (Ibid.)

Trust. Trust concerns the customer's confidence in that the supplier is telling the truth. This includes the accuracy of the information provided by the customer's major supplier. Moreover, the supplier's fulfilment of promises made to customer's organisation and the sincerity of the supplier are incorporated in the trust driver. (Ibid.)

Solidarity. This refers to the help offered by the supplier when the customer runs into problems which also reflect the supplier's willingness of problems sharing that arise in the course of the supplier-customer relation. In this, Lapierre (2000) incorporate the supplier's

commitment to improvements that may benefit the customer's overall relationship with them (not only of benefit for their own sakes). Furthermore, the supplier's willingness to meet the customers needs beyond the contract terms is included in the solidarity value driver. (Ibid.)

2.3.2 Sacrifice

Monroe (1990) provides an interpretation of the sacrifice part that he calls perceived price. He states that perceived price is all the costs that a buyer faces when making a purchase:

- *Purchase price.*
- *Acquisition costs.*
- *Transportation cost.*
- *Installation cost.*
- *Order handling costs.*
- *Repairs and Maintenance.*
- *Risk of failure* or *Poor performance.*

In his description of perceived price, it is obvious that he leaves out the non-monetary costs that other authors like Zeithaml (1996) and Kotler (2000) points out to be of very high importance.

Zeithaml *et al* (1996) argues that the sacrifice component contains both monetary and non-monetary costs. The monetary costs are not the only sacrifice that consumers make to obtain products and services. Demand, therefore, is not just a function of monetary price but it is influenced by other costs as well. These non-monetary costs represent other sources of sacrifice, perceived by consumers, when buying and using a service. Time costs, search costs and psychic costs often enter into the evaluation of whether to buy or rebuy a service, and may at times be more important concerns than monetary price. Another author that also have noted and acknowledged the importance these elements is Kotler (2000). He states that the total customer cost asides from monetary comprises of time cost, energy cost and psychic cost (Kotler, 2000).

In line with the majority of authors, Lapierre (2000) suggests that the sacrifice part comprise of Price, Time/Effort/Energy and Conflict. The explanation of these, provided by Lapierre (2000), is as follows:

> *Price.* This incorporates most prices of the product and services the customer buys. Moreover this property covers the ratio between the prices customer pay, in relation to the supplier's profitability. Furthermore, the impact of competition among suppliers is another aspect of price. Justification of the charges and fairness are components that are included in the price sacrifice. (Ibid.)
>
> *Time/Effort/Energy.* This driver contains all the number of meetings with the suppliers' staff and the bargaining effort with the supplier's staff in reaching an agreement. Furthermore is the time and effort for training and learning that is needed in order to fully use the product or service. In addition to this, Lapierre also includes the time and effort spent in

> developing a working business relationship with the supplier in this driver. (Ibid.)
>
> *Conflict.* The sacrifice of this kind is a relationship-based sacrifice. This incorporates frequent arguments between the supplier and customer as well as disputed arguments and disagreements with the supplier about business issues or goals. (Ibid.)

Zeithaml *et al*, (1996) argue that the non-monetary costs represent other sources of sacrifice perceived by consumers when buying and using a service. Time costs, search costs and psychic costs often enter into the evaluation of whether to buy or rebuy a service, and may at times be more important concerns than monetary price (Ibid.). Another author that has the same opinion is Kotler (2000), that also notes these elements of non-monetary costs. These are time cost, energy cost and psychic costs. In sum, the non-monetary costs are:

Time cost. Time cost is the cost customer sacrifices when waiting in line to get a product or service delivered, one example is a customers wait for a dentist appointment. Not only has the customer to pay the dentist, but the customer is also wasting time. (Zeithaml *et al*, 1996)

Search or Energy cost. Energy cost is exemplified by search costs, that is the energy it takes for a customer to identify and select the desired service, both in time and resources. In this energy cost also the energy to learn and understand the product or service is included. (Kotler, 2000; Zeithaml *et al*, 1996).

Psychic cost. The psychic costs are often the most painful of the non-monetary costs. These are also very difficult to estimate for a company. The psychic costs can be divided into three different parts (Zeithaml *et al*, 1996). These are:

- *Fear of not understanding*, for instance, the small print in an insurance letter.
- *Fear of rejection,* for instance, when applying for any product or service where a credit report is required before the deliverance of for example a bank loan.
- *Fear of uncertainty*. This includes the fear of high or highly variable cost.

3 Theoretical frame of reference

This section will present the theories that constitute our frame of reference. The previous section covered theories such as the role of satisfaction in the creation of customer retention, provided by Zeithaml et al *(1996). As a complement to this view, Patterson et al (1997) shows that there exist a linkage between purchase intentions, satisfaction and value. The theories on value, provided by several authors, shows that value consist of a benefit part and a sacrifice part. The latter is argued to have both monetary and non-monetary properties.*

3.1 The value concept

The view of value that is to be used in this thesis is based upon the work of several authors (See figure 13). The starting point for our frame of reference, is the importance of customer retention. It is said to generate 95 percent of a company's profit (Lowenstein, 1993). Zeithaml *et al* (1996) provides an underlying logic to customer retention, which emphasises that a company should strive for a satisfied customer. This is also supported by an empirical study, conducted by Patterson *et al* (1997). They introduce value as a component in the creation of satisfied customers, whereas Zeithaml et al (1996) argue that quality services paves the way for customer satisfaction. However, Bolton *et al* (1991) states that the perceived value is a more comprehensive measure of customers' overall evaluation of a service than perceived service quality. Subsequently, it would seem logical to turn the attention towards the value concept, rather than service quality. Even more so, as deChernatony *et al* (2000) and Matthyssens *et al* (1998) states that value is a way of securing competitive advantage.

The definitions of value vary among authors. Kotler (2000) argues that value is the difference between total customer value and total customer cost, whereas Zeithaml *et al* (1996) offers a broader definition of value; they argue that value is the customers over-all judgement of what is received and what is given. Despite variations, these authors have more or less the same theme in their reasoning; value is formed by a positive, contributing part and a negative, deducing part. However, the definition found to be suitable for this thesis, is that value is the ratio between the benefits a customer gains when purchasing and using a service, and the sacrifices the customer has to make in order to be able to use the service.

Given our definition of value, it can be increased either by increasing the benefits or by reducing the sacrifices. A quick glance in the shelves of a gas station will give evidence of companies offering increased value by announcing that the candy bar now is ten percent bigger, but without a price mark-up. However, the benefit part of value is not an easy part to improve as it, according to Lapierre (2000), contains properties like service quality, service customisation, responsiveness, flexibility, reliability, technical competence, image, trust and solidarity. The most important of these properties, is the service quality that is an entire field of its own. Thus, it is easy to realise that the benefit part is highly complex. The sacrifice part, containing properties like monetary costs, time, energy and psychical costs would seem to be less complicated to alter in order to obtain higher value. Support for this idea is given by the studies by Monroe (1990) and Ravald *et al* (1996), but with slightly different motivations. They state that the reduction of the sacrifices is a more efficient way of increasing value, than increasing the benefits. This stands to reason, especially when studying the segment of very small enterprises, in a mobile communications context; It would be feasible that a very small enterprise is more focused upon the costs involved in the use of a mobile service, than of yet

another additional function included in the service. These two lines of reasoning would suggest that the sacrifice part is a more suitable for this thesis, than the benefit part would. Accordingly, the benefit part of value is not going to be subject to analysis.

In figure 8, the resulting picture of the value concept is presented. The different parts from the literature are put together in order to present a model of the chosen theories of value. The focus of this thesis will be on the sacrifice part and the different components are described in the theory chapter.

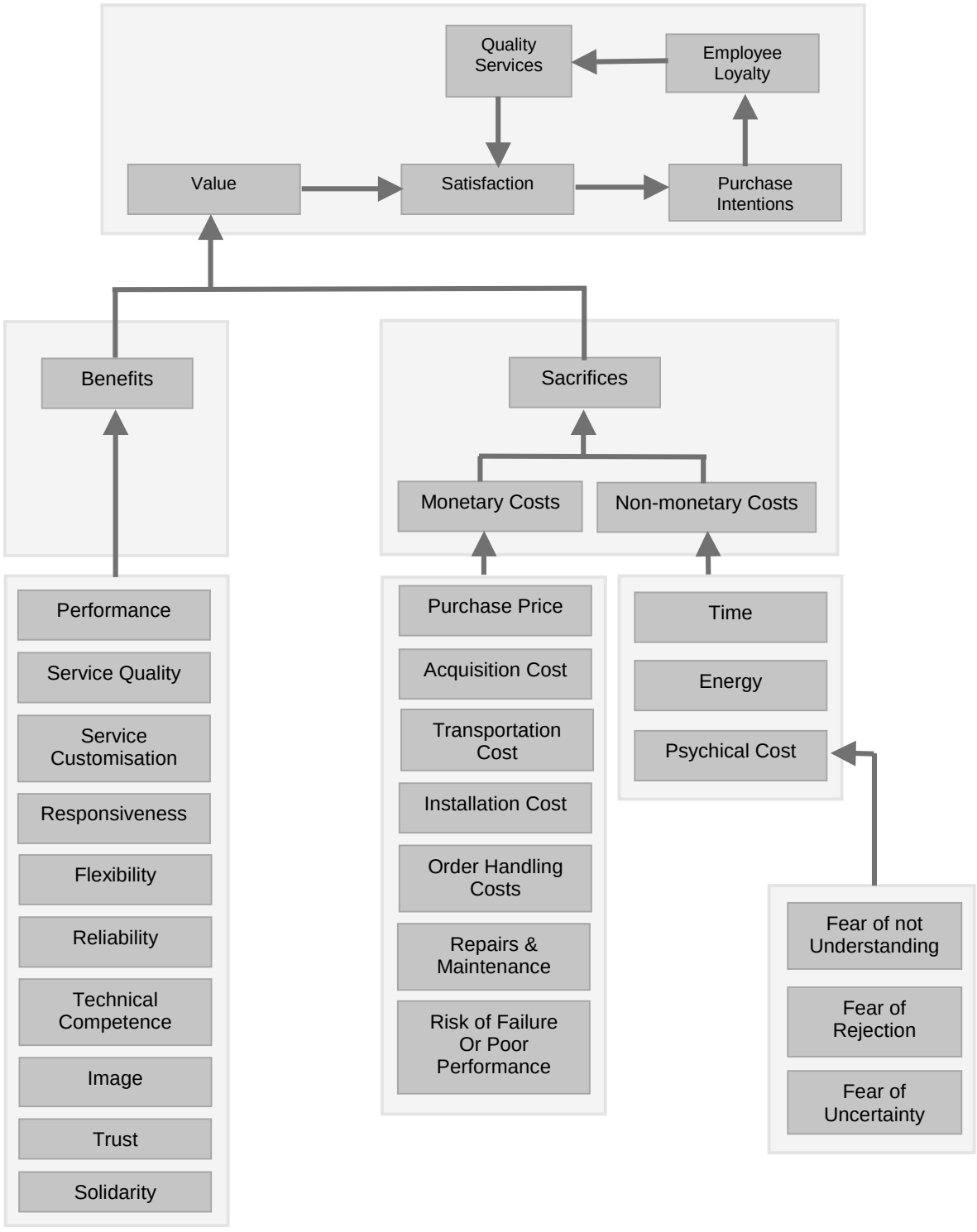

Figure 8. Value model

3.2 Sacrifices

As mentioned earlier, the reasons for focusing on sacrifices are many. Monroe (1990) states that people, in general, values a reduction of sacrifice more, than a gain of benefit. By emphasising the reduction in sacrifice, the reduction is perceived as an increase in value. Furthermore, it seems logical to start reducing the existing sacrifices, rather than focusing on the increase of the benefit part. This approach is further supported by Ravald *et al* (1996).

In this section the components of the sacrifices will be presented and also motivations will be given why different components are excluded in the sacrifice part. The main reason why some are excluded depends on the component's influence in a mobile service context. In the sacrifice part there are different authors that, one by one, provides their own picture of the determinants that fills up the concept. Zeithaml *et al* (1996) argues that the sacrifice component contains both monetary and non-monetary costs, which seems logical. This will therefore form the base of our frame of reference.

The monetary costs are relatively easy to obtain and understand. These are purchase price, acquisition costs, transportation, installation, order handling, repairs and maintenance risk of failure or poor performance. (Monroe, 1990)

The monetary costs are not the only sacrifice that consumers make to obtain products and services. Non-monetary costs represent other sources of sacrifice perceived by consumers when buying and using a service. Time costs, search costs and psychic costs often enter into the evaluation of whether to buy or rebuy a service, and may at times be more important concerns than monetary price (Zeithaml *et al*, 1996). Kotler (2000) also notes these elements of non-monetary costs, including time cost, energy cost and psychical costs.

In line with the tenor of non-monetary costs, provided by these authors, we introduce the Passive time cost, Active time cost and Psychic cost. These new concepts seem to be better suited to describe the costs involved. Both Zeithaml et al (1996) and Kotler (2000) concur on the time cost as a form of passive waiting, and on the psychic cost, which revolves around fears. Nonetheless, they have different definitions when discussing the costs that include some form of effort that has to be invested in order to be able to use the service. This why we choose to name it Active time cost. The chosen definitions of the non-monetary costs in this thesis are presented in the following section.

3.3 Emerged frame of reference

The value concept is situation specific, which means that customer values different characteristics different depending on the specific product or service. The characteristics of mobile services are to some extent different compared to other services and products as well. A mobile service is a communication service where the user gives the opportunity to interact with other people by using the service. There are no physical interactions between the service provider and the user when using the service. The interaction between the service provider and the customer is limited to the time of the ordering of the service and when paying for the service. In addition to this interaction takes place when problem arises using the service. Compared with a traditional service the personnel and the physical interaction are of major importance in the deliverance of the service. The results from the discussion above that, in

mobile services context, some of the components of sacrifices described in earlier chapter are of more of less importance, compered when buying or evaluating a service in general.

In a business context the transportation cost can be a considerable cost when for example transporting large production equipment or the raw material for the production. In the case of mobile services this cost is eliminated or relatively small, therefore this component will not be examined further in this thesis. The transportation cost in this case is the transportation to retailers to evaluate and purchase the service and other extra equipment needed. This is regarded as an acquisition cost.

In the case of mobile data services the order handling cost component is not of any larger interest due to the fact that the cost is very small or does not exist. Considerable order handling cost occurs in the flow of raw material that is put into the production process. Based on the discussion above this component will be excluded from the frame of reference.

The repairs and maintenance component is another component that is excluded in the frame of reference. The reason for this is that repairs and maintenance is more important in the product case where the customer owns the product. In a mobile service perspective this cost is of minor extent, due to the fact that the service provider takes responsibility for the repair and maintenance of the network.

The fear of rejection is a part of the psychic cost. In a mobile service context, this element is likely to have no impact. The frequently used of credit worthiness inquiry, when for instance opening a mobile subscription, has thus far not been used when a customer purchase a services. This leads to the exclusion of fear of rejection from our frame of reference.

As a result of the reasoning above, the following frame of reference has emerged. The emerged frame of reference can be seen in figure 9.

