

MASTER

AEGON

how internet portals affect the relationship between business customer and service provider in the insurance industry : internet-based self-service technology in a business-to-business setting

Tummers, W.J.M.

Award date:
2008

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**AEGON: How internet portals affect the relationship between business
customer and service provider in the insurance industry**

Internet-based self-service technology in a business-to-business setting

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**AEGON: How internet portals affect the relationship between business customer
and service provider in the insurance industry**

Internet-based self-service technology in a business-to-business setting

The Hague April 2008

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Abstract

A conceptual framework is proposed that analyses the effect of using a business portal - a self-service technology - on customer satisfaction and loyalty to portal, and to company. The framework is based on Oliver's (1997) loyalty framework and tested on two portals for business customers at AEGON The Netherlands. The framework could be empirically validated. Especially the relationship between portal satisfaction and company satisfaction was found to be strong, hence emphasizing the importance of building well-functioning business portals.

Preface

This thesis is part of my graduation project at the Marketing Nederland division of AEGON The Netherlands N.V. The project was carried out between July 2007 and March 2008 and is part of the final phase of the Master degree program of Industrial Engineering and Management Science at Eindhoven University of Technology. AEGON gave me the chance to get practical experience while doing an extensive research with a theoretical background. This research aims to close the gap in both practice and literature to find out if and how the usage of (self-service) internet portals can influence satisfaction and loyalty for business customers.

In this preface I would like to thank my supervisors. I would like to thank Dr. Ad de Jong for his continuous support, his help and his supportive criticism. It is very unfortunate that he will not be able to attend my final presentation. Also, I would like to thank Prof. Nijssen for his critical view on my goals and research questions and design, although we only met a couple of times and Dr. Schepers for being able to step in on such short notice. Last, but not least, I want to thank Jasper-Pieter Boon and Kees Kool for their support and guidance at AEGON, and for helping me set up and conduct my research within AEGON, which has not always been easy.

Management summary

AEGON N.V. is a large, Dutch, multi-national, financial service company, with insurances as its core business. AEGON N.V. uses a decentralized international approach, with AEGON The Netherlands N.V. as AEGON N.V.'s Dutch 'country-unit'. AEGON The Netherlands N.V. (henceforth: AEGON) uses a *differentiation strategy* (Porter, 1985) and serves both the business market and end consumers.

Overall, the Dutch insurance market can be regarded as very saturated and competitive. The total size of the insurance market is hardly growing and competition has increased due to globalization, deregulation, market blurring and transparency. Besides high competition, the Dutch insurance market is also subject to an increasing use of technology and increasing customization of products. These market trends give the customer more options to choose a product and an insurer, and a better overview of different options. Internet is one of the (technologic) tools that customers use to get this overview.

Financial service providers use internet both before the moment of sale - to inform customers and sell products - and after the moment of sale to service existing customers. After the moment of sale, internet is used to offer customers online portals, where customers get personalized information on their contract and data. Such portals are a form of self-service technology (SST). Customers provide services for themselves without interaction with employees, using a form of technology.

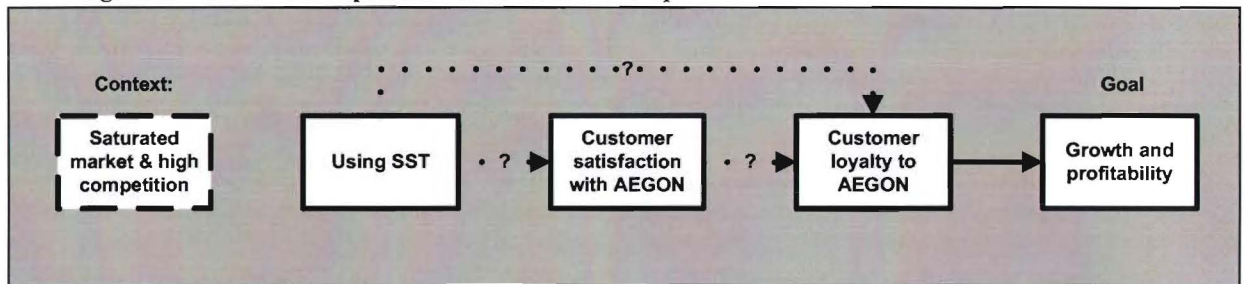
In this era of high competition, customer loyalty is something a company would wish for, as retaining customers is far more profitable than attracting new ones, and can greatly increase profitability (Reichheld & Sasser, 1990).

As mentioned earlier, AEGON serves two markets. This thesis focuses on the business market, as the business market is very important to AEGON. The small number of customers and the - on average - high turnover per customer make business customers essential to AEGON's business strategy. Keeping these customers satisfied and loyal to AEGON is what AEGON strives for, given AEGON's goal to grow and stay profitable.

In marketing and service literature effects of using SSTs on customer satisfaction and - more importantly - loyalty have been left virtually unexplored. Especially in a business-to-business context the effect of using SSTs on customer satisfaction and loyalty is a nearly blank page. However, from related literature, it might be argued that (business) customer satisfaction and loyalty might be improved from using SSTs because of benefits SST can provide for its users, like higher efficiency, more control over the service and increased convenience (e.g. Yen & Gwinner, 2003). On the other hand, if customers have a high need for personal contact, using SSTs might decrease the relationship between company and business customer, as, especially in a B2B context, personal contact seems to be of great importance (Jayawardhena et al., 2007), which might be reduced by replacing

personal service encounters with SST encounters (Bhappu and Schultze, 2006). For AEGON it is important to know if and how SSTs influence customer satisfaction and loyalty.

Figure I: Schematic representation of research scope



Taking into account this research scope, the research question for this thesis is formulated as follows:

“How can internet self-service technology be used at AEGON to enhance business customer satisfaction and loyalty?”

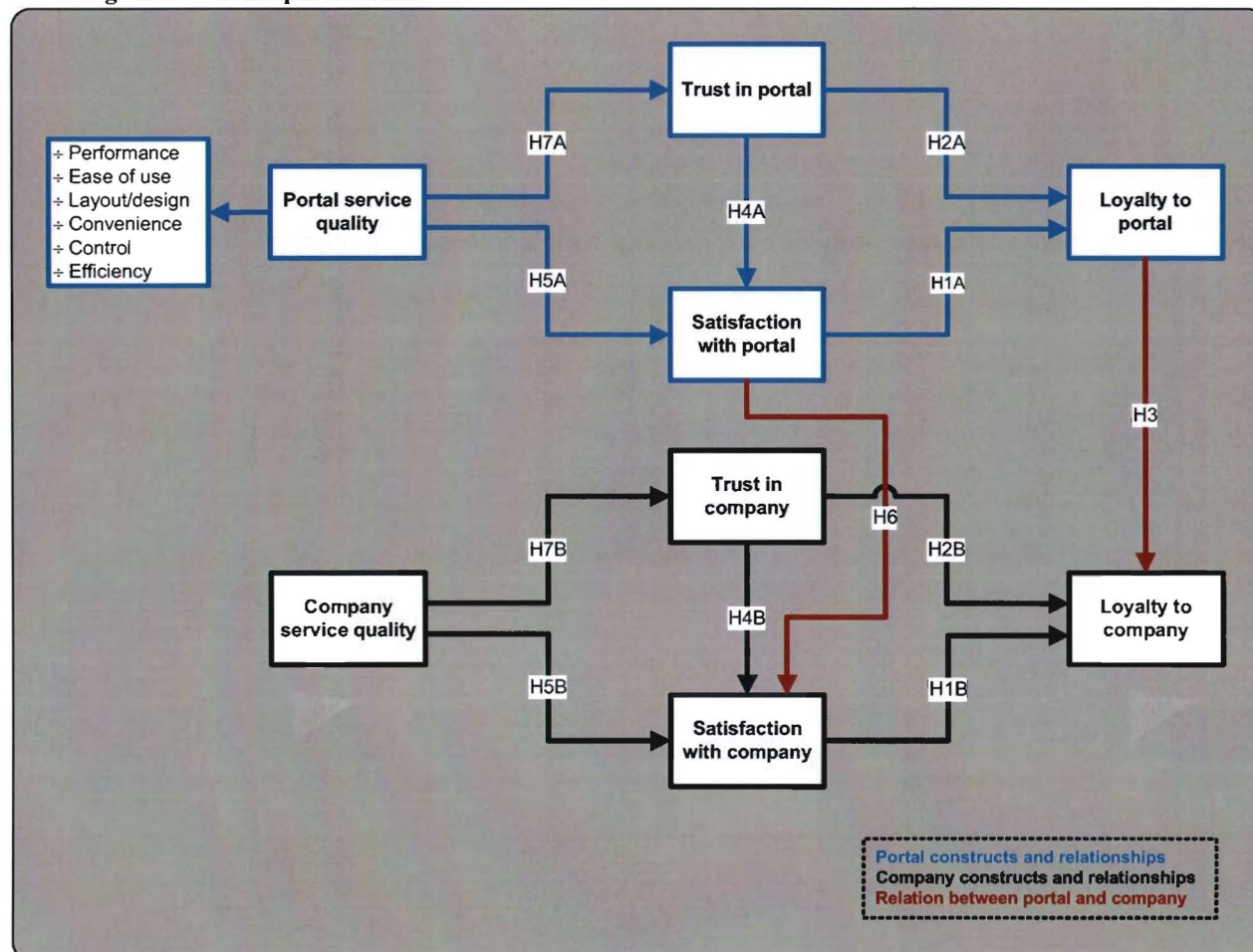
To get more insight into what is known on SST, a literature study was performed. Fifteen articles on SST were selected. Most of the 15 selected articles were on SST in a B2C context; only two articles on SST were in a B2B setting (Pujari, 2004; and Bhappu & Schultze, 2006). Furthermore the focus of the articles was remarkable: all except for two articles focused on antecedents to SST adoption and SST satisfaction; only one article incorporated customer loyalty as a consequence of so-called SST attributes (Yen, 2005). From the literature study a set of antecedents was deducted, determining SST-quality.

With the literature study completed, a set of eight interviews was conducted with AEGON personnel involved with AEGON’s current business portals, either in the development stage as project manager, or being responsible for the portal in the operating stage. The goal of these interviews was twofold: on the one hand they were conducted to give a general overview of AEGON’s business portals and the reasons why they were set up, on the other hand the interviews were designed to check the antecedents found in the literature study. The benefits and downsides to SST usage mentioned in literature could now be validated in a practical B2B setting. These interviews investigated the five current business portals: BeheerNet, LevensloopRekening Werkgevers Site (or: LevensloopSite), Asset Management portal, Verzuimportal and Naverrekeningsportal. For different reasons, the Asset Management portal, the Verzuimportal and the Naverrekeningsportal were excluded from further research.

After the interviews were finished, a conceptual model with hypotheses was set up (Figure II). As the goal of the study was to investigate the effect of business portals (being SSTs) usage on company customer satisfaction and loyalty, a model was needed that comprised both SST specific aspects and overall company constructs. The conceptual model is based Oliver's (1997) loyalty framework, and it is assumed that customers can become loyal and satisfied to both the portal and the company, with portal satisfaction and loyalty having an influence on company satisfaction and loyalty. The model also uses Yen's (1995) study, hypothesizing that SST attributes can

influence (portal) satisfaction and – indirectly – loyalty. In this thesis SST attributes were labeled as portal service quality dimensions, and expected to affect portal satisfaction and trust. The portal service quality dimensions were derived from literature research.

Figure II: Conceptual model



In order to test the validity of the conceptual model, a survey was developed. This survey was held under customers of the two portals selected from the interview stage. The survey was conducted online. Scales were - for as far as possible - adapted from literature and translated to Dutch. Invitations for the survey were distributed through a short text plus links on BeheerNet and by email for the LevensloopSite. An iPod was raffled under respondents to increase the response rate.

For the BeheerNet survey 56 usable responses were received, and for the LevensloopSite 34 responses were obtained. The respective responses rates were 6.5 and 18 percent. The sample size had a good male-female split, and most responders were between the age of 26 and 55. The large majority of respondents had a MBO or HBO level of education.

Data were analysed using SmartPLS. PLS was selected as it makes no assumptions on the underlying data distributions and it is well applicable for smaller data sets. The data sample of 90 was sufficient for model

estimation in PLS. The model proposed in figure II was entered in SmartPLS, and the choice was made to model the seven dimensions of portal service quality as separate constructs, as this allows for more explanation power on the influence of these separate dimensions on portal trust and satisfaction.

After item validity, construct validity and discriminant validity were confirmed, hypotheses could be tested. On the company level, all hypotheses were supported. Company satisfaction had the biggest effect on company loyalty. When zooming in to the portal level, all except for one hypothesis could be supported. Only the relationship between portal trust and portal satisfaction was not supported. Also on the portal level, satisfaction had the biggest effect on loyalty.

When looking at the portal service quality dimensions, not all of the sub-hypotheses were supported. Usability and layout/design were found to affect portal trust, whereas usability, technical performance, ease of use and efficiency were discovered to positively influence portal satisfaction.

Concerning the two proposed links between the portal and the company level, only one hypothesis could be statistically supported. The link between portal satisfaction and company satisfaction was to be strong and significant, meaning that how customers value a portal they use, has a strong effect on their general satisfaction with the company providing them with that portal. The hypothesized relationship between portal loyalty and company loyalty was not supported, meaning that having customers be loyal to a portal will not make them more loyal to the company as well.

Besides the model proposed en validated earlier, also some relationships were estimated in PLS that were not part of this original model. Modeling portal service quality as one construct showed that this construct has a very strong effect on both portal trust and portal satisfaction, although more than half of the portal service quality had to be deleted due to low item loadings. Next the possible relationships between the two trust constructs were taken into consideration. Both a link from portal trust to company trust and a link from company trust to portal trust could be supported in PLS. The latter was found to be slightly stronger. Finally an experimental model was taken into consideration where dimensions of portal service quality directly affected company trust and satisfaction. Technical performance was found to positively affect company trust and control positively influenced company satisfaction.

Concluding, the proposed model can be largely validated. This thesis demonstrates that portal and company trust and satisfaction are strongly linked, stressing the importance of providing customers with portals that are functioning well. Doing so can build customer satisfaction with the company as a whole and – indirectly – company loyalty as well.

Given the quite low average ‘report rates’ the two portals that were considered for the quantitative research received from users, AEGON still has work to be done to make customers satisfied with its business portals. Realizing that portal satisfaction and portal trust affect company satisfaction and trust stresses the importance of providing business customers with well-functioning portals.

At the same time this thesis closes a gap in literature, as it for the first time directly connects the portal – or SST – level to the overall company level. Though there are many studies on business-to-business relationships between customers and service providers, and an increasing number of articles on SST usage exists, the two had not directly and explicitly been connected yet.

Finally, this thesis also provides managerial recommendations to AEGON. Building portals for business customers should be seen as a learning process, and taking into consideration where AEGON currently stands, which this thesis demonstrates, AEGON first focus on the short term. It is important to first build a portal that functions well, as this affects overall satisfaction trust, and – indirectly – company loyalty. Therefore, it should be AEGON's focus to build a portal that does what it has to do, before plans are made to add additional functions and 'reach for the sky'. During this process AEGON has to encourage customers to give input regarding portals as their opinion is what matters. Feedback from customers should then be used to signal problems early on, and deal with these as soon as possible. For BeheerNet it is recommended to make the portal more user-friendly and self-exploratory so that user training will be no longer necessary. The LevensloopSite mainly received availability concerns from customers, and here the focus should be to improve the availability. Also the current portal management outsourcing to India leads to long lead-times before any changes can be made. This process should be re-evaluated to see if updates can be dealt with faster and if shorter re-release time can be made possible.

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Chapter 1 Company introduction

Before the research scope is brought forward in chapter 2, this chapter will introduce AEGON The Netherlands N.V. First a general introduction and brief review of AEGON's history will be given in paragraph 1.1. Paragraph 1.2 will continue with an overview of AEGON's products. The market in which AEGON is active will be dealt with in paragraph 1.3 and AEGON's business strategy will be discussed in paragraph 1.4.

1.1 What is AEGON?

AEGON The Netherlands N.V. is the Dutch country unit of AEGON N.V. with headquarters in The Hague. AEGON N.V. is a large, multinational financial company with its origin in The Netherlands. Its earliest predecessor can be dated back to 1759.

AEGON's main products are life insurances, pensions, general insurances and investment products. AEGON N.V. operates worldwide, with a focus on arising Blankers, K.J.M. [9:23]: d India. AEGON's key markets are the United States, The Netherlands and the United Kin; Hanneke.. Zou jij naar het verslag van Cozijn & Stolker kunnen kijken.. deze zijn namelijk beveiligd, daar kunnen wij dus niks in

Company history AEGON N.V.*

The name AEGON is made up of the first letters of its five main predecessors:

- Algemeene Friesche (founded in 1844)
- Eerste The Nederlandssche (founded in 1882)
- Groot-Noordhollandsche (founded in 1845)
- Olveh (founded in 1879)
- Nillmij (founded in 1859)

In 1968 Algemeen Friesche, Groot-Noordhollandsche and Olveh had merged to AGO. Eerste The Nederlandssche and Nillmij had formed ENNIA in 1969. With the merger of AGO and ENNIA in 1983, AEGON was born. The merger made AEGON the second largest insurance company in The Netherlands at the time, with a total revenue of over 7 billion Dutch guilders (approximately 3.2 billion euros) and 7.800 employees. Both AGO

* Source: <http://www.aegon.nl/overaegon/organisatie/Historie>

and ENNIA had operated predominantly in the Netherlands, but in the years prior to the merger both had acquired positions in the United States. At that time there were 4 main reasons for AGO and ENNIA to merge:

- To bring higher revenues within reach
- To reduce costs
- To internationalise further
- To get a better position on the capital market

After the merger these main points remained the pillars under AEGON's strategy. AEGON N.V. kept on improving its international marketplace position by buying other companies.

Currently AEGON N.V. is active in North America (United States and Canada), Europe (The Netherlands, United Kingdom, Germany, Spain, Czech Republic, Poland, Slovakia and Hungary) and the Far East (Taiwan, China and India). Also, AEGON N.V. is entering other markets like Mexico, Romania and Japan, mostly in the form of joint ventures and business associates.

In 2006 AEGON N.V. had a total revenue of 36.6 billion euros with a profit of 2.8 billion euros and employed a total of nearly 29.000 people.

Decentralized international approach

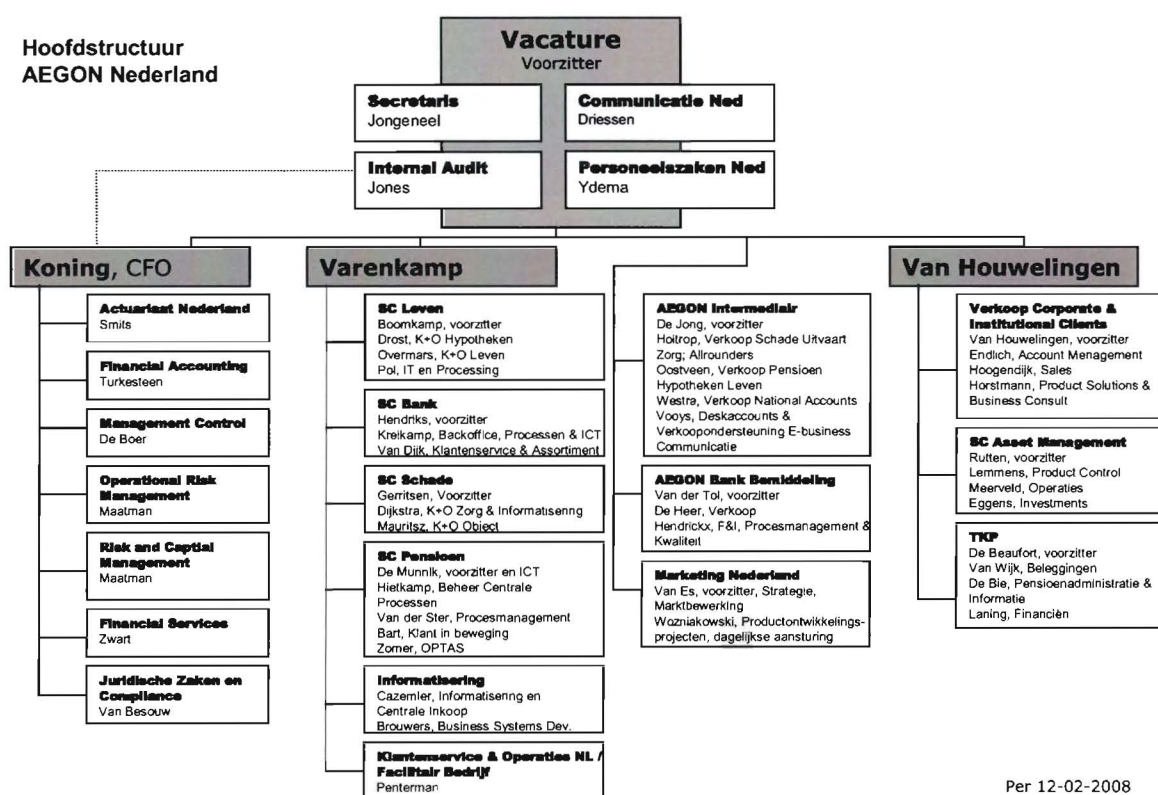
AEGON believes in a decentralized approach, which is why AEGON uses so-called country-units. Every country-unit deals with its own national market and has a large undependability. The main idea behind this is that this will create a venture spirit within a country-unit that enables it to develop AEGON within the national market. Also, the country-units have better insight in the local situation than the central headquarters. For this reason AEGON N.V. allows its county-units to take decisions for themselves. This structure allows the managers of country-units to act like entrepreneurs, while benefiting from shared resources and knowledge across the whole of AEGON N.V.

AEGON The Netherlands N.V.