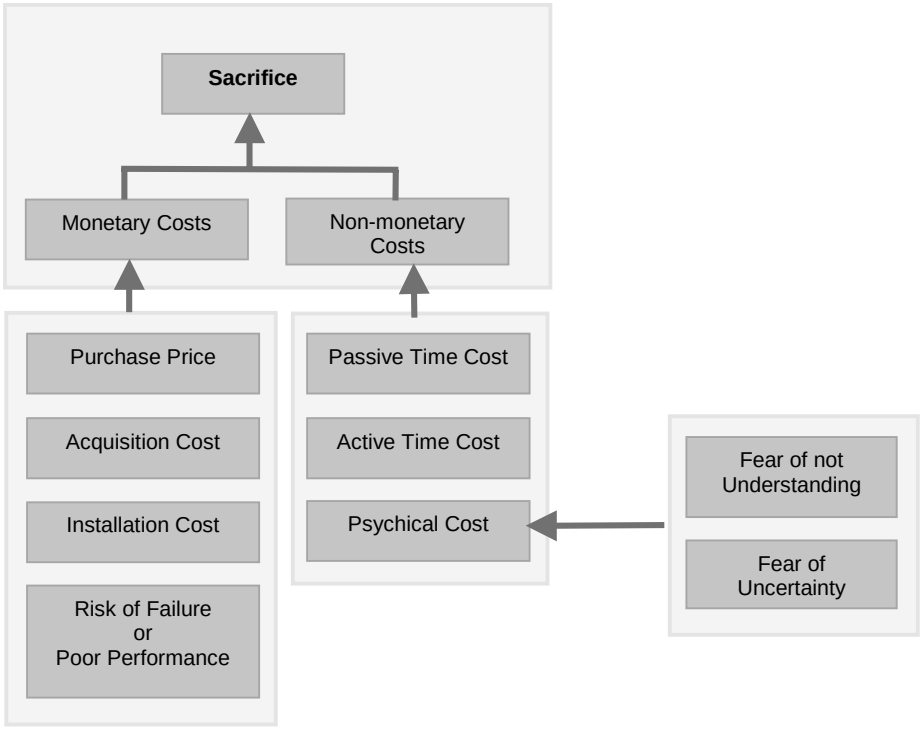

Figure 9. Emerged frame of reference

Purchase price. In this thesis we define purchase price to the amount of money the customer need to give in order to obtain a product and/or service.

Acquisition costs. Our definition of this refers to the other costs than purchase price when acquiring a product or service. This can be complementary equipment or services that are needed in order to use the service offer. In the acquisition costs also transportation cost in included. Transportation costs, in this case, is not for the transportation of the service, but rather the cost for visiting retailers where the service can be bought etceteras.

Installation costs. The definition of this monetary cost is the costs that appear when setting up the product or service. By setting up means to get the service in order and make the product or service useable for the customer.

Risk of failure or Poor Performance. The monetary costs associated with this are the post-purchase costs caused by the fact that the product or service does not carry out with the expectations. The reasons for this can be of different kinds. In all, this causes new costs in order to get a satisfactory solution.

Passive time costs. The definition of passive time costs is a non-monetary cost that occurs when the customer for some reason passively has to wait on the service delivery. It carries the same meaning as the time cost described by Zeithaml *et al* (1996); that is, the cost customer sacrifices when waiting in line to get a product or service delivered.

Active time costs. Active time cost is a non-monetary cost that is defined as time cost where the customer has to contribute actively to reach the desired results. There is energy or an activity needed and, in line with Zeithaml *et al* (1996) the cost is exemplified by search costs, that is the energy it takes for a customer to identify and select the desired service, both in time

and resources. In the active time cost the energy to learn and understand the service is also included. The meaning of learning is the efforts invested for gaining knowledge of how the service can be used to its fullest potential.

Psychical costs. The definition of the psychical cost is difficult to explain but can preferable be explained by the sum of three different components by Zeithaml *et al* (1996). The psychical costs are often the most painful of the non-monetary costs. The two components that will be examined in this thesis are:

- *Fear of not understanding,* which means that the customer feel insecure in using the new mobile data services.
- *Fear of uncertainty,* which in this thesis can be explained by uncertainties because the customer does not feel that he or she can understand how the use of the service influences other parts of the company.

3.4 Operationalisation

The aim of this thesis is to determine which of the sacrifice components that are associated to mobile data services, in case of very small Swedish companies. Moreover, this thesis aims to establish which of the sacrifice components are most important to small companies, when evaluating mobile data services. In order to accomplish this, the following issues has to be studied:

- **The impact of the purchase price on the perceived value.**

  In a mobile context the purchase price represents the minute charge when using the service. The purchasing of mobile communications is a continuous process; the customer pays for the time using the service. The purchase price is therefore easy to pinpoint, and the importance of this could be ascertained by measuring the impact of the minute charge. Studying the importance of the monthly fixed costs will also give evidence of the impact of the purchase price.

- **The impact of the acquisition costs on the perceived value.**

  Furthermore, the expenses from the need of extra equipment or extra services, that facilitate the wanted service, is included in the acquisition cost. For instance, the price for a mobile phone is included due to the fact that it for a majority is necessary for the users to have a new mobile phone. This is necessary to be able to use the new mobile data services such as access to Internet via WAP.

  In addition to the prior area, the transportation cost in order to purchase the service is included in the acquisition cost. An example of this cost is costs associated when a customer needs to go to retailers to evaluate and to buy a product.

- **The impact of the installation costs on the perceived value.**

The installation cost in a service perspective is different that in the case of a product. In general not much installation is needed when the customer orders a subscription or service. In a mobile service context, this could be the entrance fee or start-up cost when ordering a service or subscription. In the case of mobile data services personalisation has to be made in order to use the services to its fully extent. This activity can be made by the service provider, or to some extent by the customer him-/herself. In a monetary perspective the entrance fees or start up costs are in focus.

- **The impact of the risk of failure or poor performance on the perceived value.**

  To determine the impact of risk of failure or poor performance, several issues are to be investigated. In this case the investigation will be on the importance of the service's capability to deliver a functional solution. The expectations here include the service's capability to be used as the customer thought it would be used. Here the importance of usability and easy handling will be investigated. Another way of capture this matter is to investigate how the purchase intention is influenced by the customer's perception of the risk of failure. The risk of failure can be seen from a customer's point of view as the risk that the service will be complicated to use in some way. The results of a complicated usage could in the eye of the customer be seen as a service failure.

- **The impact of the passive time cost on the perceived value.**

  One way of measuring the importance of this idle time, is by studying the time spent in waiting for a subscription to become activated. During this time, the customer has no possibility to buy or use the service. Furthermore, the study of the passive time when waiting in line in a phone queue to get assistance could give a hint as to the importance of passive time cost.

- **The impact of the active time cost on the perceived value.**

  The active time cost component entails both a time and a energy property. In order to measure this component the importance of the time invested in learning (in association with purchase or use of a service) could be studied. For the service to become an option for the customer, he or she has to learn that there exists a service that could be suitable. When evaluating alternative services, the customer must understand how these services contribute to the operations. The understanding is necessary when comparing different service alternatives, in order to determine if one service is better than another, or if the company really need the service. In addition to this, to maximise the use of the service, the customer really needs to understand the functions and be able to manage them.

- **The impact of the psychical costs on the perceived value.**

  The measurement of the psychical costs appears to be the most illusive to measure. However, Zeithaml *et al* (1996) states that psychical costs can be divided into fear of not understanding, fear of rejection and fear of uncertainty. By using two of these three properties, the essence of psychical cost can be captured.

  The importance of the fear of not understanding could be ascertained by studying the impact of the complexity of the contracts, manuals or other written instructions, on perceived value. A complex contract with much fine print could be a source of fear to the customer. Another way of capturing the fear of not understanding is to investigate the customer's opinion concerning the new technology in general.

  The importance of the fear of uncertainties could be gauged by studying the effect of the variable costs on the value. If a customer pays by the minute, the total cost is reasonable easy to calculate, but if the charge is by transferred amount of data, the cost could be more difficult to calculate.

3.5 Research questions

Based on the reviewed literature, a value model has been formed. From this model a frame of reference has emerged. The presented operationalisation will facilitate the answering of the research questions of this thesis. These are:

- Which components of sacrifice are associated to mobile data services, in case of very small Swedish companies?
- Which of the sacrifice components are most important to small companies, when evaluating mobile data services?

3.6 Delimitations

In the concept of value, the benefit part is of great importance and interest, but will not be further investigated in this thesis. The reasons for this are the many dimensions included in the benefit part in relation to the time limit.

Another delimitation of this thesis was that the survey covered three regions in Sweden, from which a sample size of 300 companies was chosen. This was due to restrictions in time and resources.

4 Methodology

In this section, the research approach, research strategy, data sources, validity and reliability will be discussed. These topics are penetrated in order to show the link between the gathered information and the research questions.

4.1 Research approach

The research in this thesis is conducted with a deductive approach. This means that the researcher formulates a model based upon findings in the theory of a specific area. The model will be empirically tested and from this results conclusions can be stated (Wiedersheim-Paul & Eriksson, 1997) In our case the model is created from findings in the marketing literature concerning value and customer perceived value. Our theory was formed by findings from literature studies.

A quantitative research approach provides a wide perspective of the field of study, as opposed to the qualitative approach that aims to provide a deeper understanding of a certain issue (Wiedersheim-Paul & Eriksson, 1997). As the aim of this thesis was to draw general conclusions about the opinions in the selected sample, the quantitative approach was found to be best suited. Furthermore, the type of questions and also the answers that was searched was rather short and direct. An often-advocated way of gathering information, when having this approach, is by means of a survey (Wiedersheim-Paul & Eriksson, 1997).

4.2 Data sources

The information sources used during the creation of this thesis are secondary data, a survey and personal contacts with our supervisor as well as our mentors at Telia Mobile AB.

4.2.1 Previous research

As the deductive approach is based upon several theories concerning a specific topic, the search for relevant literature and articles was the major activity in the early stages. The search was conducted in several databases such as Bibdia, Libris and Helecon in the library at Luleå University of Technology and the Mid-Sweden University. Furthermore, we searched information in databases at the Internet; ABI/Inform Global, EBSCO and Emerald. However, information about value proved to be somewhat hard to obtain. Some explanation could be provided by the fact that the value concept is relatively new in the literature. This was corroborated by the fact that the information in standard works in marketing was found to be rather superficial. The most useful source was the article databases, but nevertheless the results of the search in these databases varied. However, a source that proved to be useful was the Emerald database. This database was focused on marketing related issues (in which value was to be found) and yielded a lot of articles that was relevant and up to date. Over a period of weeks the activity of gathering many bits and pieces concerning value, of which only a small part were found to be useful in our thesis, were in focus. The key words that were used when searching in databases were: *value, customer value, customer-perceived value, value creation, value added, value engineering, perceived value, service value* and the corresponding Swedish words as well as combinations of the expressions above.

4.2.2 Survey

Wiedersheim-Paul & Eriksson (1997) states that a survey provides a situation where the cost per answer is low both in time and money. As we wanted to do a survey among very small enterprises, we found that the only reasonable way of accomplishing this without large investments in time and money was via a mail questionnaire. However, the first issue that arose was how these companies could be reached. This was resolved by a co-operation with Företagarnas Riksorganisation (FR), who represents approximately 90 000 small and medium sized companies.

One important step when conducting a survey is to select the sample size (i.e. the size of the population that is to be studied). However, the larger the size of the sample, the greater its precision or reliability, but there are constraints to be dealt with. The constraints are time, staff and cost. (Chisnall, 1997)

In this case, FR provided the staff and assumed some of the costs for the survey, leaving the time aspect as major concern. The time aspect was judged to comprise of planning of the survey, designing the questionnaire and the data analysis. This was estimated to require several weeks of full-time engagement. We felt that the time aspect could to some extent be counterweighted by the fact that the staff and some of the funding were provided. In all, the prospects for having a, for a thesis, quite large population were good. After some discussion amongst ourselves, with our supervisor at Luleå University of Technology and with the staff at FR, we found that a sample size of 300 companies would be sufficient to answer our research questions.

Prior to the co-operation, FR had started a project for investigating the members' needs for IT-support. This had been postponed, but the organisation was still intact so that FR could provide us with three geographically diverse regions from where the respondents could be chosen. The organisation consisted of Ulrik Östling, project manager at FR, who was supported by staff at FR headquarters and three people from each of the regional FR boards. The regions in question were Strömsund (in the northern part of Sweden), Varberg (on the south Swedish West Coast) and Hultsfred (in the south-east of Sweden). These regions had 650 FR members, where Strömsund was the smallest and Varberg was the largest. As southern Sweden has a larger share of small companies, the share of samples from Strömsund was reduced to 75 companies to avoid abnormalities in the sample. As there is a higher share of companies along the coastline as opposed to inland Sweden, the share from Varberg was increased with 25 companies. This left a distribution of the samples, where Varberg had 125, Hultsfred 100 and Strömsund 75.

Another important issue is the sample frame (i.e. how the companies are to be selected). Our client, with an interest in the very small enterprise segment, provided one guideline. Among companies with one to ten employees, respondents were selected at random. The companies were chosen at random so that the overall result would give a broad perspective, rather than a perspective from a certain niche. The selection of a random sample was preceded by much discussion whether the selection of sample that was highly mobile was a better choice. However, this was associated with the problem of reaching such a sample, since the industry index of FR did not allow such stratification, which lead to the rejection of that alternative.

The design of the questionnaire was done in line with the research questions and the operationalisation only; in other words FR had no influence upon the design of the questionnaire. Their only requirement was that they could take part in the findings from the

survey. In addition to providing respondents, they also assumed responsibility for distributing the questionnaire and a reminder, for collecting the responses and work out a compilation of the gathered information. The original responses and the compilation of the responses were later on returned to us for analysis. In order to get a complete analysis of the collected data there was a need to compile the data again. This was carried out to improve the possibilities of analysing the data. This means that the data has been compiled two times; once by FR and once by the authors of this thesis.

The response rate was approximately 50.5 % or 151 replies out of totally 300. The time for the survey was ample – from September 19th to October 19th, 2000. This entailed the period from distribution to the time we stopped waiting for responses. Chisnall (1997) claims that by offering the respondents some sort of gain the response rate will increase. In order to obtain a response rate as high as possible the respondents were offered a possibility to win an Ericsson R320s mobile phone. By answering the survey every respondent took part in a lottery. This would hopefully make the respondents more interested in answering the survey.

4.3 The questionnaire

When designing the questionnaire, a lot of effort was put into the use of language, so that technological terminology used in the line of business would not be transferred into the questionnaire. The respondents, who were the head of the companies, could become confused if the terminology used were to lie outside their frame of reference. The questionnaire was accompanied with a cover letter, where we described to what purpose the survey was conducted. In addition to this, FR also contributed with a text that explained how the results could gain the individual company as well as FR. Furthermore, both the cover letter and the questionnaire was subject to much effort to make the questionnaire appealing to the respondents. All of these actions were taken to help increasing the response rate.

The first part of the questionnaire was designed to be easy for the respondents to answer and provide us with important background. The way of constructing the questionnaire this way, by starting with simple questions, is proposed by Wiedersheim-Paul & Eriksson (1997). The majority of the questions were closed. Closed questions mean that the alternative to the questions are fixed and predefined by the researchers. The opposite of closed questions is open-ended questions, which means that the answer calls for repose of more than a few words (Kaulio, 1999; Chisnall, 1997).

The disposition of the questionnaire was designed to entail three different parts (Appendices C and D). Questions 1 through 10 were designed to provide general information. In the first eight questions the respondents were to give answers about facts about their situation, such as numbers of subscriptions, types of equipment etceteras. In Question 9 and 10 the respondents were to state their opinion about the mobile phone and their use of it.