As explained before, AEGON The Netherlands N.V. is the Dutch country-unit for AEGON N.V. The headquarters for AEGON The Netherlands N.V. are located in The Hague. In 2006, AEGON The Netherlands

N.V. had a total revenue of 6 billion euros with profit of 1 billion euros, while employing 5800 people. In the figure below the organizational structure of AEGON The Netherlands N.V. is shown. As can be seen in figure 1, AEGON The Netherlands N.V. has a complex organizational structure. The organizational structure can be seen as a combination of a functional structure and divisional structure. It has a divisional product structure (SC Leven, SC Bank, SC Schade, SC Pensioen, SC Asset Management; see paragraph 1.2) and a divisional market structure (Verkoop Intermediair, Verkoop C&IC, AEGON Bank; see figure 3). At the same time AEGON has functional divisions as well. From now on AEGON and AEGON The Netherlands N.V. will be used as as this thesis focuses on AEGON The Netherlands N.V. and the Dutch market.

Figure 1: Organogram AEGON The Netherlands N.V.



1.2 Product characteristics

AEGON provides many financial products to its customers. The main categories of products that AEGON offers are represented in the five Service Centres (SCs):

SC Leven for mortgages, life insurances and funeral insurances

SC Pensioen for individual and collective pension plans

SC Schade for healthcare insurances and general insurances

SC Bank for savings and investment activities

SC Asset management for portfolio management

AEGON sees itself as an insurance company and therefore the emphasis for AEGON is on providing insurance services to its customers.

1.3 Market characteristics

AEGON serves two markets, the business market and the (end) consumer market. Also, a special focus exists on employees. AEGON The Netherlands N.V. aims to target employees - part of the consumer market - through contact and collective contracts with employers, which are part of the business market. AEGON's strategy to target these employees is called "Door naar de Werknemer". The business market for AEGON is made up out of three groups of customers:

- The 'SME' (small and middle sized companies with up to 250 employees)*,
- Large companies (over 250 employees), and
- Pension funds institutions.

Statistics** show that – in 2006 – the Dutch insurance market contained 250 general insurers, 70 life insurers and 40 funeral insurers. AEGON held an eighth place in the Dutch insurance market overall with a market share of 5.3%, a fourth place in the Dutch life insurance market with a market share of 12,5% and a tenth place in the Dutch general insurance market with a market share of 1,3%. These market shares are based on total amount of gross premiums.

Within the insurance market changes can be seen over the last years. The total market volume grows only slowly, but changes within the market are evident. Because of the obsolescence in The Netherlands, the Dutch population is more than ever focusing on their pension plans and life insurances. At the same time, customers are more demanding: better products with lower prices, more service and transparency in costs and benefits.

* Dutch term: 'MKB'

** Assurantiemagazine (2007) "Eureka bezit meer dan een kwart van de Nederlandse verzekeringsmarkt", *Assurantiemagazine*, . 29, (13), pp. 1 en 8.

Important trend in customer interaction

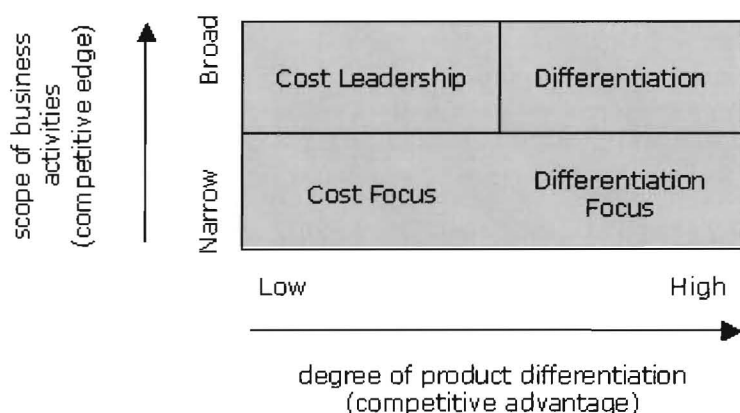
Internet has changed the way companies interact with their customers in the financial services industry (Boyes and Stone, 2003). More and more, financial service companies are using internet to inform their customers. Customers can interact with a company through the internet both pre-sale and post-sale. This allows companies to have less direct – face-to-face – contact with their customers.

1.4 Business strategy

Business strategies can be described by the three generic competitive strategies mentioned by Porter (1985), which most companies adopt, sometimes in some combination:

- *Overall cost leadership*: With this strategy the firm works hard to achieve the lowest production and distribution costs so that it can price lower than its competitors and win a large market share.
- *Differentiation*: Here the company concentrates on achieving superior performance in an important benefit area, valued by a large part of the market.
- *Focus*: With this strategy the firm focuses on one or more narrow market segments. The company has to know these segments intimately in order to tailor and shape the product to an increasingly fine product definition by the customer. Focus can be split into cost focus and differentiation focus.

Figure 2: Generic competitive strategies (porter 1985)



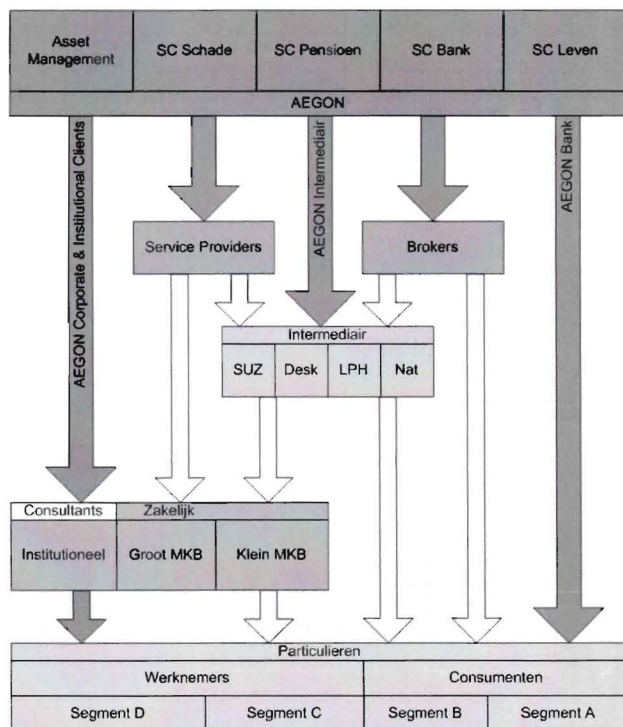
In terms of Porter (1985) AEGON's business strategy fits best with the differentiation strategy. AEGON strives to provide added value to its customers, by producing excellent products and services, matching customers wants and needs. Within its differentiation strategy AEGON also strives to lower its production costs by

improving business processes. This is also reflected in AEGON's official strategy statement until 2010: *"Success will be based on innovation and excellence in execution"*. In order to stay successful, AEGON has to stay ahead in being innovative, and has to make sure execution in selling insurances and maintaining relationships with customers has to be excellent. Another quote regarding AEGON's strategy showing their customer-focus is taken from an AEGON press release*: *"AEGON N.V. stimulates its local establishments to develop their own products and services in such a way that they optimally suit the customers wishes, while using the most appropriate distribution channel"*.

AEGON Distribution

Figure 3 represents a graphical presentation of AEGON's distribution approach, showing all parties in the distribution chain.

Figure 3: Schematic market approach AEGON



As can be seen in figure 3 AEGON uses different ways to target its customers. The most important ones are:

- *AEGON Corporate & Institutional Clients* sells insurances and other financial products directly to business customers. In some cases – especially for big companies – the business clients hire consultants to help them

* AEGON's press release regarding the acquisition of Merrill Lynche's life insurance division

decide what insurance to get. These consultants work for the clients and have no direct relationship with AEGON.

- *AEGON Bank* sells insurances directly to end consumers, using both personal contact and selling over the phone and the internet.
- *AEGON Intermediair* deals with the intermediaries that sell AEGON insurances to end customers. These end customers can be either business customers (mostly small business clients) or end-consumers. Intermediaries are companies that offer financial advice to their customers and sell insurances from insurance companies to their customers. Intermediaries do not offer insurances of themselves. Intermediaries get paid by insurance companies on a provision basis for selling insurances.

Chapter 2 Introduction to the research question

AEGON The Netherlands N.V. (AEGON) is a large Dutch financial company that provides thousands of both end-consumers and business customers with insurances, pension plans and other financial services. The Dutch insurance and pension market can be categorized as highly competitive and saturated.

To begin with, the total volume of the Dutch insurance and pension market is hardly growing while the competition is increasing. The first driver behind the increasing competition is new market entrants due to *globalisation* (Holland et al. 1998). Companies increasingly think and operate globally and enter markets outside of their original home market, mostly by buying foreign companies or setting up joint ventures in other countries.

The second driver is *deregulation* (Holland et al. 1998). Because of the relaxing of international rules and entry barriers, globalisation was reinforced. In Europe, regulations moved from a national focus to a European focus. Deregulation decreases market entrance barriers, making it easier for new parties to enter the market. The third driver is *market blurring* (Laboul, 1991). Traditionally there was a clear division between, for instance, banks and insurance companies, but this division has become less clear over the last decade, as financial service providers have increased their product offering. On the one hand, banks have broadened their product portfolio by selling insurance as well. Similarly, insurance companies have extended their scope by providing banking products. Furthermore, there is a market blurring beyond the limits of the financial services market. For example, even some supermarkets have offered insurances and checking accounts to their customers, which adds extra competitors to the traditional financial service market.

Fourthly, the *transparency* in the financial service market is increasing. Both due to the increasing use of technology and customisation (dealt with below), as well as efforts by financial companies to make financial services more understandable for customers – using easier terminology when communicating with customers – it has become easier for customers to understand and compare financial services. Traditionally financial services – especially pension plans and insurances – are seen by customers as very difficult, almost incomprehensible products. As financial services have *credence qualities* (Brush and Artz, 1999) and there is an information asymmetry between buyers and sellers, it is very difficult for customers to evaluate them (Devlin & Ennew, 1997). Quality of, for instance, insurances can only then be witnessed when a customer puts in a pay-out claim,

after he experienced something he is insured for. Transparency makes it easier for customers to compare financial services, thereby improving market competition.

Besides the increasing competition within the insurance and pension market, there are two other important market trends. These are responses from insurance companies to try and keep competitive edge in the saturated and mature market. These trends are:

- | |
|---|
| <ol style="list-style-type: none">1. Increasing use of technology2. Increasing customisation |
|---|

To begin with, the *use of new technology* systems has changed the financial services market (Claessens et al. 2002). Technologies, such as the telephone, internet and e-mail have made it easier for companies to communicate with customers. Companies in the financial services industry can use technology in many ways, ranging from online information on the company and its products, to telephone contact with customers, to internet banking and selling insurances over the phone or internet.

Secondly, customers increasingly demand more *customized* products. While traditionally nearly all financial products concerned commodities, nowadays they are more and more tailored to the customer or to specific groups of customers. Products are developed to target specific *market niches* (Porter, 1985) or designed to be adjustable to specific needs an individual customers has. Customers are becoming more demanding and knowledgeable on financial products.

In response to these market developments threatening insurance companies' profitability and growth prospects, companies like AEGON need to find ways to create competitive edge. In order to do so, AEGON needs a strong business strategy. In Porter's (1985) description of business strategies, AEGON's strategy is captured under the differentiation strategy (see paragraph 1.4). AEGON aims to offer high quality products and service to its customers, which justifies a slightly higher price. AEGON regards technology as a way to provide extra value to the customer when compared to its competitors. Technology can provide a company with competitive advantage (Kotler, 2000). For AEGON, technology is used in the context of technological process-innovation (e.g. Nagel, 2003). AEGON uses technology in many different ways, both for internal processes (between

AEGON employees) and external processes (between AEGON and its customers). When it comes to providing (perceived) added value to customers, technology infusion in external processes is most important, as these are the processes that customers experience. For this reason, this thesis will focus on technology in external processes.

Over the last decade, banks and insurance companies aim to provide additional value to its customers in external processes with *customer participation* in service delivery (Bitner et al., 1997) and the use of *self-service technology* (abbreviation: SST) (e.g. Meuter et al. 2000, Beatson et al. 2007, Lin and Hsieh 2005). Customer participation is having customers participate in the delivery of services – both with and without the usage of technology – making them part of the service production process (Bitner et al., 1997). Self-service technology is an even further-stretching extent of customer participation: having customers completely provide a service for themselves (self-service), using a form of technology without any intervention of a service employee (e.g. Meuter et al., 2005; Beatson et al., 2007). The factor of self-service is what sets self-service technology apart from other technology-supported services.

As mentioned earlier, AEGON provides its financial products to two markets, the end-consumer market and the business customer market. The end-consumer market has a large number of customers, with relatively low turnover per customer, whereas the business market has a smaller number of customers, but with – on average – higher turnover per customer. Also AEGON strives to target end consumers through contracts with employees. Hence, business customers are very important. Given the high turnover per business customer, a good relationship between a company and its business customer is needed. Business customers that are satisfied with and loyal to a company are more likely to stay with that company in the future, buy additional products and give positive word-of-mouth publicity to other potential customers (Lam et al., 2004). The importance of maintaining good relationships with customers is also important when costs are concerned. *“Studies have shown [...] that winning new customers can be up to five times more expensive than maintaining existing customers”* (Bauer et al., 2005, pag 155). From this point forward this thesis will specifically focus on business customers. The scope of this research does not include intermediary customers.

A very commonly used form of self-service technology and customer participation in service delivery are internet portals. Many companies in business-to-business service delivery use customer internet portals, where customers can have insight in their insurance products, can make changes to their personal information and contracts and can look for possible additions to their current insurance product-mix. This kind of internet portals give additional value to customers by providing them with options to view and change their products whenever and wherever they want, while at the same time having an important benefit for the insurance company: as customers can provide service for themselves over the internet, interaction with service employees is no longer required, which reduces (variable) costs considerably. This can increase efficiency and thereby profitability on the long term substantially.

AEGON has already developed and implemented five different after-sales internet portals for the business market. Currently AEGON is developing a new internet portal for business customers, integrating the existing separated business-to-business portals into one new business portal. The portals that AEGON is currently offering do not all function as well as intended. Customers have complained about different aspects regarding these portals. This is why AEGON is planning and developing newer and better versions of these existing portals, which will be integrated in the upcoming 'WerkgeversPortal'. For this redesign and redevelopment phase it is important for AEGON to know which aspects of these portals are more important when trying to satisfy customers using these portals.

Developing portals for AEGON – as for all financial service providers – can be seen as a learning curve. Building a new portal that is perfect immediately is impossible. Several iterations are normal. But, during these redevelopments stages knowing how a portal is functioning and what customers want and expect in a business portal is of great importance

Another important aspect regarding business portals is the significance these portals have in a broader scope. How important are portals in a service provider-customer relationship? Can badly functioning portals lead to customers leaving the company altogether? Answers to these questions – which will be provided by this thesis – can be used as input when re-evaluating the importance of business portals at AEGON. The significance of customer satisfaction and loyalty for AEGON is also stressed by a statement of Johan van der Werf, the former chairman of the board of directors of AEGON The Netherlands N.V. In his review of AEGON's second quarter of

2007, he said: *“You often hear me talk about customer satisfaction. I emphasize that eventually only satisfied customers will stay loyal to AEGON and will make (re)purchases.”*

It is believed that – in general – self-service technology provides extra value for (business) customers and improves the relationship between the insurance company and its business customers. However, from a literature point of view there is hardly any evidence that using an SST instead of traditional face-to-face contact will improve this relationship. A possible explanation that SST usage will improve this relationship is that customers will have increased access to their data and contracts at all time and place and can make changes easily, which could increase their satisfaction and loyalty (Beatson et al., 2007). A possible explanation that this relationship is not strengthened by the use of SST, is that SST usage decreases human interaction between the customer and company which might decrease loyalty, as in business-to-business settings company loyalty is often determined through personal loyalty (Jayawardhena et al., 2007). The potential benefits associated with the introduction of an SST could be outweighed by the loss of interpersonal contact (Beatson et al., 2007). Also, the complex nature of information exchanges in credence service is very important to customers’ satisfaction and trust perception (Ding et al. 2007, page 247). Taking into account this scope, it is important to know for AEGON if self-service technology is a suitable tool to offer to its business customers when trying to build satisfaction and loyalty.

In SST-literature no specific research has been done on the influence of SST usage on the relationship between company and business customers. While some researchers (e.g. Massad et al., 2006; Meuter et al., 2000) have investigated satisfaction with SST in a business-to-consumer context, and Beatson et al. (2007) have investigated the influence of SST usage on loyalty in a business-to-consumer context, the effect of SST usage on the relationship between company and business customers has been left virtually unexplored. Even more so, only two studies have researched SST in a business-to-business context at all: Bhappu and Schultze (2006) studied antecedents to SST adoption, and Pujari (2004) researched antecedents to satisfaction with SSTs. This thesis expands marketing literature by combining SST usage and relational effect in a business-to-business context for the first time.

Summarizing, both from AEGON's perspective and from a literature point of view it is important to know what effects using business portals can have on relationships with customers, and more specifically on how these portals affect customers' satisfaction and loyalty to the company providing those portals. The research objective of this thesis is:

“How can internet self-service technology be used at AEGON The Netherlands N.V. to enhance the business customer satisfaction and loyalty?”

With the supporting sub questions:

1. What is self-service technology?
2. What is the role of self-service technology regarding the customer-company relationship?
3. What are the advantages and disadvantages of self-service technology in a business-to-business context?
4. What are customer satisfaction and customer loyalty?
5. What factors should AEGON take into account when offering after-sales self-service technology to its business customers?

Questions 1 and 4 will be answered from literature in chapter 3 and 4 respectively. Question 2 and 3 will be answered from literature and practice. The literature of chapter 3 and 4 will be checked through interviews with AEGON employees that deal with SST in practice, and a survey amongst customers, which will be explained in chapter 6. The answer to question 5 will be mainly based on the survey results in chapter 7.

Thesis outline

Chapter 3 will give an overview of service in general, and Self-Service Technology in particular. Paragraph 3.3 will present 15 studies on Self-Service Technology and their outcomes. Chapter 4 outlines what is known in literature on loyalty and satisfaction. Chapter 5 proposes the conceptual framework and hypotheses, combining literature on SST from chapter 3 and on loyalty and loyalty from chapter 4. The conceptual framework takes into account the findings of the qualitative research that can be found in paragraph 6.2. Chapter 6 also presents the portals that AEGON uses for its business customers, and how the survey research was set up. Chapter 7 discusses the results of the quantitative research. Finally the conclusions and recommendations, but also the limitations of this study are presented.

Chapter 3 Services and self-service technology

Now that the research questions and subquestions are known from chapter 2, a literature overview is needed on services and self-service technology in particular. This chapter will first deal with service and service encounters in general in paragraph 3.1, before paragraph 3.2 will get into the role of technology in services. Finally, in paragraph 3.3 the selected literature on self-service technology will be discussed.

3.1 Introduction to service and service encounters

This first paragraph will give an introduction to services and service encounters in general.

What are services?

It is hard to make a clear distinction between a service and a good. However, according to Parasuraman et al. (1985) there are three well-documented characteristics that differentiate services from goods:

1. Services are *intangible*, meaning that they are performances rather than objects; they cannot be counted, measured or inventoried.
2. Services are *heterogeneous*, which means that their performance often varies from producer to producer, from customer to customer and from day to day. No service is the same.
3. Services are *inseparable*. This reflects the simultaneous delivery and consumption of services.

Wolak et al. (1998) use a framework that investigates on characteristics of services, using a fourth characteristic that sets services apart from goods:

4. Services are *perishable*. This means that services cannot be stored nor carried forward to a future time period. Services are time dependant.

These characteristics make that service quality is hard to evaluate. Unlike goods, which in general can easily be measured objectively – for example by measuring sizes, durability, toughness or other tangible attributes –, services have no obvious evaluation method. For this reason, service quality is evaluated by measuring perceptions of service quality. Perceptions of service quality result from a comparison of consumer expectations (or predictions) and actual service performance (Parasuraman et al., 1988). Quality evaluations of services are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery

(Parasuraman et al., 1985). Because of the fact that the construct and evaluation of service quality is based on customer perceptions and expectations, it is very important for service providers to know what customers expect of a service.

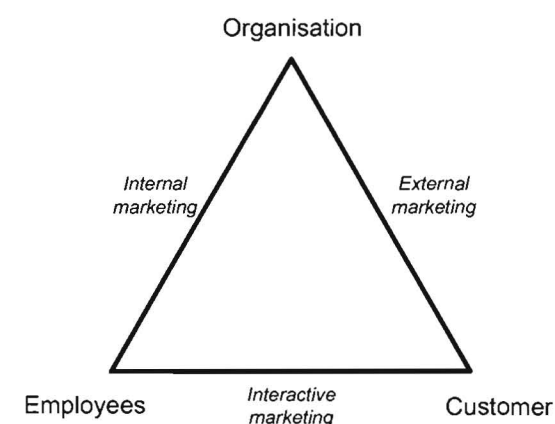
What is a service encounter?

A service encounter can be defined as “*the moment of interaction between a customer and a firm*” (Bitner et al., 2000; Massad et al., 2006). Under this definition service encounters can have many possible forms, including face-to-face contact in an actual service setting (for instance at a service or help desk), over the phone, through mail or email, or over the internet. The encounter can be regarded as the service from a customer point of view (Bitner et al., 2000).

From a company’s point of view, service encounters are very important: they are an opportunity to sell the company to the customer, but also an opportunity to fail and possibly lose a customer. As reasoned by Bitner et al. (2000), service encounters have been shown to affect critical outcomes such as customer satisfaction, intention to purchase, word-of-mouth communications, loyalty and relationship quality, which makes service encounters critical for firms.

The importance of service encounters is also apparent in strategic frameworks used to manage services from a firm’s point of view such as the Services Marketing Triangle (Bitner et al., 2000; Pujari, 2004). This framework is depicted below in figure 4.