The questionnaire had two questions (number 11 and 12) that were especially designed to aid in the answering of the research questions. In the first question, the respondent was to answer questions about how well a number of statements coincide with their opinions when evaluating a mobile data service. These statements was an extension of our operationalisation in the sense that at least one statement was designed to correspond to the elements of the sacrifice. As shown in appendix A, the lion's share of these elements was covered with more than one statement. The Likert scale was advocated because it provides simple means for the

respondent to answer questions about the degree of feelings (Chisnall, 1997). Furthermore, as the Likert scale is regarded to have high reliability and simple construct, it was found to be suitable for Question 11(Chisnall, 1997).

In Question 12 the respondents are asked to rank eleven factors of a service from one to eleven. By asking the respondent to rank the factors, the respondent has to decide which of the alternative that is most important. The method of asking questions of the same content by first grading a number of aspects (in question 11) and then ranking them (in question 12) creates a foundation to get reliable answers to find out which ones was important as well as finding out their relation to each other. This method paves the way in order to get a reliable foundation to analyse the data and this helps out to get reliable answers to the research questions of this thesis.

4.4 Validity and Reliability

When conducting research, much effort has to be invested in creating high validity and reliability.

4.4.1 Validity

The validity aspect revolves around how well the questionnaire are able to measure what it is aimed to measure. The main types of validity are the *internal* and the *external* validity. (Wiedersheim-Paul & Eriksson, 1997)

According to Wiedersheim-Paul & Eriksson (1997), the internal validity refers to how well the theories and the operationalised definitions are connected. In this thesis the previously presented operationalisation was the outcome of careful deliberation. Some of the aspects of value, which were found in the theories on the subject of value, were discarded since it was found to be misplaced with respect to the selected field of mobile data services. An example of such an aspect was the importance of repairs and maintenance; the mobile data service is nothing that is repaired, or at least not by the customer. Other aspects was altered or given another angle. This was the case of the importance of installation cost. When discussing the installation costs in general terms, it is often thought of as the cost for the instalment of some type of equipment that requires electricians, welders, carpenters and others. In this thesis, it was found to be better suited to have an installation cost that entailed the costs for setting up the service, personalising the service etceteras. Yet another example where the definition was given a slightly different angle was in the case of the importance of purchase price. The purchase price is often thought of as one single fee, but in the mobile communications market, the services are subscribed which leads to a continuous purchasing situation. Hence, it was found to be better to have an operationalisation of purchase price that handled that kind of purchasing.

The external validity revolves around how correlation between the results of the measurement when using the operationalisations, and the reality (Wiedersheim-Paul & Eriksson, 1997). The actions taken to ensure high external validity were many. First of all, much energy has been put in the exact wording of the questions. This included checking for nuances with ambiguous or emotionally charged formulations that could introduce bias in the questionnaire. The language used in the questionnaire was chosen to fit the respondents' frame of reference. In this case we were particularly sensitive to the risk of transferring the language used by professionals within the mobile industry, in to the questionnaire. However, some technical

terms was used such as WAP (Wireless Application Protocol) in question 3. In this case the technical term is also a layman's term as well as a term often used in mobile service providers' marketing communication.

Another action taken to improve the external validity was the focusing on the content of the questions. Each question was subject to scrutiny, in order to see if it was necessary to ask it. Another influence on this was the issue of length of the questionnaire. As the length was important, we had to prioritise the questions. Yet another action taken, was the observing of the order of questions. In order to provide the respondent with a simple and smooth start, we put questions of general nature first. These questions concerned facts that described the respondents' situation, which they easily could answer. Subsequent to this introduction we asked about their opinions and feelings around sacrifices in mobile data services.

A pilot test of the questionnaire was carried out. Four respondents from small companies were interviewed after answering the questionnaire. Furthermore, several persons with knowledge of the industry also tested the questionnaire. These were two persons from Telia Mobile AB and also our supervisor at Luleå University of Technology and Ulrik Östling, project manager at FR. All the test respondents filled in the questionnaire and the then a discussion were held concerning their opinions how they felt about filling in the questionnaire. The test was followed by many revisions, before it was sent to FR for distribution.

One of the things that would affect the validity, was the fact that the questionnaire was quite long, especially question 11 and 12 having seventeen and eleven alternatives respectively. The length of the questionnaire could wear down the respondent, which in turn could make respondents' providing frivolous answers.

4.4.2 Reliability

"Reliability refers to the stability and consistency of the results derived from research: to the probability that the same results could be obtained if the measures used from research were replicated" (Chisnall, 1995, p.34)

The work with this thesis started with a considerable literature study. The literature we came across (mainly articles) was from several authors and often had value related topics, which meant that we covered the areas of value and the immediate surroundings. This would suggest that bias, from reading only one author and reading only about one topic, be held at a minimum. Widersheim-Paul & Eriksson (1997) describes some other fallacies that are to avoided in order to attain high reliability. One of these is measuring error, which in turn consists of respondent errors, gauging errors and errors that are effect of the interplay between the interviewer and the respondent. As we used a questionnaire, this latter error was avoided.

The respondent errors are such errors that are due to the fact that respondents sometimes are unable or unwilling to provide truthful answers. In order to minimise effects of this kind of errors, we found it necessary to be scrupulous about the language and the wording. Furthermore, the use of language in the questionnaire was of major concern to avoid ambiguous or emotional charged formulations. The chosen language was simple, direct and as far as possible without technical terms.

The gauging errors arise when a questionnaire entails erroneously formulated questions, wrong order of question etceteras (Wiedersheim-Paul & Eriksson, 1997). The order of the questions were also subject to scrutiny and it was found to be suitable to have a disposition

where the initial questioning concerned facts that the respondents easily could give an answer to. Furthermore, the method of asking questions of the same content by first grading a number of aspects (question 11) and then ranking them (question 12) would facilitate reliable answers.

The magnitude of reliability in this thesis is hard to assess. If a replication were done in the near future, the results would probably be similar to our findings. But if carried out some years from now, the similarities would be fewer. The major reason for this is the enormous development in the market for mobile communications. Even if the studied segment would be slow to adopt new technology, their surroundings (their children, their customer's etc) are likely to be rather fast. It seems plausible that this would force the very small enterprise segment to respond to the change.

The use of incentives to boost the return rate of the survey should be approached cautiously. By using large incentives by offering for example personal cash payment can cause a bias (Chisnall, 1997). In spite of the fact that a bias could be caused, we found it suitable to offer the respondents a chance to win a mobile phone in a lottery. This could hopefully result in reaching a high response rate. As the incentive that was merely the participation in a lottery of a mobile phone, it would probably not cause any bias.

The fact that both FR and the authors compiled the data from the survey makes the compilation more reliable. This will to some extent enhance the reliability of the thesis due to the fact that the data was compiled two times with the same result.

4.4.3 Non-responses

According to Chisnall (1997), the non-response is a critical limitation of a mail survey. The main problem of non-response is that the ones that do not respond could have very different opinions compared to the one's that have answered the survey.

When planning the survey the response rate and the impact of non-response was thoroughly discussed with the client and the supervisor at Luleå University of Technology. After considerations, a response rate of 50 percent was found to be adequate.

The response rate of the survey was 50.5%, which was marginally higher than the predefined goal. Despite of this, the non-responses must be considered as relatively high and could have an impact on the validity as well as the reliability. Nevertheless, the results were found to be acceptable for this thesis.

5 Results

In this section the results from the survey will be presented. By way of introduction the results of the first ten questions (Appendices E and F) will be presented in a general manner. These ten questions can be seen as background information. The focus of this presentation will be on question number 11 and 12. This refers to the fact that these two questions are highly related to the research questions of this thesis.

5.1 The questionnaire

The questionnaire was printed and distributed in 300 copies. These copies were distributed to very small firms with one to ten employees in three Swedish communities. The communities represented are Hultsfred, Varberg and Strömsund.

The time for investigation was September 19th to October 19th 2000. The response rate of this survey was 151 answers, which translates to 50.5 percent. A response rate of 50 percent is relatively high for this kind of investigation, which creates a foundation of getting reliable answers.

5.2 General results

From the results it can be stated that 53 percent are service companies, 18 percent are manufacturing companies and 29 percent classifies themselves as other.

The majority of the companies, 57 percent, are older than ten years. The next biggest group is the companies with age of three to ten years. Only 11 percent of the companies are one to three years old. One single percent of the respondents are younger than one year.

When focusing on the equipment that the companies are using in their profession, this shows that almost everyone is using a mobile phone. Furthermore, a majority or almost eight out of ten owns and uses a stationary computer. Three out of ten say that they use a portable computer and the same situation can be seen in the use of a digital camera. (Figure 10)

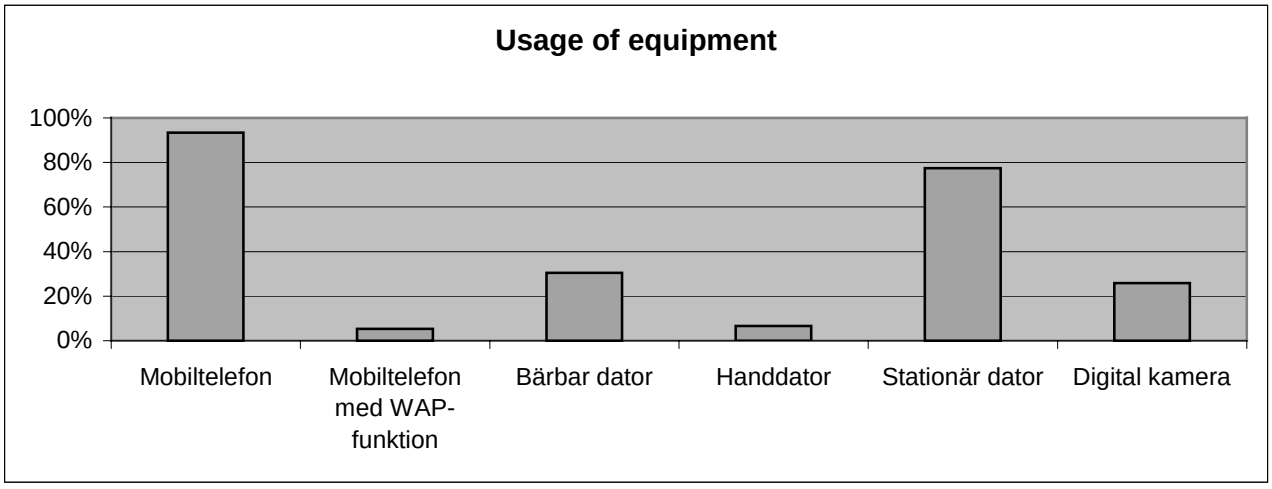

Figure 10. Usage of equipment

The usage of different mobile- and Internet services in the segment shows, that three out of four are using Internet subscription and therefore in some way are using the Internet in their work. A service that is correlated to the use of the Internet is the use of e-mail. The survey shows that every second company is using e-mail in their work. Furthermore the survey shows that four out of ten are using SMS (GSM- text messaging) in their work.(Figure 11)

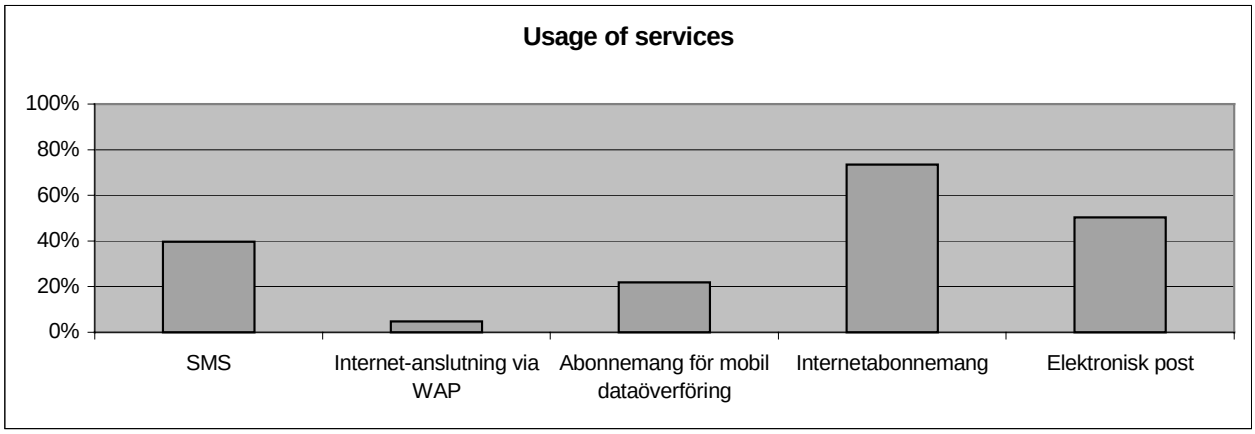

Figure 11. Usage of services

Interesting to notice is that the results show that every second company has a homepage. This means that 25 percent of the companies that have got an Internet subscription does not have an own company homepage. (Figure 12)

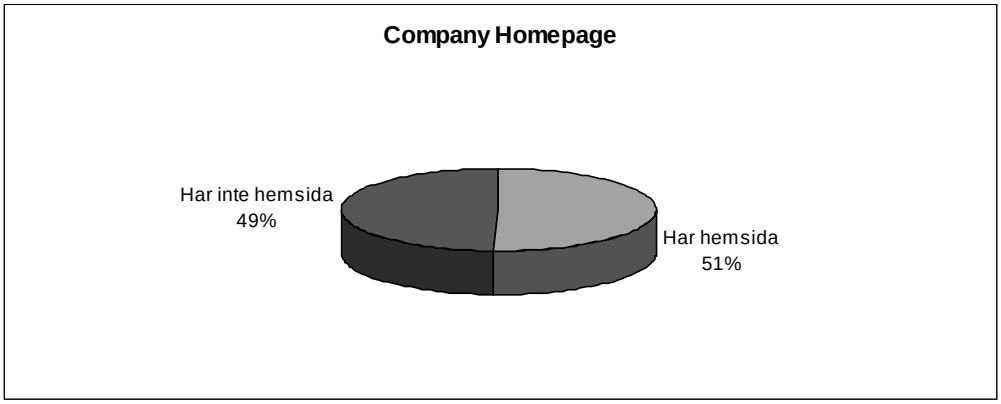

Figure 12. Percentage Company Homepage

The results shows that Telia Mobile is by far the most used operator with a high majority of the respondents' subscriptions connected to them. The second largest operator is Tele2 and relatively close to them is Europolitan. Based on number of subscriptions, the sum of these two operators are still much smaller than the dominating operator.