Figure 4: The Service Marketing Triangle.



The service marketing triangle outlines the interrelationships between the three major constituents of service marketing: customers, employees and the company. *External marketing* is the interaction between the

organisation and the customer, which is traditionally mainly composed of marketing efforts directed at customers like sales, advertising and promotion, and other forms of communication. This is where the firm sets up its promises to customers. The link between the organisation and the employees – *internal marketing* – focuses on enabling employees to deliver satisfying service through appropriate resources like incentives and training. Effective internal marketing is required to be able to provide the promise to the customer. The link between the customer and the employees *interactive marketing*. This is where service encounters fit in the service triangle and where promises actually become reality.

Historically, virtually all service encounters took place with both an employee and a customer present at the service location (Meuter et al., 2000). These were face-to-face service encounters. For this reason most service encounter research has focused on interpersonal interactions between customers and service employees.

Service encounters in business-to-business

Service encounters in the B2B context have been studied less than service encounters in a B2C context. This is surprising given the importance of contact personnel and the social and interpersonal aspects of the encounter in business-to-business services (Jayawardhena et al., 2007). “The last decade of academic research and business practices have recognized a paradigm shift from transactional orientation to relationship marketing orientation in business-to-business exchanges” (Pujari, 2004; page 201). The three key factors that have been identified in previous researches on buyer-seller relationships in business-to-business are trust, commitment and satisfaction (Pujari, 2004).

The business-to-business context has numerous characteristics that differ from the B2C context and warrant special attention (Jayawardhena et al., 2007): First, B2B situations are usually typified by a smaller number of customers, each contributing significant value to the overall business. This implies that each customer and each service encounter is more important than when comparing to a B2C situation. Second, B2B service encounters are often more frequent than in a B2C context. Third, in most B2B relation exchanges, a service encounter is not the fulfilment of a single effort but an event in the broader endeavour to build and sustain long-term relationships. Fourth, B2B relationships are characterized by closer and deeper interfaces than B2C relationships. Finally, an examination of the service encounter is crucial as service provider employees must be more flexible and

innovative because of the potential non-routine elements in their jobs. Lian and Laing (2006) emphasize that relationships between partners in business-to-business relations exist more at a personal level than at an organisation level.

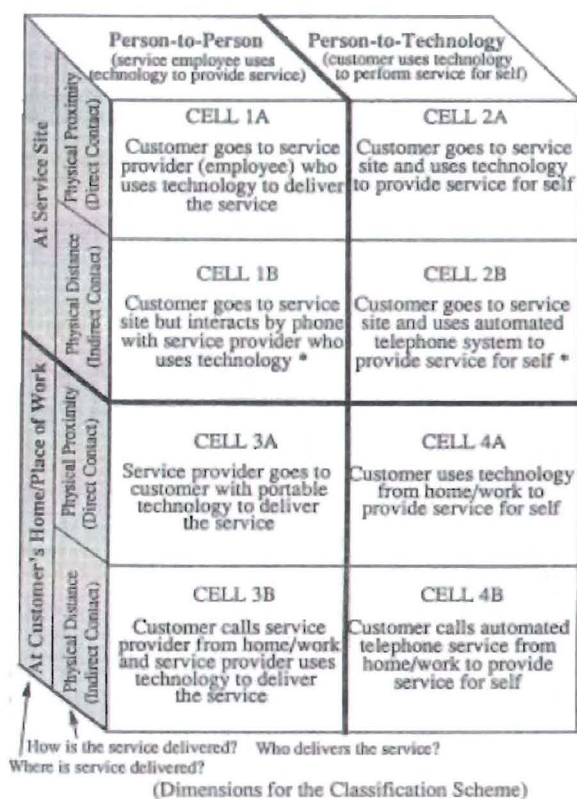
3.2 Technology in services

“The role of technology is seen as a fundamental shift in the nature of service delivery” (Pujari, 2004; page 200).

Technology is currently used in many different forms in the service industry. Technology can be used to help the service employee in his service encounter with a customer (for instance a computer system that contains information on customers), to provide the connection between employee and customer (e.g. telephone connection between employee and customer) or to even totally replace the service employee.

Dabholkar (1994) felt that a classification scheme was needed to give an overview of all technology-based service delivery options in any service industry. This scheme is shown below in figure 5.

Figure 5: Classification scheme for technology-based service delivery options (from Dabholkar, 1994)



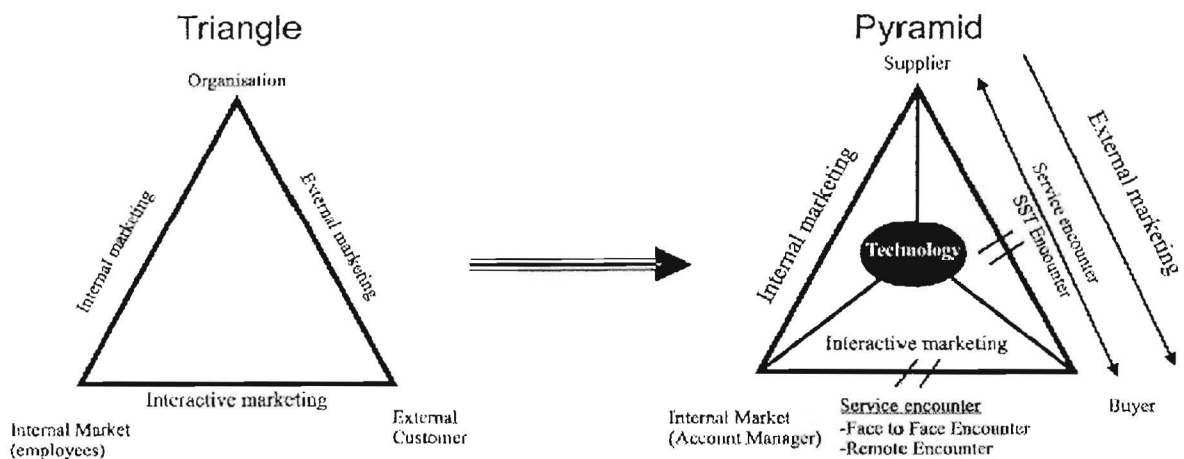
Dabholkar (1994) classified services using technologies in her framework (figure 5) according to three dimensions. First of all: *‘who delivers the service?’*. A choice can be made here between a service employee

(person-to-person) and a machine used by the customer (person-to-technology). Whenever the answer to this question is 'person-to-technology', the service encounter is a self-service technology encounter. SST encounters will be elaborated in paragraph 3.3. Whenever the answer to this question is 'person-to-person', the service encounter is a technology-supported service encounter. The second dimension is 'Where is the service delivered?' Within this dimension there are two possible options for the location where the service is delivered: at the service site or at the customer's home/the place of work. The third and last dimension is 'How is the service delivered?' With this dimension the level of proximity during the encounter is expressed. There is the option of physical proximity (implying direct contact) and the option of physical distance (indirect contact).

The service marketing pyramid

In paragraph 2.2 the service marketing triangle was introduced. Pujari (2004) uses an adapted version of the triangle that includes technology: the service marketing pyramid.

Figure 6: From service marketing triangle to service marketing pyramid (from Pujari, 2004)



As can be seen in figure 6, all three traditional parties of the triangle— adopted here to: internal market, buyer and supplier – have a relationship with technology. Any relationship in the original service marketing triangle can now also go through technology. The major implication for the service encounter is that now a distinction can be made between two types of service encounters:

1. *The SST encounter*: Here direct contact exists between the supplier and the buyer. This contact is taken care of by technology. No contact with the internal market (service employee) is needed. The nature of the self-service technology encounter will be further elaborated upon in paragraph 3.3.

2. *Other service encounters*: these can be both in the form of face-to-face encounters and remote encounters between customer and employee made possible by technology. Thus, these non-SST service encounters can be both technology-based or not.

3.3 Self-service technology

After general services and service encounters have been discussed in paragraph 3.1 and technology in services in paragraph 3.2, this paragraph will focus on self-service technology. First of all, a general introduction of what self-service technology is will be given, followed by an overview of the outcomes of the selected studies on self-service technology.

What is self-service technology?

Beatson et al. (2007) – based on Meuter et al. (2005) – define self-service technology as “*any facility that enables consumers to produce services for themselves without assistance from firm employees*”. Meuter et al. (2000) used the following definition: “*SSTs are technological interfaces that enable customers to produce a service independent of direct service employee involvement*”. From these definitions there are 3 aspects of SSTs that deserve extra attention, as they are the cornerstones of what makes a SST:

- Use of technology
- No (direct) employee involvement in the service encounter
- Self-service: customers produce services for themselves

In some literature (e.g. Dabholkar, 1996) the term ‘Technology-Based Self-Service’ is used instead of ‘Self-Service Technology’. These terms can be used interchangeably, but in this thesis the term SST will be used. Examples of self-service technology include ATMs, automated hotel checkout, telephone banking, Federal Express online package tracking, and online brokerage services. Given the speed of technology development it is likely that self-service facilities will continue to evolve and in the future will play an even more important role in service delivery than they do now (Beatson et al., 2007).

Selected studies

Studies on SST in service marketing literature have focused on many different aspects regarding SSTs.

In this paragraph a division will be made in order to provide a consistent overview of these researches.

The selected studies are presented in table 1.

Table 1: Overview of selected SST researches

"Author(s) (year of publication)"	"Title"			
	"Journal in which the article was published"			
	"Focus"	"Research technique"	"Sample size"	"B2B/B2C"
Beatson and Coote (2007)	<i>Self-service technology and the service encounter</i>			
	<i>The service industries journal</i>			
	Consequences	In-depth interviews	13	B2C
Bhappu & Schultze (2006)	<i>The role of relational and operational performance in B2B customers' adoption of SST</i>			
	<i>Journal of service research</i>			
	Antecedents to adoption	Semi-structured interviews	25	B2B
Bobbitt & Dabholkar (2001)	<i>Integrating attitudinal theories to understand and predict use of technology-based self-service</i>			
	<i>International journal of service industry management</i>			
	Antecedents to adoption	Literature review/research	-	B2C
Curran, Meuter and Surprenant (2003)	<i>Intentions to use SSTs: a confluence of multiple attitudes</i>			
	<i>Journal of service research</i>			
	Antecedents to adoption	Survey	628	B2C
Dabholkar (1996)	<i>Consumer evaluations of new technology-based self-service options: an investigation of alternative models of service quality</i>			
	<i>International journal of research in marketing</i>			
	Antecedents to adoption	Scenario approach	505	B2C
Dabholkar & Bagozzi (2002)	<i>An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational forces</i>			
	<i>Academy of marketing science journal</i>			
	Antecedents to adoption	Scenario approach	392	B2C
Ding, Verma and Iqbal (2007)	<i>SST and the online financial service choice</i>			
	<i>International journal of service industry management</i>			
	Antecedents to adoption	Survey	1319	B2C
Lin & Hsieh (2007)	<i>The influence of technology readiness on satisfaction and behavioural intentions toward SSTs</i>			
	<i>Computers in human behaviour</i>			
	Antecedents to satisfaction & antecedent to adoption	Survey	413	B2C
Massad, Heckman and Crowston (2006)	<i>Customer satisfaction with electronic service encounters</i>			
	<i>International journal of electronic commerce</i>			
	Antecedents to satisfaction	(Web-questionnaire) CIT	513	B2C
Meuter, Ostrom, Roundtree and Bitner (2000)	<i>SSTs: understanding customer with technology-based service encounters</i>			
	<i>Journal of marketing</i>			
	Antecedents to satisfaction	(Web-questionnaire) CIT	823	B2C
Meuter, Ostrom, Bitner and Roundtree (2003)	<i>The influence of technology anxiety on consumer use and experiences with SST</i>			
	<i>Journal of business research</i>			
	Antecedents to adoption & consequences	Survey	823	B2C
Meuter, Bitner, Ostrom and Brown (2005)	<i>Choosing among alternative service delivery modes: an investigation of customer trial of SST</i>			
	<i>Journal of marketing</i>			
	Antecedents to adoption	Survey	828	B2C
Pujari (2004)	<i>Self-service with a smile? SST encounters among Canadian B2B</i>			
	<i>International journal of service industry management</i>			
	Antecedents to satisfaction	CIT	65	B2B
Simon & Usunier (2007)	<i>Cognitive, demographic, and situational determinants of service customer preference for personnel-in-contact over self-service technology</i>			
	<i>International journal of research in marketing</i>			
	Antecedents to adoption	Survey	115	B2C
Yen (2005)	<i>An attribute-based model of quality satisfaction for internet self-service technology</i>			
	<i>The service industries journal</i>			
	Antecedents to satisfaction	Survey	459	B2C

Table 1 gives an overview of the selected studies on SST. First the author, year of publication and title of the study are given. The journal in which the article was published is mentioned as well. Next, the focus of the research is given. Also the research and analysis techniques are presented, as is the sample size of the study. Finally the context is depicted, either being B2B or B2C.

As can be seen from table 1, the research on SST is quite diverse. In this paragraph a division will be made on the basis of study focus, as used in table 1. Antecedents to SST usage – both to adoption and to satisfaction – and consequences of SST usage will be discussed separately. Also a division between B2B and B2C is important for this thesis, as it focuses on B2B relationships, while there hardly is any literature in this context. For this reason the difference between B2B and B2C will be discussed too. However, to start off, advantages and disadvantages of SSTs and the implementation of SST will be discussed.

Advantages and disadvantages of using SSTs

Throughout the different articles on SST many advantages and disadvantages to using SSTs are mentioned. Beatson et al. (2007) give an overview, summing up the advantages and disadvantages of SSTs and lists them from both a customer’s and a firm’s point of view. This summary is discussed below. The context is B2C. Table 2 gives an overview of these advantages and disadvantages.

Advantages of SSTs for a company are discussed first. One of the major benefits to using SSTs for the company is *reduced labour costs (1)* through fewer staff contact, which also leads to *increased productivity (2)* through fewer staff and opening hour restrictions. This, combined with the possibility of *differentiation through a technological reputation (3)*, can lead to *improved competitiveness (4)* for the company. Secondly, SSTs *limit* two of the difficulties associated with the human element in service delivery, *heterogeneity* and *perishability (5)*. The delivery of services becomes more standard and stable, which reduces the heterogeneity. Perishability is reduced because (for instance) the internet is accessible 24 hours a day, 7 days a week. Thirdly, SSTs allow for *increased customisation of the service delivery process (6)*, which gives the company an opportunity to better connect to a customer’s wishes. Finally *increased speed of delivery (7)* is mentioned, because a SST encounter can be quicker delivering a service than a face-to-face service encounter.

Secondly, disadvantages of SSTs for a company are dealt with. There are two major downsides to using SSTs from a customer's point of view. The first one is that investments in SST are *resource-intensive (1)* in terms of both time and money. Technology and/or interfaces have to be built, which costs a lot of time and money. The second major downside is the *loss of interpersonal contact (2)*, which may lead to problems such as difficulties in establishing suitable service recovery strategies in the event of service failure (*2a*), the loss of social bonds (*2b*), the possible loss of up-selling opportunities (*2c*) and staff resenting the technology as it may threaten their jobs as they might become obsolete (*2d*).

Thirdly, advantages of SSTs for the customer are outlined. The major benefits for the customer are related to time and place independency: *time and cost savings through increased speed of service delivery (1)*, *higher spatial and time efficiency (2)*, *reduced waiting time for service delivery (3)*, *flexibility from using the technology (4)* and *greater convenience (5)* through increased hours of operation and location. Other benefits are *greater control over the delivery process (6)* as the customer is in charge of the process, *higher perceived level of customisation (7)* as systems are often tailored to the individual customer and the *fun or enjoyment (8)* from using the technology to deliver the service. Also, *lower service delivery costs (9)* are mentioned.

Finally the barriers for customers to use SSTs are discussed. *If customers are not comfortable with the technology, they may find it intimidating (1)* and may foresee service recovery issues if something goes wrong during the service delivery and they are not able to see a staff member for help. Another important barrier is that customers may be concerned about the *loss of personal interaction (2)* between themselves and the service employee.

Table 2: Advantages and disadvantages/barriers SST usage for company and customer (source: Beatson et al., 2007)

The company		The customer	
Advantages	Disadvantages	Advantages	Barriers
1. Reduced labour costs	1. High investments required in both time and money	1. Time and cost savings through increased speed of service delivery	1. If customers are not comfortable with the technology, they may find it intimidating
2. Increased productivity	2. Loss of interpersonal contact may lead to:	2. Spatial and time efficiency	2. Customers may be concerned about loss of personal interaction
3. Differentiation through technological reputation	a. Difficulties in establishing suitable service recovery strategies	3. Reduced waiting time for service delivery	
4. Increased competitiveness	b. Loss of social bonds	4. Flexibility from using the technology	
5. SST limits heterogeneity and perishability	c. Loss of up-selling opportunities	5. Greater convenience	
6. Increased customisation of the delivery process	d. Staff resenting technology: it might threaten their jobs	6. Greater control over delivery process as the customer is in charge of the process	
7. Increased speed of delivery		7. Higher perceived level of customisation as systems are often tailored to customer	
		8. Fun of enjoyment from using the technology to deliver the service	
		9. Lower service delivery costs	

Implementation of SST

Bhappu and Schultze (2006), in line with Selnes et al. (2001), describe two options for implementing SSTs, namely the “*replacement route*” and the “*resource route*”. In the replacement route, a SST is used to replace personal interaction with arm’s-length transactions executed via SST, thereby compromising the social bonds between customers and providers. In the resource route, SST can be used to execute simple, administrative tasks, thereby freeing up time to deal with more complex, consultative tasks and to build social bonds with customers. This distinction might give an interesting point of departure for deciding whether or not, and how to use SSTs, especially in the B2B context.

Research results in selected literature – Antecedents

As can be seen from table 1, the selected researches considerably differ in focus. Table 3 summarizes over all researches focusing on antecedents to SST usage. It lists the frequency that the particular antecedent is investigated upon throughout the different studies. The antecedents have been grouped in three categories, ‘*user personal characteristics*’, ‘*SST characteristics*’ and ‘*situational context*’. Both antecedents to adoption of SST and to satisfaction with SST have been incorporated in this frequency-analysis.

Table 3: Frequency of antecedents to SST usage observed in selected studies

Category	Antecedent	Frequency
<i>User personal characteristics</i>	Attitude towards technology and/or SST	10
	Personal relationship (Need for personal interaction // attitude towards employees // perceived relational threat)	7
	Demographics	3
<i>SST characteristics/ attributes</i>	Enjoyment (fun)	2
	Control	4
	Ease of use	5
	Efficiency (saved money and time)	2
	Performance (reliability // does its job)	8
	Design	2
	Convenience	3
<i>Situational context</i>	Waiting time	4
	Availability of alternative	1
	Incentives	2

User personal characteristics

This category of antecedents groups all aspects that are related to the user of the SST. The first two antecedents discussed here are of a more affective nature.

Attitude towards technology and/or SST: This is the antecedent investigated most throughout the selected studies. However, the specific way this antecedent was conceptualised differs throughout the articles, though all concepts are related. For instance: Lin and Hsieh (2007) use a (general) technology readiness construct, while Meuter et al (2003) investigate on technology anxiety, and Simon and Usunier (2007) investigate preference for using technology-based self-service. All these studies show that when customers have a positive attitude towards using technology and/or SSTs in particular, they are more likely to start using a specific SST and will be more satisfied using it. In the TAM-model (e.g. Davis et al., 1989), attitude towards using is also incorporated as a possible antecedent to intention to use.

Personal relationship (need for personal interaction // attitude towards employees // perceived relational threat): Customers that prefer personal interaction, are less likely to start using SSTs, and will probably be less

satisfied using a SST. For instance: Dabholkar (1996) proved that ‘need for interaction with service employee’ has a negative impact on ‘expected SST service quality’, in turn influencing ‘intention to use a SST’. Perceived relational threat seems to be especially important in a B2B context, as traditionally in a B2B context a lot of focus has been on relationships between provider and customer (Jayawardhena et al., 2006). Bhappu and Schultze (2006) found that a perceived (relational) threat of SST has a negative impact on intention to adopt SST.

Some researches have incorporated customer *demographics* as possible antecedents to adoption. In the research performed by Meuter et al. (2003) four customer demographics were investigated upon (age, gender, education and income) offering variable results. Education, age and gender offered some significant but conflicting results across sectors. Income was found not to be significant in this research. Meuter et al. (2005) used the same four customer demographics in their research and found age, income and gender/sex to be significant across two different studies. Overall it can be said that there is no clear understanding yet as to whether demographics are significant antecedents (or moderators) to SST usage or not.

SST characteristics

SST characteristics, or SST attributes, are aspects that are related to the very nature of SSTs. This can be factors that SSTs provide to users, or factors that users experience during using SSTs.

Enjoyment (fun) was found to be a significant factor determining attitude towards using the SST by Dabholkar et al. (2002). Bagozzi et al. (1992) imply that ‘intrinsic enjoyment’ can increase the motivation to use a form of technology, thereby making it a possible influencer of SST usage.

Ease of use is an antecedent used quite often and is derived from the Technology Acceptance Model (TAM) described by Davis (1986) and Davis et al. (1989). The TAM model is used to research the acceptance of technologic systems and information systems in particular. Dabholkar & Bagozzi (2002) used this factor from the TAM-model showing that when customers find a technology easy to use, there attitude towards it will be effected positively, in turn influencing the intention to use it.

Performance of the SST is an important factor in customer satisfaction. Yen (2005) uses performance in manner similar to how it will be used here. It encompasses ‘*did its job*’ as used by Meuter et al. (2000), stating that it is important that the SST does what it has to do. Performance also has a technical and reliability aspect to it.

Both Meuter et al. (2000) and Pujari (2004) found reliability – or better: the lack of reliability – to be the most frequent reason for a dissatisfying incident with SST usage. Reliability was also found as an antecedent to a positive incident (Pujari, 2004), but reliability seems to be far more important when it is missing, which would make it a ‘*hygiene factor*’ (Herzberg, 1968).