In the survey some questions concerned the small companies behaviour in the case of their way of working. The result shows that the companies are very mobile in their work. There is an apparent trend to be found in the question regarding how often they are working outside their office or workshop. Every second company declares that they are working on other place

than the office every working day. Furthermore, two out of ten answers that they are working outside the office once a week. The rest declares that they once a month, or not at all, are working outside the office. (Figure 13)

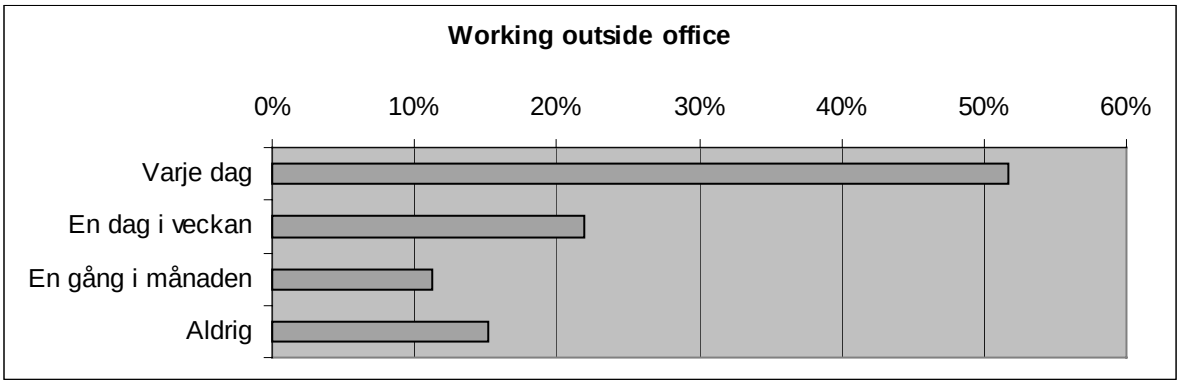

Figure 13. Working outside office

The usage of the mobile phone varies among the respondents. The majority, 35 percent states that they are using the mobile phone one to five times a day. The other groups were of equal sizes, approximately 20 percents. One group declares that they are using the mobile phone more than ten times a day. Another states that they are using the mobile phone six to ten times a day. The last group says that they are using the mobile phone less than once a day.

In line with the frequently usage of the mobile phone more than every second company thinks that the mobile phone is very important to their work. Moreover, another 25 percent of the respondents express that the mobile phone is rather important to their work. Only as few as 14 percent declares that the mobile phone is rather or very unimportant in their work.

In comparison with the fixed telephone, the mobile phone is seen to be of less importance. Almost every other company states that the fixed telephone is more important than the mobile phone. Almost as many four out of ten states that the two alternatives are of equal importance.

5.3 Customer perceived value

Questions number eleven and twelve is focusing on the research question of this thesis. These two questions concentrates on the customer's perception of value. These two questions complement each other by the fact that they are dealing with the same content – value perception but with different methods. In question number eleven the respondent is asked to grade statements concerning value. In question twelve the respondent is asked to rank different factors with the same meaning as in the prior question.

In the first diagram the different specific statements and each mean value are presented from question number eleven. In this question the marking is from one to five. A statement marked five represents that the respondent agrees completely with the statement. The opposite, a statement marked one, represents that the respondent does not agree at all.

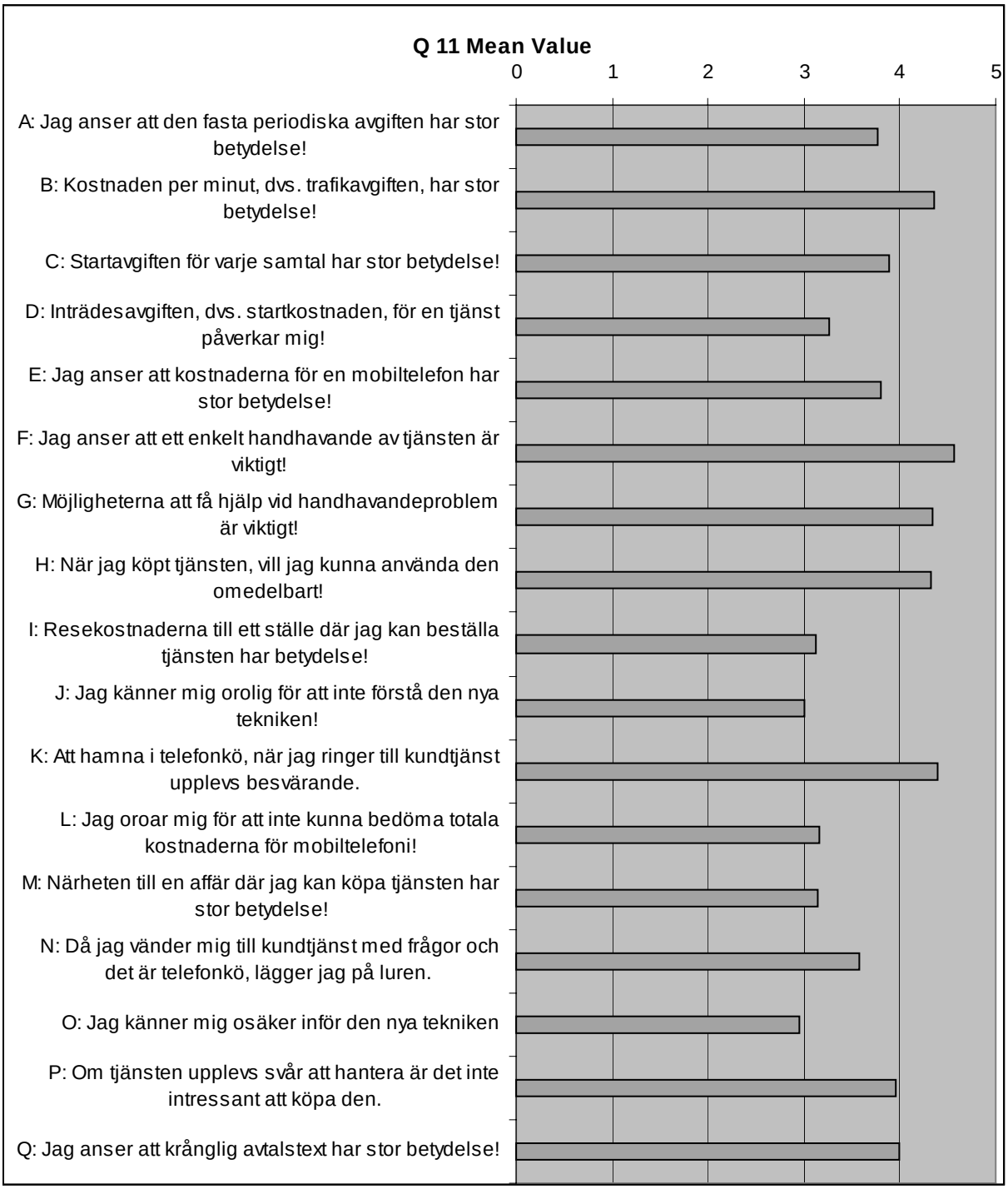

Figure 14. Value perception.

From studying the distribution of the statements shown in figure 14, some observations can be made. First can be stated that most of the mean values from grading lies between three up to almost five.

Figure 14 shows that the five highest graded statements all have got mean values from 4.4 to 4.6. This means that the respondents agree with these statements. The highest mean value has statement F - “Jag anser att ett enkelt handhavande av tjänsten är viktigt!”. The other four

statements are; B - “Kostnaden per minut, dvs. trafikavgiften, har stor betydelse!”, G - “Möjligheterna att få hjälp vid handhavandeproblem är viktigt!”, H - “När jag köpt tjänsten, vill jag kunna använda den omedelbart! and K - “Att hamna i telefonkö, när jag ringer till kundtjänst upplevs besvärande.”

Another way of presenting the results is to display the distribution of markings of each statement. By doing so, it is easy to see which of the statements that the respondent’s thinks are most important when valuing a mobile data service.

By way of introduction, figure 15 displays that most of the alternatives have the majority of hits in grade three though five.

Notable is that statement F - ”Jag anser att ett enkelt handhavande av tjänsten är viktigt!” has the highest number of mark five. Almost 100 out of 146, which means that two out of three completely agree with this statement.

Other statements with large representation of mark five are B - ”Kostnaden per minut, dvs. trafikavgiften, har stor betydelse!”, G - “Möjligheterna att få hjälp vid handhavandeproblem är viktigt!”, H - “När jag köpt tjänsten, vill jag kunna använda den omedelbart!”, K - “Att hamna i telefonkö, när jag ringer till kundtjänst upplevs besvärande.”.

On the other hand, statements D - ”Inträdesavgiften, dvs. startkostnaden, för en tjänst påverkar mig!”, I - ”Resekostnaderna till ett ställe där jag kan beställa tjänsten har betydelse!, J - ”Jag känner mig orolig för att inte förstå den nya tekniken!” , and L - ”Jag oroar mig för att inte kunna bedöma totala kostnaderna för mobiltelefoni!” have in general the lowest marks. They all got a dominating mark three and also a minimum of mark five.

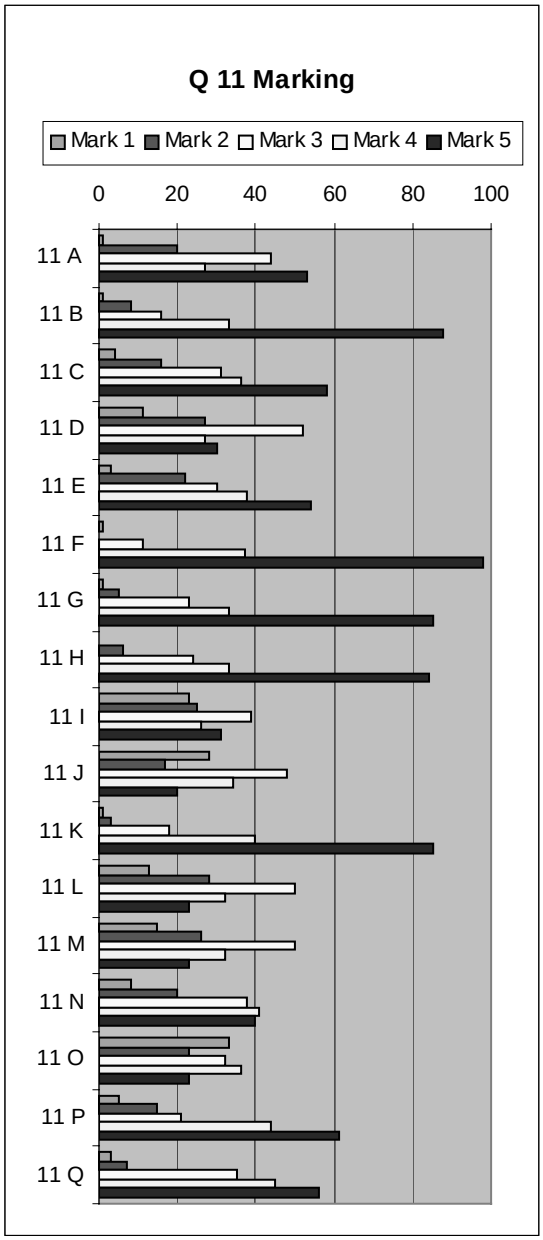

Figure 15. Distribution of value perception

In question number twelve the respondents were asked to rank different factors when they are evaluating mobile data service. Totally eleven factors were presented in this question. The most apparent in the results of question twelve, is the number of responses. The n-value, i.e. the number of responses, lies between 126 and 127, whereas the response rate from the entire survey is 151. This translates into between 83.4% and 84.1% of total responses. In order to present the results from this question in a proper and visible manner, the results are inverted or weighted. This means that factors ranked number one, implies highest priority and highest

mark, are given eleven points. On the contrary, a rank of eleven, which means lowest priority and lowest mark, is attributed one point.

The first observation to be made is that B - ”Låg trafikkostnad (kostnad per minut).” has got the highest priority and this is indicated by the highest mean value in the question.

Moreover factor A - ”Låg fast periodisk kostnad” is seen as the second most important factor. On the third position is F - ”Enkelt handhavande vid utnyttjande av tjänst”. The factor C – “Låg inträdesavgift vid öppnande av tjänst”, closely follows factor F. On the other hand, factor J - ”Närhet till butik där jag kan beställa tjänsten.” is clearly the factor that is of smallest importance.

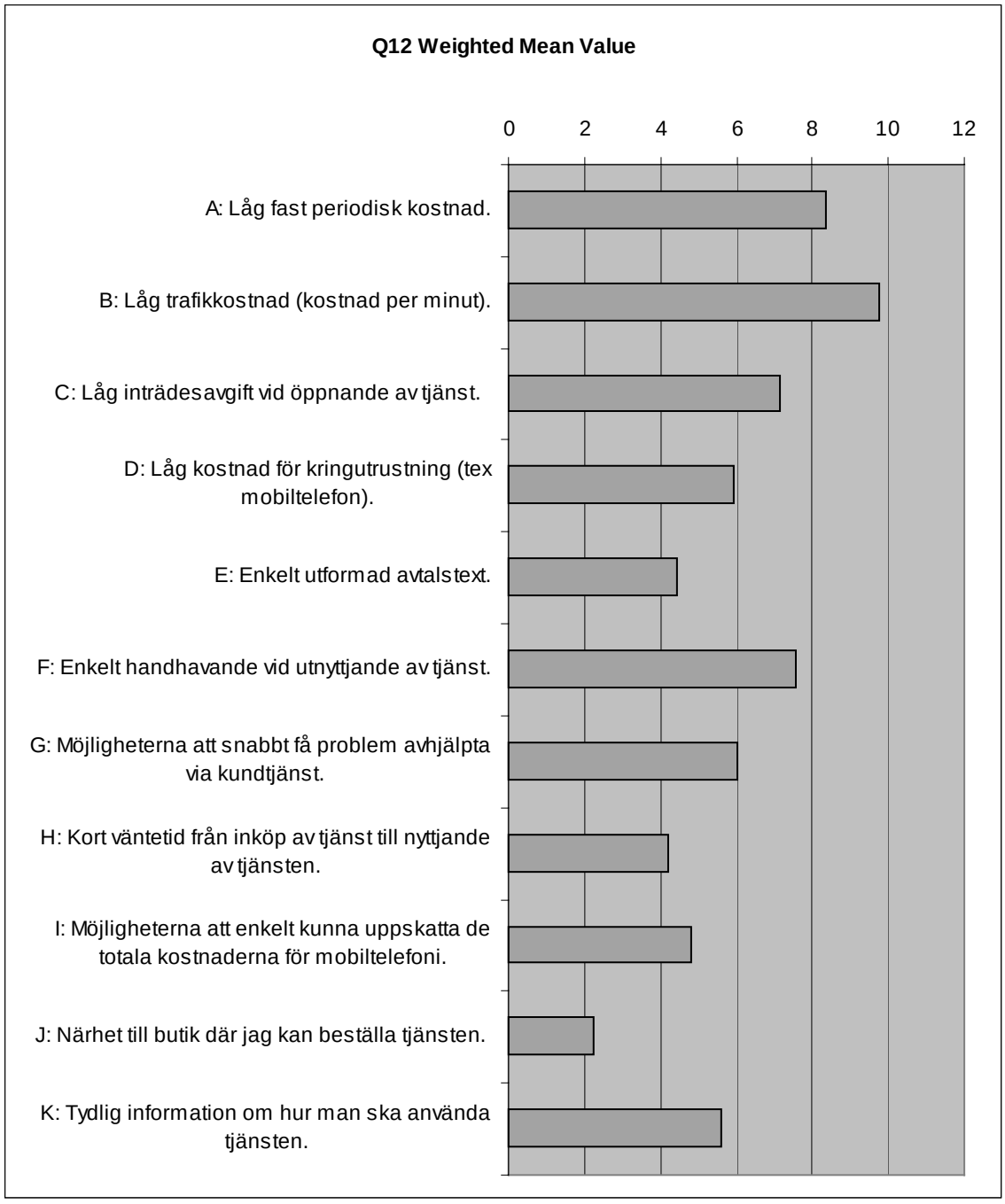

Figure 16. Ranking of factors contributing to value

Another procedure of presenting this statistics is, once again, to display the distribution of the rankings in each of the factors. In figure 17, the number of the ranking is shown. Starting with factor A - ”Låg fast periodisk kostnad” it can be stated that this is most frequently, compared with the other factors, ranked as number two. Another observation is that B - ”Låg trafikkostnad (kostnad per minut)” is most frequently ranked as the most important factor. About 54 % of the respondents states that factor B is the most important and therefore ranked this factor as number one. More is that the respondents declare that C - ”Låg inträdesavgift vid öppnande av tjänst.” is to largest extent regarded to be the third most important factor, based upon number respondents that ranked this factor as number three.