Control was found to be a strong influencer of expected service quality (in turn influencing intention to use) by Dabholkar (1994). Feeling in control over the process of service delivery enhances consumer evaluations of this process and also directly impacts on intentions to use the SST option.

SSTs are often more *efficient* - or at least perceived to be more efficient than alternatives - resulting in *saved money and time*. Ding et al. (2007) show that the notion of cost savings involved with SST influences the customers’ choice on which service channel to use. Meuter et al. (2000) also show that saved money is a reason for a satisfying incident when it comes to SST usage.

The *design* and layout of the interface of a SST can make that a customer becomes dissatisfied with using a SST as Meuter et al. (2000) show. From the selected literature it cannot be concluded whether design also can lead to positive satisfaction; design was only found in a dissatisfaction context. It can be reasoned that design is strongly related to ease of use and fun, as these antecedents are strongly dependant on the design of the interface the customer uses.

Convenience, being time and place independent for the delivery of a service, is an important benefit from using SST. For this reason it is a strong antecedent for customers to start using SST and for being satisfied when using it. Yen (2005) proved that convenience of internet-based SST has a positive effect on users’ satisfaction with service.

Situational context

This last group of antecedent contains factors that are not directly related to the users or to the SST itself, but to the context in which the SST is used.

Waiting time is used as a mediating situational factor in Dabholkar and Bogazzi’s (2002) research. When the perceived waiting time is longer for the SST option, people are more likely to use the alternative, and vice versa.

Availability of alternative is – of course – also an important situational factor to adoption with a SST. If no other option is available, people are forced to use the SST. In most researches this factor is left implicit.

Incentives can also strongly influence adoption to SST. Massad et al. (2006) found incentives as an antecedent within the supporting services category. Incentives can increase adoption.

Research results in selected literature – Consequences

As can be seen from table 1, consequences of SST usage have been noticeably less studied than antecedents. Only two out of the 15 selected researches have incorporated consequences to SST usage, both in a B2C context. The first one was conducted by Meuter et al. (2003), who studied the influence of technology anxiety on what they called the ‘SST experience’. This construct was made up of ‘overall satisfaction’, ‘word of mouth intentions’, ‘repeat usage intentions’ and ‘attributions’. These constructs are related to loyalty and satisfaction. Especially repeat usage intentions and word of mouth intentions are widely used in loyalty research (e.g. Ribbink et al., 2004). Loyalty and satisfaction will be discussed in chapter 4.

The second research on consequences of SST usage was performed by Beatson et al. (2007). They propose a framework where overall satisfaction results from SST attributes and personal service attributes. In turn, overall satisfaction impacts on commitment. Commitment is made up out of: affective commitment, temporal commitment and instrumental commitment. Unfortunately Beatson et al. (2007) have not performed an (large-scale) empirical research to support their conceptual model; they deducted their conceptual framework from in-depth interviews performed in a hotel-accommodation setting.

SST in business-to-business

It is hard to build any strong conclusions on literature on SST usage in a B2B context, as there hardly is any literature on this context to begin with. The few literature there is, however, does outline the major tradeoff that has to be made when using a SST in B2B context: improved efficiency versus loss of personal interaction and relationship. This is reflected in the research model used by Bhappu and Schultze (2006), which can be found in appendix A. The major benefit a SST can provide in a B2B context - for the customer - is improved efficiency due to easier communication and better service hours and times. The major downside to using SST is that this

might have a big impact on the relationship between customer and company. B2B relationships are characterized by a lot of personal contact - building (customer) confidence and building a social/interpersonal relationship - which might be reduced by the introduction of SST. This downside is also present in a B2C context, but in a B2B context it is of greater importance. Where improved efficiency is the major antecedent to satisfaction, it is very important to note that Pujari (2006) found that technology failure is the main source of dissatisfaction. Therefore it is very important for a company wanting to introduce SST to its B2B customers to ensure that the SST is working properly as reliability seems to be a strong *'hygiene factor'* (Herzberg, 1968) for SSTs in B2B.

Concluding on the difference between SST usage in B2C and B2B it can be said that especially the emphasis on the possible loss of the (interpersonal) relationship between company and customer seems to be of great importance in B2B. On the other hand, it is recognized that SST usage in a B2B context might still have strong benefits over face-to-face contact. However, to fully exploit this benefit in B2B, it is very important to ensure high reliability. Probably this is even more important in a B2B context than in B2C, but because of a lack of literature, it is impossible to state this as a fact.

This concludes the literature research on service and Self-Service Technology. Chapter 4 will continue the literature review, focusing on customer satisfaction and customer loyalty.

Chapter 4 Satisfaction and loyalty

Customer satisfaction and customer loyalty are the two things that AEGON hopes to improve with its portals. Ultimately AEGON wants customers to be loyal to AEGON, as loyal customers will stay with AEGON longer, and are more likely to make repurchases. Overall loyal customers are more profitable (Reichheld and Sasser, 1990). This chapter will go into what is known on satisfaction and loyalty from literature – in paragraph 4.1 and 4.2 respectively. Also trust, and why trust is important, are discussed in paragraph 4.3.

4.1 Satisfaction

Customer satisfaction is a generally accepted indispensable construct in building a customer relationship. Companies strive to satisfy customers. Over the last decades, being concentrated on what customers want has become a major company point of focus. The chance of having customers re-purchase is increased when customers are satisfied with what they have bought and the service they have been provided with (Oliver, 1999). In marketing literature, satisfaction has received a considerable amount of attention since the 1970s.

The word ‘satisfaction’ stems from the Latin *satis* (enough) and *facere* (to do/to make). Thus, products and services that are satisfying have the capacity to provide what is ‘enough’. Within literature there are many different definitions used to capture the construct of satisfaction. Definitions differ according to the context of the study. For instance, the satisfaction construct can be used either on an encounter/product level or on an overall, more collective level. In the first case, satisfaction is based on a single encounter or product, whereas in the second case, satisfaction is measured on a general level, generalizing over multiple service encounters or product evaluations.

Satisfaction can also be defined as an evaluation, a summary state and a response to an evaluation (Oliver, 1997). In his book, Oliver (1997) acknowledges the struggle to provide one overall definition of satisfaction taking into account all possible dimensions. He ends with the following (formal) definition: “*Satisfaction is the consumer’s fulfilment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, including levels of under- or overfulfillment*” (Oliver, 1997; pag 13). The definition that will be used in thesis is taken from Shankar et al.

(2003), and based on Oliver (1999): *“Satisfaction is the perception of pleasurable fulfilment of a service.”* (Shankar et al., 2003; page 154)

4.2 Loyalty

Gaining and sustaining customer loyalty makes up the ultimate aspiration of many service providers. Loyal customers buy more, are willing to spend more, are easier to reach and act as enthusiastic advocates for firms and the commonly accepted causal link between loyalty and firm performance is the reason why loyalty has been the focus of many recent studies (Harris & Goode, 2004). Building relationships with customers is usually how marketers attempt to attain loyalty, however loyalty remains elusive (Singh & Sirdeshmukh, 2000). Especially services – given their intangibility, heterogeneity and performance ambiguity – pose challenges for forming and sustaining good customer-service provider relationships (Singh & Sirdeshmukh, 2000).

Just like satisfaction, loyalty has been defined in many different ways. The definition that will be used in this thesis is adapted from Oliver (1999): *“Loyalty is a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future”*.

Loyalty effect on profitability

Retaining customers is important to companies, as it is cheaper than getting new customers. Keeping customers can reduce costs considerably. Reichhold and Sasser (1990) give an overview of case studies regarding loyalty and customer retention in firms across different industries, showing remarkable results. They show that companies can increase their profitability ranging from 25% to 85% by retaining only 5% more customers. There are several reasons why retaining customers is more profitable (Reichhold & Sasser, 1990): First, the costs for acquiring a customer have to be paid only once and in a long-term relationship can be spread over a larger time period. The high cost of acquiring new customers can lead to unprofitable customer relationships for up to three years. Secondly – for some industries – new customers are likely not to spend as much money as long-time customers do, making them less profitable. Thirdly, operating costs are lower for long-term customers, as they already are known to the company (e.g. entering new customers in the database system has to be done only once).

Also it is easier for personnel and account managers, for they already know the customers. Fourthly, loyal customers can sometimes be charged more money, because they are committed to stay with the company anyway, making them less price-sensitive. Fifth, loyal customers provide the company with free publicity when talking about the company positively with their relations, which often are potential customers for the company.

Hallowell (1996) confirms Reichhold and Sasser's (1990) findings that satisfaction and loyalty impact on profitability. However, he states that companies should not strive to satisfy and retain all customers, as certain customers will never be profitable.

Two Dimensions of loyalty

Loyalty can be divided into two dimensions: an attitudinal dimension and a behavioural dimension. The attitudinal dimension focuses on loyalty as an overall attachment to a product or service, and – if this attitudinal loyalty is strengthened – these customers are disposed to buy a product or brand more often (Oliver, 1999).

The behavioural dimension describes the actual actions and behaviour of customers. This dimension is usually measured by word-of-mouth and repurchases. Early views on loyalty especially focused on repeat repurchase behaviour. For instance, Brown (1952) classified loyalty into four categories, (a) undivided loyalty, (b) divided loyalty, (c) unstable loyalty and (d) no loyalty, based on customer repurchase behaviours. However, a behavioural loyal customer may be spuriously loyal; he or she only stays with a company or service provider until he/she can find a better alternative in the marketplace. An attitudinally loyal customer, on the other hand, has some form of attachment or commitment to the company and is not easily swayed to buy a slightly more attractive offer (Shankar et al., 2003). The behavioural dimension – unlike the attitudinal dimension – can be measured by actual numbers, not only by measures of intentions. Oliver (1997, 1999) uses a more elaborate framework of loyalty that combines both these dimensions.

Oliver's four states of loyalty

Oliver designed a loyalty-framework that is made up out of four distinct, consecutive states of loyalty, where each state of loyalty is deeper than its predecessor (Oliver, 1997; Oliver, 1999). The four states are cognitive loyalty, affective loyalty, conative loyalty and action loyalty.

Cognitive loyalty is the first and weakest phase of loyalty. In this phase loyalty is only based on information. Customers are only loyal on a purely cognitive level; when they would find information from a competitor company that they would find more interesting (e.g. a better priced offer), they would switch immediately.

Affective loyalty is the second state in Oliver's loyalty framework. In this state loyalty is based on cognitive recognition and on affect. Affect adds an emotional component to loyalty, integrating and anchoring it in the consumer's mind. This state of loyalty is stronger than cognitive loyalty as it does not only rely on pure cognitive reasoning and judgement, but on the affective, emotional component as well.

Conative loyalty makes up the third state of loyalty. Conative loyalty constitutes an intention or commitment to behave toward a goal in a certain matter (Harris & Goode, 2004). Conative loyalty is a state of loyalty with deeply held commitment (and intention) to buy. This type of commitment exceeds affect, because it takes on motivational properties to pursue the preferred brand. It is usually measured by repatronage and word-of-mouth intentions. Söderlund (2006) states that it is better to measure these constructs separately than as one overall loyalty construct.