Finally the figure 17 also displays that the factor J - ”Närhet till butik där jag kan beställa tjänsten.” is the by far most ranked as number eleven. As many as 54 percent of the respondents considers factor J to be the most unimportant factor when buying a mobile service.

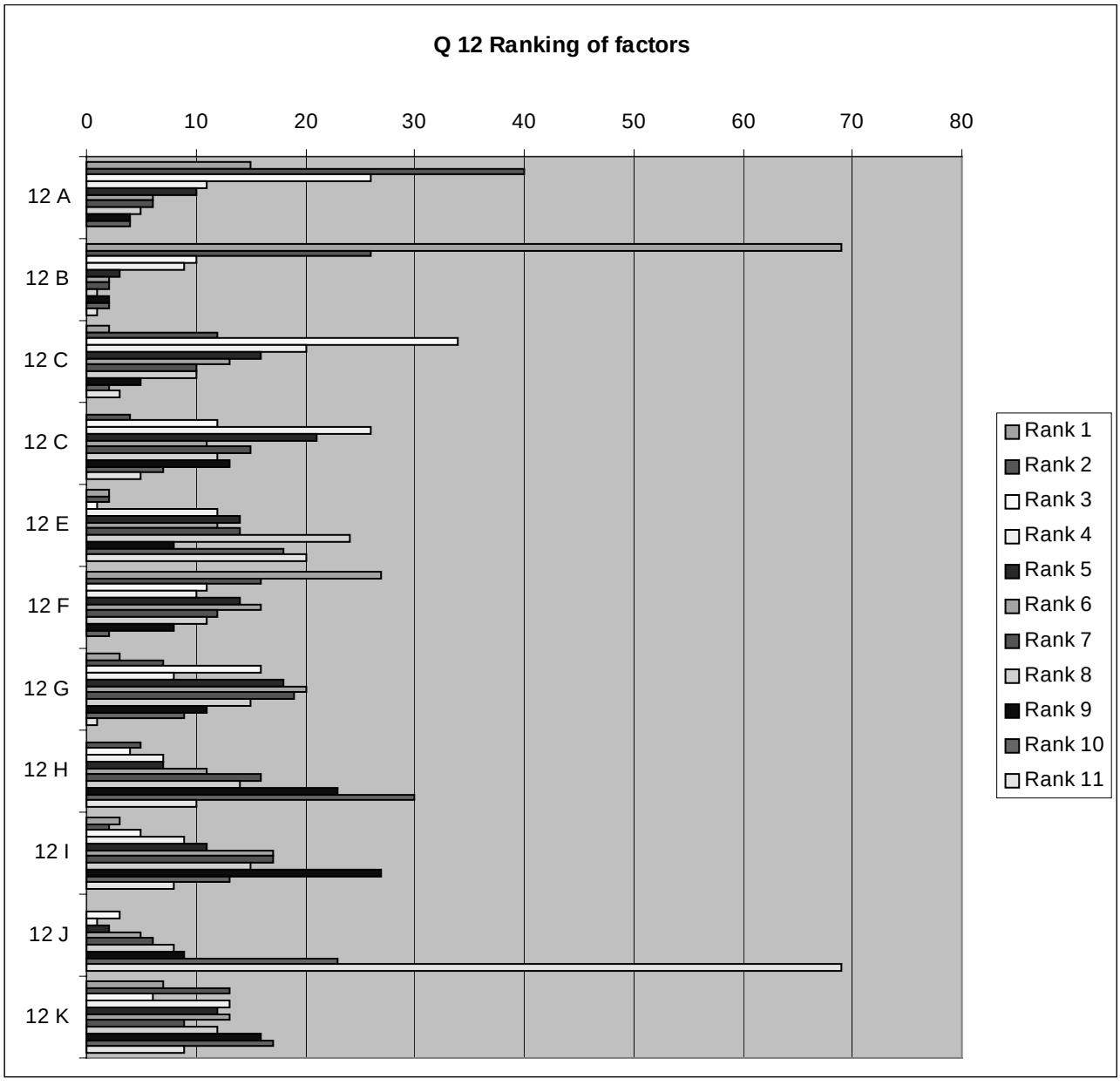

Figure 17. Distribution of the ranking of factors contributing to value.

6 Analysis and Conclusions

This chapter is divided into four parts. In the first part the results from the survey will be analysed in order to be able to draw general conclusions and to answer the research questions. In the second part, a comparison between the results and the theoretical frame of reference will be analysed and presented. From the two prior parts of analysis, the third part contains implications and recommendations to the instigator of this thesis, Telia Mobile AB. The last part concerns suggestion for further research.

6.1 The connection between the research questions and the results

From the theory of value the sacrifice part can be divided into two different parts, monetary and non-monetary costs. First the monetary costs (purchase price, acquisition cost, installation cost and risk of failure or poor performance) will be examined followed by the non-monetary costs (passive time cost, active time cost, fear of not understanding and fear of uncertainty). This part of the chapter will be presented in line with the different parts of the emerged theoretical frame of reference.

6.1.1 The impact of the purchase price on perceived value

The purchase price is one of the monetary costs that are included in the sacrifice part in the value definition. The definition of purchase price is the amount of money the customers need to give, in order to obtain a service.

In the survey several statements and questions together capture the impact of the purchase price on the perceived value. In question 11 (See appendices C and D) the statements A –*"Jag anser att den fasta periodiska avgiften har stor betydelse!"*, B –*"Kostnaden per minut, dvs. trafikavgiften, har stor betydelse!"* and C –*"Startavgiften för varje samtal har stor betydelse!"* concerns the purchase price. In question 12 there are two factors that deals with the purchase price, A –*"Låg fast periodisk kostnad."* and B –*"Låg trafikkostnad (kostnad per minut)"*. The relation between the sacrifice components and the different questions are shown in matrices in appendices A and B.

When focusing on the results from question 11 it can be stated that the respondents to a large extent agree in all these three statements. Six out of ten respondents declares that they fully agree in the statement 11 B. This high number of mark five's gives 11 B a mean value of almost 4.4 out of 5. Also in statement 11 A, a majority or about 60 percent of the respondents agree totally or to a large extent. The same reasoning is applicable on statement C. Statements A, B and C has their largest number of points in the mark five and they all have got left skewed[1] distributions.

These results from the questionnaire indicate that the purchase price is indeed one of the sacrifice determinants. In question 12 the factor B, low minute charge, is the by far most ranked number one factor in the question and the weighted mean value is almost 10 out of

[1] Left skewed distribution means that the median value is higher than the mean value, which indeed means that the majority of the answers lie in the higher parts of the marks (Moore, 2000).

eleven. In addition to this the factor A, low periodical cost, is the second highest ranked factor. Factor A has a weighted mean value of 8.4 out of totally 11.

The results from the questions described above elucidate the fact that the purchase price is influencing the perceived sacrifice and therefore the value. The purchase price is a factor when a customer evaluates a mobile data service as well as when a customer is evaluating a service or product in general. In the results of this survey, another conclusion can be made. Compared with the other sacrifice components the purchase price seems to be the most significant one when a customer evaluates a mobile data service.

6.1.2 The impact of the acquisition costs on perceived value

The acquisition costs refers to other costs than the purchase price when ordering a product or service. This can be complementary equipment or services that are needed in order to use the original service offer. In the acquisition costs the transportation costs are included, which in the case of services is consisting of the cost for visiting a retailer where the service can be bought.

In the survey the impact on perceived value from acquisition costs are caught by question 11 through the statements E – *"Jag anser att kostnaderna för en mobiltelefon har stor betydelse!"*, I – *"Resekostnaderna till ett ställe där jag kan beställa tjänsten har betydelse!"* and M – *"Närheten till en affär där jag kan köpa tjänsten har stor betydelse!"*. In question 12 the impact of acquisition costs are tested in factors D – *"Låg kostnad för kringutrustning (tex mobiltelefon)"* and J – *"Närhet till butik där jag kan beställa tjänsten"*.

From the statements and factors above, which are derived from the operationalisation, it is obvious that the acquisition costs sacrifice determinant is rather heterogeneous. One part is the extra equipment, for instance mobile phone, whereas the other part concerns transportation costs. In the results the heterogeneity is obvious due to the fact that the different parts are marked and ranked differently. The part that consists of statement 11 E and factor 12 D concerns the influence on value from extra equipment like mobile phone, digital camera etceteras. The results from this part show that the response of statement 11 E has a mean value of 3.80 and factor 12 D has a weighted mean of 6.05. Furthermore the statement 11 E concerning equipment, has majority of its hits in mark five. The conclusion is that this part of the acquisition costs can be found in the results, which indicates that this is included in the perceived sacrifice and consequently in value.

When focusing on the other part that contains of the transportation costs, this is captured by statement 11 M and I. These two statements have got mean values slightly more than 3, which indicates that the respondents to some extent agrees with the statements. Compared with other statements that represents other sacrifice determinants these two are in the lower part of the mean values. The transportation cost is also captured in the ranking question by factor J. The results from statements of question 11 is reinforced in question 12 where factor J is by far the lowest prioritised factor. As many as 55 percent of the respondents states that the closeness to a shop is the most unimportant factor of the factors in the question. Another way of viewing the results is to note that as many as 73 percent rank this factor as number ten or eleven out of eleven. From the results in the survey, it is obvious that the transportation part of the acquisition cost is of minor importance compared to the extra equipment part. This result seems logical because the monetary cost of getting to a shop is much smaller that the cost of extra equipment in the case of mobile services. The transportation cost is in many cases one single cost that only appears when the customer is about to buy a new service or if he for

some reason needs to get physical help of some kind. In some cases the transportation cost can be totally eliminated due to the fact that the service can be ordered via phone or the Internet.

To sum up the impact of the acquisition costs on the perceived value, the conclusion is that this determinant exists and influence the buyers' perception of value to some extent. However, the determinant is not found to be of the most important ones in the case of mobile data services.

6.1.3 The impact of the installation costs on perceived value

The definition of this monetary cost is the costs that appear when setting up the product or service. Setting up means to get the service in order and make the product or service useable. In the case of mobile data services this cost can be exemplified by the start up cost or entrance fee.

In the survey the results from the statement 11 D – *"Inträdesavgiften, dvs. startkostnaden, för en tjänst påverkar mig!"* and factor 12 C – *"Låg inträdesavgift vid öppnande av tjänst"* that are collecting this sacrifice determinant.

Looking at the results, statement 11 D has got a mean value of 3.26, which indicates that the start up costs influences the customers to some extent. The distribution of the marks shows that the majority of the given points are three's. The outcome of factor 12 C shows that the importance of this factor is relatively high. The weighted mean value for 12 C is 7.17 and the factor is ranked, to largest extent, number three over all. Here the results from the ranking is different compared to the rating of the statement. In the ranking question number 12, the start up cost is seen as more important. An explanation to this phenomenon could be that the factor 12 C expressively states low start up cost, as compared with the statement 11C, which concerns that start up cost, using a neutral formulation.

The overall results show that the installation costs do have an impact on the perceived value in the case of mobile data services. The sacrifice determinant can be seen as an existing part that influences the customer. From the survey the results shows that the installation costs is not one of the most important determinant compared with other sacrifice determinants. This seems reasonable since the installation costs in the case of a service is rather low compared with the total cost.

6.1.4 The impact of risk of failure or poor performance on perceived value

The monetary costs associated with this are the post-purchase costs caused by the fact that the product or service does not carry out according to expectations. The reasons for this can be vary, but two that are closely related to this area are usability and easy handling of the service functionality. In all, in the case where the service does not deliver a satisfactory solution this causes new costs in order to get a satisfactory one, which do solve the fundamental need of the customer.

In order to capture this determinant in the questionnaire, two statements were constructed. Statement 11 F –*"Jag anser att ett enkelt handhavande av tjänsten är viktigt!"* and 11 P – *"Om tjänsten upplevs svår att hantera är det inte intressant att köpa den."* Statement 11 F concerns the importance of an easy handling of the service, which can be seen as the opposite of poor performance. In addition to this two factors in question 12 also are focusing on easy

handling and the need for explicit information concerning the use of the service. These two factors will be examined later in this section.

In the questionnaire the statement 11 F that concerns easy handling receives the highest mean value (4.57) of all statements. Two out of three respondents declares that they fully agree in this statement and furthermore, there is a left skewed distribution. This indicates that this matter is very important and that the opposite – the risk of poor performance – has a high impact on the perceived sacrifice and value. The other statement 11 P that also deals with the same matter, but with a reversed approach, receives a mean value of near four. As in the prior statement the share of mark five is the dominating mark, although there are here four out of ten that to fully extent agrees with the statement. Also in this case the distribution is left skewed, which strengthen the tendency of the importance of this determinant.

In question 12 the impact of risk of failure or poor performance is captured by factors 12 F – *"Enkelt handhavande vid utnyttjande av tjänst."* and 12 K –*"Tydlig information om hur man ska använda tjänsten."*. Here the weighted mean value of factor F is 7.57, which match up to a third place of the most important factors. The distribution of ranking displays that two out of ten rank this factor as number one. The results from the factor 12 K shows a weighted mean value of 5.6 and the distribution among the ranking is spread from number one to number 11. This factor can be said to handle the same area as the prior but in this case the formulating of the factor is softer, which could be one explanation to why this ranking is lower compared to the factor 12 F.

Looking at the statements and factors above, it can be questioned whether the monetary aspects can be caught by the formulations. The connection to a monetary aspect is that if the customers feel that the service has got a high risk of failure or poor performance, which most likely comes from difficulties in the use of the service. In this case the customer needs to solve this problem by searching and ordering another service, which requires monetary means.

The results above show a clear trend towards the existence of a large impact of risk of failure or poor performance, on the perception of sacrifice and value. The results show that this sacrifice determinant is of the more important kind compared to other sacrifice determinants.

6.1.5 The impact of passive time cost on perceived value

The definition of passive time costs is a non-monetary cost that occurs when the customer for some reason passively has to wait for the service delivery. It carries the same meaning as the time cost described by Zeithaml *et al* (1996); that is, the cost customer sacrifices when waiting in line to get a product or service delivered.

The questions, designed to assess the impact of passive time cost, is found in statements 11 H – *"När jag köpt tjänsten, vill jag kunna använda den omedelbart!"*, 11 K – *"Att hamna i telefonkö, när jag ringer till kundtjänst upplevs som besvärande."* and 11 N - *"Då jag vänder mig till kundtjänst med frågor och det är telefonkö, lägger jag på luren."* in question 11, as well as in factors 12 G – *"Möjligheterna att snabbt få problem avhjälpta via kundtjänst"* and 12 H – *"Kort väntetid från inköp av tjänst till nyttjande av tjänsten"* in question 12.

The results regarding question 11 H, shows that this statement is given marks that produces a mean value of above mark four which must be considered as quite high, as the top mark is five. When studying the distribution, the number of mark five comes in fifth place.

Furthermore, the distribution is left skewed. In turn this would indicate that the majority of responses are above four. A plausible interpretation of this is that the spirit of this statement plays a part in the evaluation of mobile services. When studying the responses given for question 11 K, with a mean value above four and a distribution skewed to the left, it would seem logical to draw similar conclusions as in question 11 H. The findings with regards to question 11 N, shows a lower mean value than in statements H and K. The mean value of statement N are well above three. An explanation for this could be provided by the fact that this statement is formulated in a way that provides it with a stronger meaning than the two prior statements. The N statement is very similar to the K statement, but with the difference in that it has an opinion paired with an action, i.e. hanging up in case of a phone queue, instead of just getting annoyed. However, in line with the prior statements this alternative also presents a left skewed distribution. This suggests that most of the responses are higher than mark three.

In all, the conclusion of the responses in question 11 would indicate that the waiting for a purchased service to become activated, actually is a sacrifice for the customer. Furthermore, the waiting in phone queues is also a part of the customer's sacrifice. The statement N was given lower results than statement K, i.e. the N statement was not agreed upon as much as the K statement. However, this would seem to be logical when regarding a customer who has encountered such problems that cannot be solved by them selves. In such a case the customer has no option other than to turn to expertise such as a helpdesk. Furthermore, if the customer has to wait in a phone queue, a reasonable course of action would be to wait for a while, perhaps getting annoyed, but still waiting in line since the help is near and hanging up would mean that the problem will remain unsolved.

Turning the attention towards question 12 the factors 12 G – *"Möjligheterna att snabbt få problem avhjälpta via kundtjänst"* and 12 H – *"Kort väntetid från inköp av tjänst till nyttjande av tjänsten"* are the ones capturing the passive time cost. In the observation of the results, 12 G exhibits a mean value that lies close to the middle of the scale, or more exactly 6.0. As the shape of the distribution bears close resemblance to the normal distribution, i.e. most of the values are the located in the ranks of 5, 6 and 7, and only a few responses lies in the extremes, it is plausible that this factor belong to the mid-scale area. The rating of question 12 H generates a distribution that would indicate that it is a factor of lesser relative importance, than the factor G. The weighted mean value of 12 H is 4.2 which is relatively low, there is only one factor that has a lower weighted mean value. The factor G is likely to be more important than the factor H, which is plausible in the long run. That is, if the customer have purchased a service that is to be used for years, the waiting for the service to become operational is less important than the possibility to get support. In Question 12, a reasonable assumption would be that these aspects of the passive time cost are low ranked.

In all, looking at the passive time cost determinant the results show that this determinant is influencing the perceived sacrifice and therefore the value, in the case of mobile data services. The relative importance of this determinant compared to other sacrifice determinants is hard to read from the results. The conclusion that can be made is that this sacrifice determinant is indeed playing a role in the evaluation of a mobile data service.

6.1.6 The impact of active time cost on perceived value

Active time cost describes a non-monetary cost that is defined as time cost where the customer has to contribute actively to reach the desired results. In the active time cost the energy to learn and understand, the service is also included.

The statements in question 11, designed to gauge the impact of active time cost on the perceived value is 11 F – *"Jag anser att ett enkelt handhavande av tjänsten är viktig!."*, 11 G – *"Möjligheterna att få hjälp vid handhavandeproblem är viktigt."* and 11 P – *"Om tjänsten upplevs som svår att hantera är det inte intressant att köpa den."*

The statement in 11 F shows the highest mean value of all. The distribution of the marking also illustrates this, because this statement has the most number of mark five. As many respondents as 98 out of a total of 147 declares that they fully agrees in this statement. This would indicate that this statement is indeed an important factor when evaluating a mobile data service. Furthermore, if a service were very complex to use it would seem logical that it would reflect negatively on the customers' perception of value. The results of question 11 G, concerning getting help, indicate that the customer does not want to invest large amounts of time and effort in order to get a service operational. The mean value for statement 11 G is well over 4, and the distribution shows that over 80 responses are given mark 5. Also this is quite reasonable in a scenario where a company needs the service for their daily operations. In the findings associated with statement 11 P, there is a lower mean value than in the prior two statements. However, the mean value is still rather high. The distribution shows that the most responses are giving this statement mark five, which indicates that if the respondents perceives that the service is difficult to use it is not interesting to buy.

The statements in question 11 would indicate that the activities that involve the time and effort that has to be put in for a service to become operational, has indeed an impact upon the perceived value.

Focusing on question 12 the active time cost is captured by factors 12 F – *"Enkelt handhavande vid utnyttjande av tjänst."*, 12 G – *"Möjligheterna att snabbt få problem avhjälpta via kundtjänst."* and 12 K – *"Tydlig information om hur man ska använda tjänsten."*

The factor 12 F is by the respondents given a rather high rating. The distribution reveals that this factor is frequently awarded the highest rank. In fact, this factor comes in second place when studying the highest rank among the factors of question 12. As a result of the high ranking this factor has a high weighted mean value of near eight. When comparing the mean values, this factor 12 F comes in third place, which is reasonable as this service could be seen as a tool for the small companies operations. The results of 12 G, possibilities of fast getting help, exhibits a weighted mean value that lies close to six, which is in the middle of the scale. As most of the values are the located in the ranks of 5, 6 and 7, and only a few responses lie in the extremes, it would be plausible that this factor belong to the mid-scale area. The ranking of 12 K shows a rather even distribution of the entire scale. This means that the number of responses in each rank is equally spread from rank one to eleven. A rational explanation for this could be that the respondents have wide differences in their opinions.

On the whole, factor 12 F, easy handling, appears to be more important, than 12 G and 12 H, concerning explicit information respective getting help. A logic reason for 12 F being more important than 12 G could be that easier a service is to use, the lesser the need for support. An explanation for 12 F being more important than 12 K, could be given by the fact that information about how to use a service is merely one part of using a service. Besides the information, the use contains various interfaces such as the interface between the mobile phone and the user, between the helpdesk and the user etceteras.

Based upon the analysis above, the high results in the factors and statements would suggest that the active time cost is a rather high impact on the perceived value, in the case of mobile data services. Compared to other sacrifice determinants, the active time cost must be considered to be one of the more important ones.

The attentive reader might have observed that active time cost and the risk of failure or poor performance is captured partly by the same statements and factors in the questionnaire. The difference is that the impact of active time cost, is captured by one additional statement and factor.

6.1.7 The impact of fear of not understanding on perceived value

The fear of not understanding describes the customers' feelings of insecurity in the use of new mobile data services.

The questions aiming at measure this, is statements 11 J – *"Jag känner mig orolig för att inte förstå den nya tekniken."*, 11 O – *"Jag känner mig osäker inför den nya tekniken."* and 11 Q – *"Jag anser att krånlig avtalstext har stor betydelse."*, as well as factor 12 E – *"Enkelt utformad avtalstext."* in question 12.

Statements 11 J and 11 O both displays rather low mean values, i.e. close to three. They have in fact the lowest means over all. When observing the distribution, there is a pattern of widely separate opinions to be seen. In both cases, there is no distinct peak but rather an even distribution over the whole spectrum. However, these results may not truly reflect the reality. The reason for this assumption is that people in general do not want to admit being scared of not understanding the new technology or feel unsecured about the new technology. When the respondent does not want to agree with the statement, no matter it is true or not, the results can be a somewhat misleading. This could be one explanation of the low results of these two statements.

Statement 11 Q, complicated contracts agreements, on the other hand, has a relatively high mean value (close to four) and there is a clear trend in the distribution that indicates a left skew, that in turn would suggest that most of the given markings are four or higher.

The rating of factor 12 E shows a quite low weighted mean value and a rather even distribution. This suggests that respondents also in this case have different opinions. With a weighted mean value of 4.43 and with a left skewed distribution it seems rational that this factor is one of the back markers in relation to the other factors.

All together, the responses to 11 J, O and Q would indicate that the fear of not understanding has an impact upon the perceived value, but the magnitude of their means would in turn suggest that these are not the most important ones. This is corroborated by the rating in question 12, which indicates that this factor does not belong to the top ranked, but rather to the low or middle ranked.

6.1.8 The impact of fear of uncertainty on perceived value

Fear of uncertainty, which in this thesis is regarded as the uncertainties derived from the fact that the customer sometimes does not feel that he or she can understand how the use of the service influences other parts of the company.

The questions that are especially designed to ascertain the impact of the fear of uncertainty are statement 11 L – *"Jag oroar mig för att inte kunna bedöma de totala kostnaderna för mobiltelefoni"*. The factor in question 12 is I – *"Möjligheterna att enkelt kunna uppskatta de totala kostnaderna för mobiltelefoni"* .

The findings with bearing upon statement 11 L shows a mid-scale mean, i.e. a mean value close to three. The distribution does not provide much information for interpretation, but it has the form of a normal distribution, i.e. most mark three's and with low values on the extremes. This would in turn suggest that the majority of respondents find that they to some extent agree with the statement.

The results from factor 12 I give evidence of a factor that are ranked fairly low. With a weighted mean value below five and a distribution that shows that this factor has received most rank nine's of all, it would suggest that this factor is placed in the low part of the scale, rather than the mid part. This seems logical because of the fact that the possibility of an easy estimation of the total costs of mobile communication is of minor importance than the actually monetary cost.

In total, it would be plausible that the fear of uncertainty indeed have an impact upon the perceived value, but should not be considered to be one of the most important one among the sacrifice determinants.

6.2 Comparison between the results and the theoretical frame of reference

A presentation of the theories concerning value and sacrifice are given in chapter two. From the theories of value a suitable frame of reference emerged, with the specific situation of mobile data services in the small firm segment as guideline. As a reminder the emerged frame of reference are shown in figure 18.

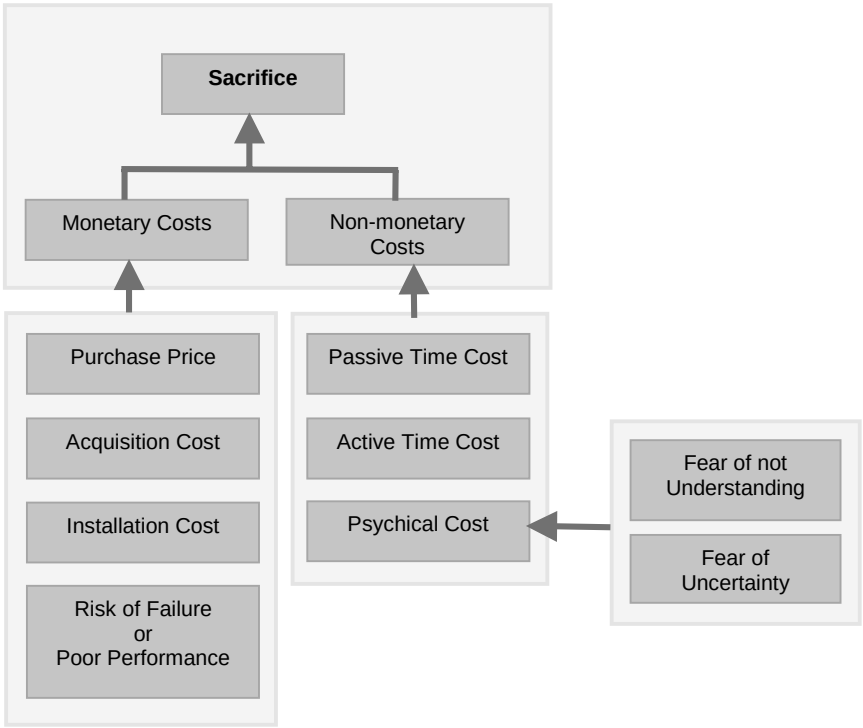

Figure 18. Emerged frame of reference

The relation between the questions in the questionnaire and the determinants in the frame of reference are presented in the prior chapter. In addition to this appendix A and appendix B shows matrices of sacrifice components and the questions used in the questionnaire. Appendix A revolves around question 11, whereas Appendix B concerns question 12.

From the results of the survey the overall conclusions that can be made is that there exists an impact on sacrifice, and subsequently on value, from every determinant in the frame of reference. Therefore the results from the research of this these shows a tight fit to the theory of value. Notable is that the theories concerning value and the perceived value is relatively new. As a consequence of this, the theories of value are rarely seen and are not as complete as in other areas of marketing. Besides the fit to the theory that is found, some variations or additional trends are identified.

The findings from the research show other implications or trends that are of interest. The results concerning purchase price are in line with the theory of value and sacrifice, which states that one of the sacrifice components is the purchase price. In addition to this another conclusion can be made, namely that compared with the other sacrifice components the purchase price seems to be the most significant one when a customer evaluates a mobile data service.

A similar trend as with the purchase price, concerns the impact of the risk of failure or poor performance. The results from the survey clearly shows similarities compared with the theories, that says that the risk of failure or poor performance impact a customers assessments of sacrifice and subsequently of value. Moreover, the impact of the risk of failure or poor

performance is another determinant that prove to be of greater importance when a customer evaluates a mobile data service.

Furthermore, the results show yet another trend. The impact of active time cost demonstrates a similar trend as the risk of failure or poor performance. This implies that the impact of active time cost is seen as a more important determinant than other determinants, and therefore influences, to a larger extent, the perceived sacrifice in the case of mobile data services. These two determinants, acquisition cost and risk of failure and poor performance, seem to have the same range of importance when a customer evaluates the perceived value in this case.

The other determinants that are investigated in the survey can not prove to be more important or have a greater impact on the perception of value compared to the others. The results show that they all are identified to have an impact on value, which definitely are in line with the theory.

The overall conclusions from the result of this research are presented in figure 19. In this model both the similarities to the theory are shown, as well as the implications of the new findings of this research. In the figure the different sizes of the circles describes the importance of each sacrifice determinant. The sizes of the circles demonstrates that purchase price is the determinant that have the largest impact on perceived sacrifice. Thereafter, the risk of failure or poor performance and active time cost determinants are proved to be the second most influential ones in the case of mobile data services.

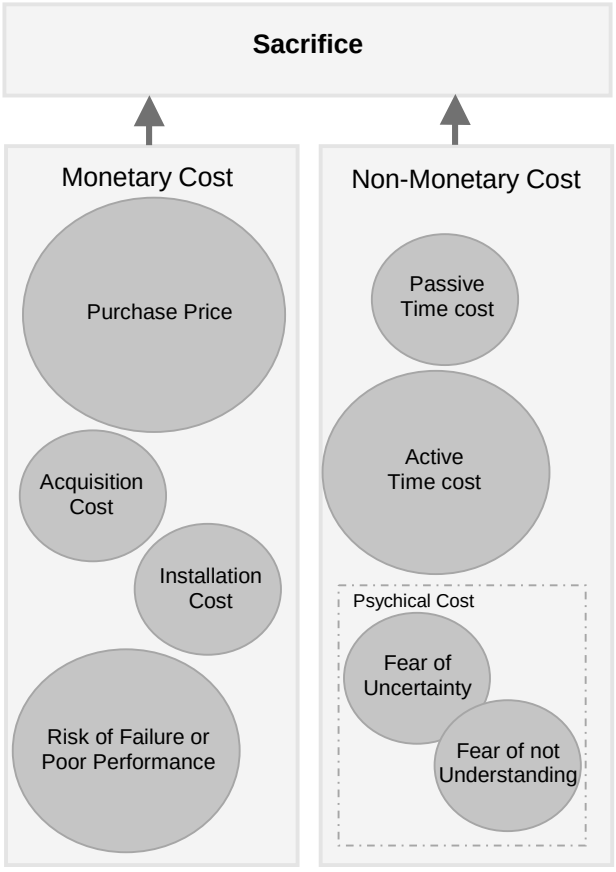

Figure 19. Sacrifice determinants in the case of mobile data services

6.3 Implications for Telia Mobile AB

In this thesis research has been carried out concerning perceived sacrifices within the use of mobile data services in the very small firm segment in Sweden. The results show that there are some areas or determinants that have a greater impact the perceived sacrifice and hence value compared to others.

The most important determinant is purchase price, which in this case subsisting of three parts. These are periodical fixed cost, minute or traffic charge[2] and opening cost when ordering a new subscription. The results indicate that the minute charge is the most influential factor when a customer evaluates a mobile data service. The second most important factor is the periodical fixed cost and another factor is the opening cost. These results indicate, not surprisingly, that this segment of very small firms is cost-conscious. This indicates that a lot of effort must be put in the pricing strategy. It is generally known to be a poor strategy to compete with lowest price. The suggestion, based upon the results of this thesis is to focus on the components of purchase price. The result indicates that the customers tend to emphasise most on the minute cost, when evaluating a mobile service. Therefore the suggestion is to try to offer a low traffic charge. In order to compensate this loss in income, the fixed periodical cost could be at a rather high level. These two actions taken together has got similarities with flat rate, which is a situation without traffic charge and only a fixed cost. Flat rate is a pricing strategy that often is mentioned in the discussion about IT and broad band. By offering a low minute of traffic charge and a higher fixed periodical cost, the users may feel free in using the services as much as they need, not worrying about high costs.

The results from the research also show that the impact of risk of failure or poor performance have a large impact on the perceived value. This implies that the users value easy handling of the mobile data services. An easy handling of the service contains many aspects. This contains everything from an easy handling of the mobile phones and the subscriptions, to logical functions, settings and personalization of the service. The respondents declare that an easy handling is of greatest importance when evaluating a service. The result from an easy handling of a service is that the user can be spared from the need to learn how to use the service.

The latter thinking is in line with the other sacrifice determinant, active time cost, which also is seen to be of great importance and hence has a large impact on perceived sacrifice and value. The results demonstrate that the respondents are influenced very negatively from the need of time and energy spent in order to be able to use the service. This incorporates the need of learning and in other ways put effort in the service with the aim of using the service to its fullest potential.

An important conclusion from the results above is to focus on delivering mobile data services that are very easy to use. Services where the users do not need to put large efforts in the installation or personalization. Furthermore, using the service should be logically and smoothly by means of for example single-sign-on[3]. In order to minimise the sacrifices, the service should be accompanied with explicit information concerning the usage and the

[2] Traffic charge is a more appropriate expression in the case of future mobile data services. These services will use GPRS as carrier technology, where the toll ticket most likely will be based on the number of bytes that the user has down- and uploaded.

[3] Single-sign-on means that by one single log in, the user will be able to manage all functions of the service, for example manage the subscription read and send email as well as other specific functions.

possibilities of the service. The possibilities of getting help from an helpdesk via telephone is important, because the majority of the new user of mobile data services that will need help, do not have an e-mail account or Internet subscription. Developing services for this segment the functions of the services should be of a rather simple kind and easy to use. If not, the functions should perhaps be excluded from the service offer.

6.4 Suggestions for further research

The findings from this thesis identify differences compared to the theory of value and sacrifice. These differences could more likely be seen as an extension to the theory, as these conclusions give a new dimension to the theory. The new dimension is that the importance of the different sacrifice determinant compared to each other. Moreover, the lack of theories on value and the components of value made the operationalisation complex. This resulted in that the determinants, active time cost and risk of failure or poor performance had to be based upon partly the same data.

It would be interesting to verify the results of this thesis in other types of services. Are the three determinants identified in this thesis, the most important ones also when dealing with other services?

Another interesting question is how this findings fit into in other segments. In this thesis the focus has been in the very small segment, what about other segments like medium sized companies or even larger companies?

Furthermore, it would be interesting to make the same investigation in other countries both in Scandinavia but also in countries different to Sweden.

Yet another aspect that would be interesting to pursue is to study the benefit side of value, since this thesis have the focus on the sacrifice part and its components.

The new findings from future research in the area of value, together with the findings in this thesis can be the basis form which more generalised conclusions could be drawn.

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APPENDIX A: Connection between sacrifice determinants and statements in question 11

Question 11		Purchase price	Acquisition cost	Installation cost	Risk of failure or poor performance	Passive time cost	Active time cost	Fear of not understanding	Fear of uncertainty
A	I think that the fixed periodical subscription cost is of great importance!	•							
B	The cost per minute i.e. the toll ticket, is of great importance!	•							
C	The start up cost for every call is of great importance!	•							
D	The entrance-fee for a service affects me!			•					
E	I think that the cost for a mobile phone is of great importance!		•						
F	I think that an easy handling of the service is important!				•		•		
G	The possibilities of getting help in case of handling problems are important!						•		
H	When ordering a service, I want to use it immediately!					•			
I	The travel expenses to a place where I can order the service are of importance!		•						
J	I am worried in not understanding the new technology.							•	
K	To be put in a telephone queue, when calling the help desk feels annoying.					•			
L	I am worrying about not being able to estimate the total costs of mobile communication!								•
M	The vicinity to a shop where I can order the service is of great importance!		•						
N	I hang up the phone if being put in a telephone queue when calling the help desk.					•			
O	I feel insecure in using the new technology							•	
P	If the service seems complicated, it's not attractive to purchase				•		•		
Q	I think that complicated subscriptions agreements are of great importance!							•	

APPENDIX B: Connection between sacrifice determinants and factors in question 12

	Question 12	Purchase price	Acquisition cost	Installation cost	Risk of failure or poor performance	Passive time cost	Active time cost	Fear of not understanding	Fear of uncertainty
A	Low fixed periodical subscription	•							
B	Low costs per minute i.e. the toll ticket.	•							
C	Low entrance cost when ordering a service.			•					
D	Low costs for complementary equipment (i.e. mobile phone)		•						
E	Simple formulation of subscription agreement							•	
F	Easy handling of the service.				•		•		
G	Possibilities of quick help in case of handling problems					•	•		
H	Short period of waiting time from ordering a service until being able to use it.					•			
I	Opportunities of simply being able to estimate the total costs of mobile communication.								•
J	The vicinity to a shop where I can order the service.		•						
K	Explicit information about the usage of the service				•		•		

APPENDIX C: Questionnaire Swedish version

En undersökning om Små företags uppfattning om och inställning till mobil kommunikation

Denna undersökning är en del i ett examensarbete vid Luleå tekniska universitet. Arbetet utförs i samarbete med Telia Mobile AB och undersökningen stöds av Företagarnas Riksorganisation. Denna enkät skickas ut till totalt 300 små företag i Sverige som är utvalda utifrån en geografisk spridning och den riktar sig till dig som är ansvarig för verksamheten.

Syftet med undersökningen är att skapa förståelse om hur små företag ser på området mobil kommunikation, dess fördelar och nyttor men även de kostnader och uppoffringar som är relaterade till området.

Inom området mobil kommunikation sker en snabb utveckling vilket gör att användaren inom kort kommer att kunna använda mobiltelefonen till mycket mer än endast tal. Möjligheten av att se och läsa information ökar med en mobiltelefon med WAP funktion. Redan idag kan användaren läsa och skicka e-post, nyttja alla möjligheter som Internet ger genom att tex. boka biljetter, resor eller beställa varor samt få aktuella nyheter via sin mobiltelefon. Vidare kommer det vara möjligt att skicka digitala foton till kunder och kollegor, var än du befinner dig.

Vi vill tydliggöra att det spelar ingen roll om Du skaffat dessa tjänster eller ej. Samtidigt vill vi upplysa om vår tacksamhet för att Du tar dig tid att hjälpa oss i några minuter genom att besvara enkäten. Ditt svar är mycket värdefullt för undersökningens resultat och för det examensarbete som vi utför. **Genom att besvara enkäten, så deltar Du i utlottningen av en Ericsson R320s WAP-telefon.**

Tack för Din medverkan!

Mikael Söderberg & Greger Lundbäck
Studenter vid Luleå tekniska universitet
Industriell ekonomi

En Ericsson R320s kan bli Din genom att besvara enkäten.

FR kommer att använda undersökningen som Underlag för att förbättra servicen till våra Medlemmar lokalt och centralt. Vi är därför Tacksamma för din medverkan !

Har du frågor ring Ulrik Östling tel 08-406 18 79

APPENDIX C: Questionnaire Swedish version

1. *Ange hur Ert företag klassificeras?*

A Tjänsteföretag ○
B Tillverkningsföretag ○
C Annat ○

2. *Hur länge har företaget varit verksamt?*

A Mindre än ett år ○
B 1 – 3 år ○
C 3 – 10 år ○
D Över tio år ○

3. Markera vilka av nedanstående utrustningar Du använder i arbetet:

A Mobiltelefon ○
B Mobiltelefon med WAP-funktion ○
C Bärbar dator ○
D Handdator (Som till exempel Palm, HP) ○
E Stationär dator ○
F Digital kamera ○

4. Markera vilka av nedanstående tjänster Du använder i arbetet?

A SMS (GSM textmeddelande) ○
B Internet-anslutning med hjälp av WAP ○
C Abonnemang för mobil dataöverföring ○
D Internetabonnemang ○
E Elektronik post ○
F Annat, nämligen_____

5. Har företaget en egen hemsida?

A Ja ○
B Nej ○

6. I vilket/vilka företag har Ni ert/era mobila abonnemang?

	1 st	**2 st**	**3 st**	**4 st**	**5 st**	**Fler än fem abonnemang**
A Telia	○	○	○	○	○	○
B Tele 2 / Comviq	○	○	○	○	○	○
C Europolitan	○	○	○	○	○	○
D Sense	○	○	○	○	○	○
E Tele 1 Europe	○	○	○	○	○	○

7. Hur ofta arbetar Du på annan plats än kontoret?

A Varje dag ○
B En gång i veckan ○
C En gång i månaden ○
D Aldrig ○

8. Hur ofta använder Du mobiltelefon i tjänsten?

A Fler än 10 gånger per dag ○
B Cirka 6 – 10 gånger per dag ○
C Cirka 1 – 5 gånger per dag ○
D Mindre än en gång per dag ○

APPENDIX C: Questionnaire Swedish version

9. Hur viktig anser Du att mobiltelefonen är för Din verksamhet?

Mycket viktig	*Ganska viktig*	*Varken eller*	*Mindre viktig*	*Inte alls viktig*
O	O	O	O	O

10. Om Du jämför mobiltelefoni och den fasta telefonin, vilken anser Du vara viktigast för Din verksamhet?

A Den fasta telefonen är viktigare än mobiltelefonen O
B De är lika viktiga O
C Mobiltelefonen är viktigare än den fasta telefonen O

Fortsättning på nästa sida!

APPENDIX C: Questionnaire Swedish version

11. *Möjligheten att använda mobiltelefonen till mer än tal ökar. Att läsa och skicka e-post, nyttja Internets alla möjligheter genom att tex. boka biljetter, resor eller beställa varor samt få aktuella nyheter via sin mobiltelefon blir vanligare. Vidare kommer det vara möjligt att skicka digitala foton till kunder och kollegor, var än Du befinner Dig. Ange hur väl påståendena stämmer in med Dina åsikter, när Du värderar denna typ av tjänster.*

		Instämmer inte alls				**Instämmer helt**
		1	**2**	**3**	**4**	**5**
A	Jag anser att den fasta periodiska avgiften har stor betydelse!					
B	Kostnaden per minut, dvs. trafikavgiften, har stor betydelse!					
C	Startavgiften för varje samtal har stor betydelse!					
D	Inträdesavgiften, dvs. startkostnaden, för en tjänst påverkar mig!					
E	Jag anser att kostnaderna för en mobiltelefon har stor betydelse!					
F	Jag anser att ett enkelt handhavande av tjänsten är viktigt!					
G	Möjligheterna att få hjälp vid handhavandeproblem är viktigt!					
H	När jag köpt tjänsten, vill jag kunna använda den omedelbart!					
I	Resekostnaderna till ett ställe där jag kan beställa tjänsten har betydelse!					
J	Jag känner mig orolig för att inte förstå den nya tekniken!					
K	Att hamna i telefonkö, när jag ringer till kundtjänst upplevs besvärande.					
L	Jag oroar mig för att inte kunna bedöma totala kostnaderna för mobiltelefoni!					
M	Närheten till en affär där jag kan köpa tjänsten har stor betydelse!					
N	Då jag vänder mig till kundtjänst med frågor och det är telefonkö, lägger jag på luren.					
O	Jag känner mig osäker inför den nya tekniken					
P	Om tjänsten upplevs svår att hantera är det inte intressant att köpa den.					
Q	Jag anser att krånglig avtalstext har stor betydelse!					

APPENDIX C: Questionnaire Swedish version

12. Rangordna de faktorer som Du tycker är viktigast, när Du värderar en mobil datatjänst. Markera den viktigaste faktorn med siffran 1, den näst viktigaste med siffran 2 osv. Den faktor som Du tycker är minst viktig ges siffran 11.

A Låg fast periodisk kostnad.

B Låg trafikkostnad (kostnad per minut).

C Låg inträdesavgift vid öppnande av tjänst.

D Låg kostnad för kringutrustning (tex mobiltelefon).

E Enkelt utformad avtalstext.

F Enkelt handhavande vid utnyttjande av tjänst.

G Möjligheterna att snabbt få problem avhjälpta via kundtjänst.

H Kort väntetid från inköp av tjänst till nyttjande av tjänsten.

I Möjligheterna att enkelt kunna uppskatta de totala kostnaderna för mobiltelefoni.

J Närhet till butik där jag kan beställa tjänsten.

K Tydlig information om hur man ska använda tjänsten.

Tack för Er medverkan !

Greger Lundbäck & Mikael Söderberg

APPENDIX D: Questionnaire English version

1. *Classification of Your Company.*

A Service Company ○
B Manufacturing Company ○
C Other ○

2. *How long has the company been active?*

A Less than one Year ○
B 1 – 3 years ○
C 3 – 10 years ○
D Over ten years ○

3. *Please mark which of the equipment listed below that You are using at work:*

A Mobile Phone ○
B Mobile Phone (WAP functionality) ○
C Portable Computer ○
D Handhelds (Such as Palm, HP) ○
E Stationary Computer ○
F Digital Camera ○

4. *Please mark which of the services listed below that You are using in your daily work*

A SMS (GSM text message) ○
B Internet-connection via WAP ○
C Subscription for mobile data communication ○
D Internet subscription ○
E E-mail ○
F Other:_____

5. Does the company have a homepage?

A Yes ○
B No ○

6. In what/which company do You have your subscriptions?

	1	**2**	**3**	**4**	**5**	**More than five subscriptions**
A Telia	○	○	○	○	○	○
B Tele 2 / Comviq	○	○	○	○	○	○
C Europolitan	○	○	○	○	○	○
D Sense	○	○	○	○	○	○
E Tele 1 Europe	○	○	○	○	○	○

7. How often do You work outside your office?

A Every day ○
B Once a week ○
C Once a month ○
D Never ○

8. How often do You use your mobile phone?

A More than 10 times a day ○
B Approximately 6 – 10 times a day ○
C Approximately 1 – 5 times a day ○
D Less than once a day ○

APPENDIX D: Questionnaire English version

9. How important do You think the mobile phone is in your work?

Very Important	*Rather Important*	*Neutral*	*Less Important*	*Not Important at all*
O	O	O	O	O

10. Comparing your mobile phone with the fixed telephone, which one of these do You think is most important in your work?

A The fixed telephone is more important than the mobile phone. O
B They are equal O
C The mobile phone is more important than the fixed telephone O

Continued on the next page!

APPENDIX D: Questionnaire English version

11. *The possibility to use the mobile phone to more than just talking is rapidly increasing. To read and send e-mail, use all the possibilities of the Internet by means of for instance order tickets, tours or order products and access information via your mobile phone is getting more common. Moreover there will be possible to send digital photos to customers or colleagues, wherever you are. Please mark your opinion whether you agree or disagree concerning the statements listed below.*

		Disagree				**Totally Agree**
		1	**2**	**3**	**4**	**5**
A	I think that the fixed periodical subscription cost is of great importance!					
B	The cost per minute i.e. the toll ticket, is of great importance!					
C	The start up cost for every call is of great importance!					
D	The entrance-fee for a service affects me!					
E	I think that the cost for a mobile phone is of great importance!					
F	I think that an easy handling of the service is important!					
G	The possibilities of getting help in case of handling problems are important!					
H	When ordering a service, I want to use it immediately!					
I	The travel expenses to a place where I can order the service are of importance!					
J	I am worried in not understanding the new technology.					
K	To be put in a telephone queue, when calling the help desk feels annoying.					
L	I am worrying about not being able to estimate the total costs of mobile communication!					
M	The vicinity to a shop where I can order the service is of great importance!					
N	I hang up the phone if being put in a telephone queue when calling the help desk.					
O	I feel insecure in using the new technology					
P	If the service seems complicated, it’s not attractive to purchase					
Q	I think that complicated subscriptions agreements are of great importance!					

APPENDIX D: Questionnaire English version

12. *Please rank the factors listed below starting with the one you think is most important when evaluating mobile data services. Mark the most important factor with 1, the second most important with 2 and so on. The factor that you think is of slightest importance will be given rank 11.*

A Low fixed periodical subscription

B Low costs per minute i.e. the toll ticket.

C Low entrance cost when ordering a service.

D Low costs for complementary equipment (i.e. mobile phone)

E Simple formulation of subscription agreement

F Easy handling of the service.

G Possibilities of quick help in case of handling problems

H Short period of waiting time from ordering a service until being able to use it.

I Opportunities of simply being able to estimate the total costs of mobile communication.

J The vicinity to a shop where I can order the service.

K Explicit information about the usage of the service

Thanks!

Greger Lundbäck & Mikael Söderberg

APPENDIX E: Results Swedish version

1. Ange hur Ert företag klassificeras?	**A** Tjänsteföretag	**53%**
	B Tillverkningsföretag	**18%**
	C Annat	**29%**
2. *Hur länge har företaget varit verksamt?*	**A** Mindre än ett år	**1%**
	B 1 – 3 år	**11%**
	C 3 – 10 år	**30%**
	D Över tio år	**57%**

3. Markera vilka av nedanstående utrustningar Du använder i arbetet:

A Mobiltelefon	**93%**
B Mobiltelefon med WAP-funktion	**5%**
C Bärbar dator	**30%**
D Handdator (Som till exempel Palm, HP)	**7%**
E Stationär dator	**77%**
F Digital kamera	**26%**

4. Markera vilka av nedanstående tjänster Du använder i arbetet?

A SMS (GSM textmeddelande)	**40%**
B Internet-anslutning med hjälp av WAP	**5%**
C Abonnemang för mobil dataöverföring	**22%**
D Internetabonnemang	**74%**
E Elektronik post	**50%**
F Annat, nämligen_____	

5. Har företaget en egen hemsida?

A Ja	**51%**
B Nej	**49%**

6. I vilket/vilka företag har Ni ert/era mobila abonnemang?

	1 st	**2 st**	**3 st**	**4 st**	**5 st**	**Fler än fem abonnemang**
A Telia	**23%**	**19%**	**13%**	**7%**	**2%**	**17%**
B Tele 2 / Comviq	**21%**	**6%**	**3%**	**1%**	**0%**	**2%**
C Europolitan	**9%**	**7%**	**1%**	**1%**	**0%**	**1%**
D Sense	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
E Tele 1 Europe	**2%**	**0%**	**1%**	**0%**	**0%**	**0%**

7. Hur ofta arbetar Du på annan plats än kontoret?

A Varje dag	**52%**
B En gång i veckan	**22%**
C En gång i månaden	**11%**
D Aldrig	**15%**

8. Hur ofta använder Du mobiltelefon i tjänsten?

A Fler än 10 gånger per dag	**21%**
B Cirka 6 – 10 gånger per dag	**21%**
C Cirka 1 – 5 gånger per dag	**35%**
D Mindre än en gång per dag	**23%**

APPENDIX E: Results Swedish version

9. Hur viktig anser Du att mobiltelefonen är för Din verksamhet?

Mycket viktig	*Ganska viktig*	*Varken eller*	*Mindre viktig*	*Inte alls viktig*
54%	***25%***	***8%***	***7%***	***7%***

10. Om Du jämför mobiltelefoni och den fasta telefonin, vilken anser Du vara viktigast för Din verksamhet?

A	Den fasta telefonen är viktigare än mobiltelefonen	**46%**
B	De är lika viktiga	**38%**
C	Mobiltelefonen är viktigare än den fasta telefonen	**16%**

Fortsättning på nästa sida!

APPENDIX E: Results Swedish version

11. *Möjligheten att använda mobiltelefonen till mer än tal ökar. Att läsa och skicka e-post, nyttja Internets alla möjligheter genom att tex. boka biljetter, resor eller beställa varor samt få aktuella nyheter via sin mobiltelefon blir vanligare. Vidare kommer det vara möjligt att skicka digitala foton till kunder och kollegor, var än Du befinner Dig. Ange hur väl påståendena stämmer in med Dina åsikter, när Du värderar denna typ av tjänster.*

		Instämmer inte alls				**Instämmer helt**
		1	**2**	**3**	**4**	**5**
11A	Jag anser att den fasta periodiska avgiften har stor betydelse!					
11B	Kostnaden per minut, dvs. trafikavgiften, har stor betydelse!					
11C	Startavgiften för varje samtal har stor betydelse!					
11D	Inträdesavgiften, dvs. startkostnaden, för en tjänst påverkar mig!					
11E	Jag anser att kostnaderna för en mobiltelefon har stor betydelse!					
11F	Jag anser att ett enkelt handhavande av tjänsten är viktigt!					
11G	Möjligheterna att få hjälp vid handhavandeproblem är viktigt!					
11H	När jag köpt tjänsten, vill jag kunna använda den omedelbart!					
11I	Resekostnaderna till ett ställe där jag kan beställa tjänsten har betydelse!					
11J	Jag känner mig orolig för att inte förstå den nya tekniken!					
11K	Att hamna i telefonkö, när jag ringer till kundtjänst upplevs besvärande.					
11L	Jag oroar mig för att inte kunna bedöma totala kostnaderna för mobiltelefoni!					
11M	Närheten till en affär där jag kan köpa tjänsten har stor betydelse!					
11N	Då jag vänder mig till kundtjänst med frågor och det är telefonkö, lägger jag på luren.					
11O	Jag känner mig osäker inför den nya tekniken					
11P	Om tjänsten upplevs svår att hantera är det inte intressant att köpa den.					
11Q	Jag anser att krånglig avtalstext har stor betydelse!					

	Alternativ																
	11A	11B	11C	11D	11E	11F	11G	11H	11I	11J	11K	11L	11M	11N	11O	11P	11Q
1	1	1	4	11	3	1	1	0	23	28	1	13	15	8	33	5	3
2	20	8	16	27	22	0	5	6	25	17	3	28	26	20	23	15	7
3	44	16	31	52	30	11	23	24	39	48	18	50	50	38	32	21	35
4	27	33	36	27	38	37	33	33	26	34	40	32	32	41	36	44	45
5	53	88	58	30	54	98	85	84	31	20	85	23	23	40	23	61	56

APPENDIX E: Results Swedish version

12. Rangordna de faktorer som Du tycker är viktigast, när Du värderar en mobil datatjänst. Markera den viktigaste faktorn med siffran 1, den näst viktigaste med siffran 2 osv. Den faktor som Du tycker är minst viktig ges siffran 11.

12 A Låg fast periodisk kostnad.
12 B Låg trafikkostnad (kostnad per minut).
12 C Låg inträdesavgift vid öppnande av tjänst.
12 D Låg kostnad för kringutrustning (tex mobiltelefon).
12 E Enkelt utformad avtalstext.
12 F Enkelt handhavande vid utnyttjande av tjänst.
12 G Möjligheterna att snabbt få problem avhjälpta via kundtjänst.
12 H Kort väntetid från inköp av tjänst till nyttjande av tjänsten.
12 I Möjligheterna att enkelt kunna uppskatta de totala kostnaderna för mobiltelefoni.
12 J Närhet till butik där jag kan beställa tjänsten.
12 K Tydlig information om hur man ska använda tjänsten.

	Alternativ										
Antal	12 A	12 B	12 C	12 D	12 E	12 F	12 G	12 H	12 I	12 J	12 K
Rank 1	15	69	2	0	2	27	3	0	3	0	7
Rank 2	40	26	12	4	2	16	7	5	2	0	13
Rank 3	26	10	34	12	1	11	16	4	5	3	6
Rank 4	11	9	20	26	12	10	8	7	9	1	13
Rank 5	10	3	16	21	14	14	18	7	11	2	12
Rank 6	6	2	13	11	12	16	20	11	17	5	13
Rank 7	6	2	10	15	14	12	19	16	17	6	9
Rank 8	5	1	10	12	24	11	15	14	15	8	12
Rank 9	4	2	5	13	8	8	11	23	27	9	16
Rank 10	4	2	2	7	18	2	9	30	13	23	17
Rank 11	0	1	3	5	20	0	1	10	8	69	9

APPENDIX F: Results English version

Classification of Your Company.

A	Service Company	**53%**
B	Manufacturing Company	**18%**
C	Other	**29%**

1. *How long has the company been active?*

A	Less than one Year	**1%**
B	1 – 3 years	**11%**
C	3 – 10 years	**30%**
D	Over ten years	**57%**

2. *Please mark which of the equipment listed below that You are using at work:*

A	Mobile Phone	**93%**
B	Mobile Phone (WAP functionality)	**5%**
C	Portable Computer	**30%**
D	Handhelds (Such as Palm, HP)	**7%**
E	Stationary Computer	**77%**
F	Digital Camera	**26%**

3. *Please mark which of the services listed below that You are using in your daily work*

A	SMS (GSM text message)	**40%**
B	Internet-connection via WAP	**5%**
C	Subscription for mobile data communication	**22%**
D	Internet subscription	**74%**
E	E-mail	**50%**
F	Other:_____	

4. Does the company have a homepage?

A	Yes	**51%**
B	No	**49%**

5. In what/which company do You have your subscriptions?

		1	**2**	**3**	**4**	**5**	**More than five subscriptions**
A	Telia	**23%**	**19%**	**13%**	**7%**	**2%**	**17%**
B	Tele 2 / Comviq	**21%**	**6%**	**3%**	**1%**	**0%**	**2%**
C	Europolitan	**9%**	**7%**	**1%**	**1%**	**0%**	**1%**
D	Sense	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
E	Tele 1 Europe	**2%**	**0%**	**1%**	**0%**	**0%**	**0%**

6. How often do You work outside your office?

A	Every day	**52%**
B	Once a week	**22%**
C	Once a month	**11%**
D	Never	**15%**

7. How often do You use your mobile phone?

A	More than 10 times a day	**21%**
B	Approximately 6 – 10 times a day	**21%**
C	Approximately 1 – 5 times a day	**35%**
D	Less than once a day	**23%**

APPENDIX F: Results English version

8. How important do You think the mobile phone is in your work?

Very Important	*Rather Important*	*Neutral*	*Less Important*	*Not Important at all*
54%	***25%***	***8%***	***7%***	***7%***

9. Comparing your mobile phone with the fixed telephone, which one of these do You think is most important in your work?

A The fixed telephone is more important than the mobile phone.	**46%**
B They are equal	**38%**
C The mobile phone is more important than the fixed telephone	**16%**

Continued on the next page!

APPENDIX F: Results English version

10. *The possibility to use the mobile phone to more than just talking is rapidly increasing. To read and send e-mail, use all the possibilities of the Internet by means of for instance order tickets, tours or order products and access information via your mobile phone is getting more common. Moreover there will be possible to send digital photos to customers or colleagues, wherever you are. Please mark your opinion whether you agree or disagree concerning the statements listed below.*

		Disagree				**Totally Agree**
		1	**2**	**3**	**4**	**5**
11A	I think that the fixed periodical subscription cost is of great importance!					
11B	The cost per minute i.e. the toll ticket, is of great importance!					
11C	The start up cost for every call is of great importance!					
11D	The entrance-fee for a service affects me!					
11E	I think that the cost for a mobile phone is of great importance!					
11F	I think that an easy handling of the service is important!					
11G	The possibilities of getting help in case of handling problems are important!					
11H	When ordering a service, I want to use it immediately!					
11I	The travel expenses to a place where I can order the service are of importance!					
11J	I am worried in not understanding the new technology.					
11K	To be put in a telephone queue, when calling the help desk feels annoying.					
11L	I am worrying about not being able to estimate the total costs of mobile communication!					
11M	The vicinity to a shop where I can order the service is of great importance!					
11N	I hang up the phone if being put in a telephone queue when calling the help desk.					
11O	I feel insecure in using the new technology					
11P	If the service seems complicated, it's not attractive to purchase					
11Q	I think that complicated subscriptions agreements are of great importance!					

	Alternative																
	11A	11B	11C	11D	11E	11F	11G	11H	11I	11J	11K	11L	11M	11N	11O	11P	11Q
1	1	1	4	11	3	1	1	0	23	28	1	13	15	8	33	5	3
2	20	8	16	27	22	0	5	6	25	17	3	28	26	20	23	15	7
3	44	16	31	52	30	11	23	24	39	48	18	50	50	38	32	21	35
4	27	33	36	27	38	37	33	33	26	34	40	32	32	41	36	44	45
5	53	88	58	30	54	98	85	84	31	20	85	23	23	40	23	61	56

APPENDIX F: Results English version

11. *Please rank the factors listed below starting with the one you think is most important when evaluating mobile data services. Mark the most important factor with 1, the second most important with 2 and so on. The factor that you think is of slightest importance will be given rank 11.*

12A Low fixed periodical subscription
12B Low costs per minute i.e. the toll ticket.
12C Low entrance cost when ordering a service.
12D Low costs for complementary equipment (i.e. mobile phone)
12E Simple formulation of subscription agreement
12F Easy handling of the service.
12G Possibilities of quick help in case of handling problems
12H Short period of waiting time from ordering a service until being able to use it.
12I Opportunities of simply being able to estimate the total costs of mobile communication.
12J The vicinity to a shop where I can order the service.
12K Explicit information about the usage of the service

Alternative											
Amount of:	12 A	12 B	12 C	12 D	12 E	12 F	12 G	12 H	12 I	12 J	12 K
Rank 1	15	69	2	0	2	27	3	0	3	0	7
Rank 2	40	26	12	4	2	16	7	5	2	0	13
Rank 3	26	10	34	12	1	11	16	4	5	3	6
Rank 4	11	9	20	26	12	10	8	7	9	1	13
Rank 5	10	3	16	21	14	14	18	7	11	2	12
Rank 6	6	2	13	11	12	16	20	11	17	5	13
Rank 7	6	2	10	15	14	12	19	16	17	6	9
Rank 8	5	1	10	12	24	11	15	14	15	8	12
Rank 9	4	2	5	13	8	8	11	23	27	9	16
Rank 10	4	2	2	7	18	2	9	30	13	23	17
Rank 11	0	1	3	5	20	0	1	10	8	69	9