Action loyalty is the last phase of Oliver's loyalty framework. In this phase consumers act on the intentions they developed in the previous state of loyalty. This state of loyalty has been under-investigated in literature (Oliver 1997), but is a necessary step to see intentions turn into action.

These four phases of loyalty have been found significant by Harris & Goode (2004). Affective and conative loyalty in Oliver's loyalty framework can be seen as part of the attitudinal dimension of loyalty discussed earlier (Shankar et al., 2003). Action loyalty makes up behavioural loyalty. One note to Oliver's loyalty framework is made by Shankar et al. (2003). They state that customers can be action-loyal without being affectively loyal. This can especially be the case when no alternatives exist, or where customers only repurchase for cognitive reasons, because there are no better alternatives available.

How loyalty is related to satisfaction

Before the second half of the 1990s the major focus in marketing literature was on satisfaction and not on loyalty. However, as discussed by Oliver (1999), just keeping customers satisfied is not enough; keeping customers satisfied does not necessarily imply that customers will remain loyal. Customers can be satisfied but might still be very sensitive to competing offers made to them. As Oliver (1999) mentions, defection rates among satisfied customers might still be as high as 90%. Oliver also deals with how satisfaction and loyalty are related, and after discussing six different options of how they might be linked, he sees the option represented in figure 7 as the most suitable one.

Figure 7: Relation between satisfaction and loyalty, according to Oliver (1999)

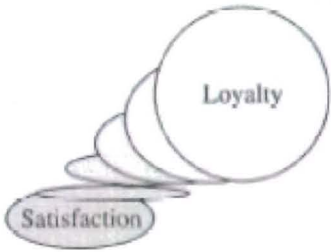


Figure 7 presents Oliver’s (1999) view on the relation between satisfaction and loyalty. As can be seen satisfaction is not part of loyalty or vice versa. Satisfaction is presented as a step stone towards loyalty. Satisfaction can bring loyalty, but it is not certain that it will. The process from satisfaction to loyalty needs a lot of continuing attention and ‘nurture’, otherwise the customer will not go beyond the state of satisfaction and will never become loyal to its provider. Grönroos (2000) adds to this discussion, stating that only highly satisfied customers will cross the *zone of indifference* (Grönroos, 2000; page 129) and will become loyal. This view of how satisfaction and loyalty are related represents the commonly accepted notion: satisfaction can lead to loyalty, but does not necessarily and automatically do so.

4.3 Trust

Customer trust is seen as an important factor in both online and offline services and can determine the nature of many buyer-seller and business relationships (e.g. Gefen, 2002; Sirdeshmukh et al., 2002). Trust is central in relationship marketing (Morgan & Hunt, 1994), and, in situations where uncertainty and risk are perceived to be high, trust is essential (Grayson et al., 2007). Grönroos (2000) states that trust is especially essential for services.

Also, especially in un-trusted or risky situations, trust is important; or as Luhmann (1988) reasons: *“Trust is a solution for specific problems of risk”* (Luhmann, 1988; page 94).

Trust is defined in this thesis as follows: *“The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.”* (Mayer et al., 1995; page 712). As can be seen from this definition, trust relates to positive expectations about the intentions and behaviour of the exchange party (the expectancy conceptualisation of trust) and trust relates to one’s intentions to rely on the exchange partner accepting the contextual vulnerability (the behavioural conceptualisation of trust) (Singh et al., 2000).

Sometimes, trust has been used synonymously with confidence, cooperation and predictability (Mayer et al., 1995). However, there are differences between these constructs. Trust differs from confidence because it requires a previous engagement on a person’s part, recognizing and accepting that risk exists (Mayer et al., 1995). According to Luhmann (1988), trust differs from confidence because it requires a previous engagement on a person’s part, recognizing and accepting that risk exists. Cooperation and trust are often seen as synonyms as well (Mayer et al., 1995). Nevertheless, a distinction exists. Cooperation can involve trust, but does not automatically do. Someone can cooperate without trusting the other person. Vulnerability is the construct that can make a clear distinction between these two situations. Cooperation can exist without vulnerability of one party towards the other, trust cannot. Predictability is often associated with trust as well (Mayer et al., 1995). But here a difference exists as well: predictability does not require vulnerability, trust does. Also, one’s behaviour can be very predictable, but not in the best interest of the other party, thereby not leading to trust for the second party.

The three dimensions of trust

Trust – or trustworthiness as Mayer et al. (1995) label it – has three dimensions: ability, integrity and benevolence (Gefen, 2002; Mayer et al., 1995; Hwang et al., 2007). Ability relates to skills, competencies and characteristics that enable a party to have influence within some specific domain (Mayer et al., 1995). Integrity is the perception that the trusted part adheres to accepted rules of conduct, such as honesty and keeping promises (Hwang et al., 2007). Benevolence is the believe that the trusted party wants to do good to the customer, aside from wanting to

make a legitimate profit (Gefen, 2002). Overall trust is the product of a set of these trust/trustworthiness beliefs (Gefen, 2002).

Importance of trust

It can be argued that trust is even more important in the less verifiable and less controllable business environment of the internet (Gefen, 2002; Anderson & Srinivasan, 2003). When entering confidential and privacy-sensitive data online, customers are exposing themselves to possible unethical use and distribution of the data. Numerous examples of online theft of identity and data, and phishing scams are known. An example of the latter are emails aimed at customers of AEGON Bank to lure them to a fake online banking site, where their banking data can be stolen.*

Especially in the financial services market, trust is an essential construct (Tyler & Stanley, 2007). As financial services have ‘*credence qualities*’ (Brush & Artz, 1999), trust is important. The use of the internet – with the absence of face-to-face interaction, where trust can be built – challenges financial service providers to make customers trust online interactions. According to Harris & Goode (2004) “*trust is more important in the online environment than in conventional offline contexts*” (Harris & Goode, 2004: pag 142). Gefen (2002) asserts that the lack of online trust is the main reason for customers not to participate in e-commerce. Eurostat research** shows that in 2007 14% of the Dutch population avoided e-shopping because of security concerns.

* source: <http://www.security.nl/article/17827/1>

** source: http://epp.eurostat.ec.europa.eu/pls/portal/docs/PAGE/PGP_PRD_CAT_PREREL/PGE_CAT_PREREL_YEAR_2008/PGE_CAT_PREREL_YEAR_2008_MONTH_02/4-08022008-EN-AP.PDF

Chapter 5 Conceptual framework and hypotheses

After literature on services and self-service technology has been discussed in chapter 3 and literature on satisfaction and loyalty has been brought forward in chapter 4, this chapter will present the conceptual model that integrates outcomes of both these literature reviews, aiming to answer the research question formulated in chapter 2. First, a general explanation of the model is brought forward in paragraph 5.1, followed by a detailed overview of the different hypotheses that are part of the conceptual model in chapter 5.2.

5.1 Introduction to the conceptual model

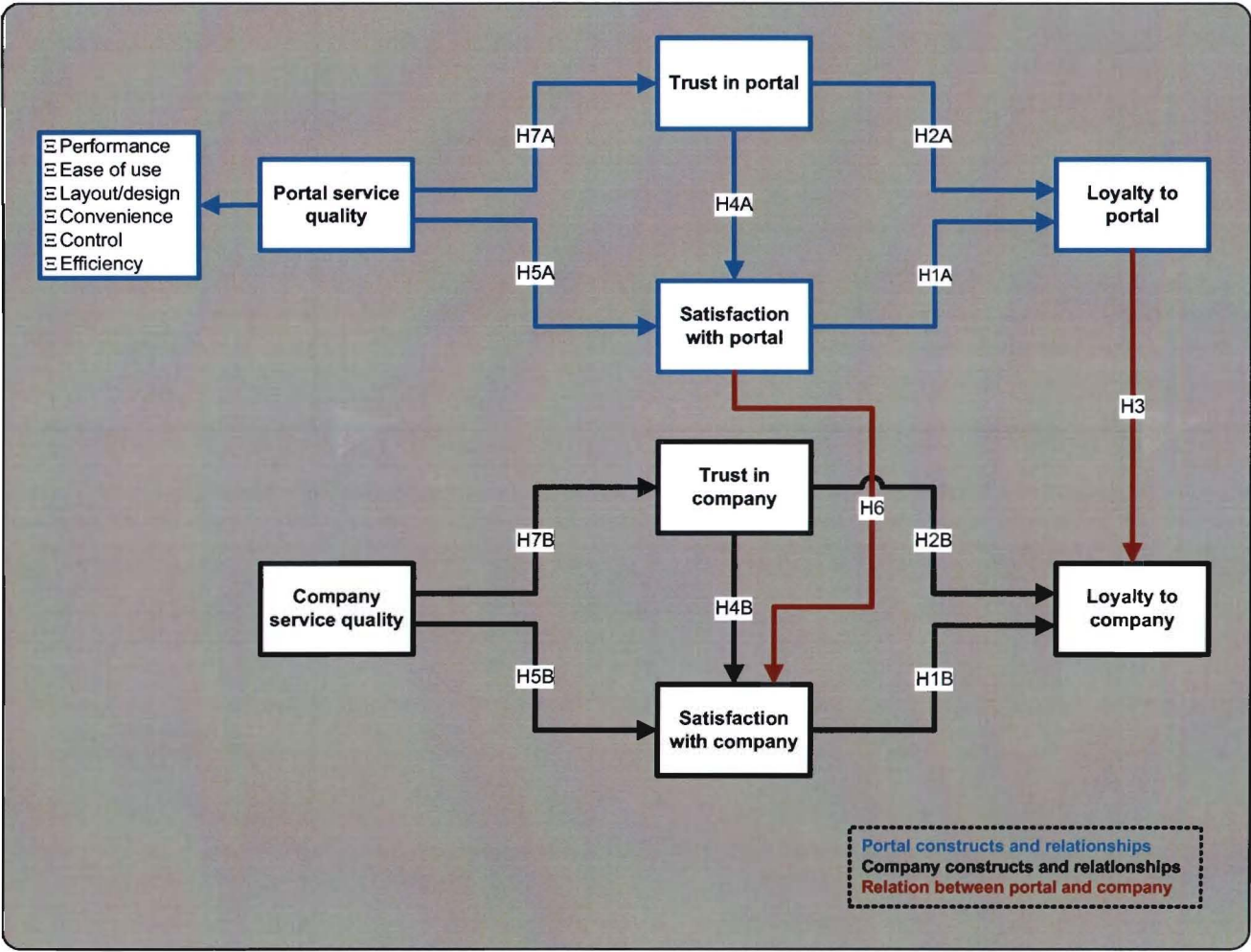
Chapter 3 showed that service encounters are very important in service-relationships between customers and service providers, as this is where customers experience the service. The usage of portals, which are an example of self-service technology, changes the customer-provider interaction scheme by adding a new form of interaction: the self-service technology service encounter. Business customers use the internet portal to deal with the company, replacing other forms of interaction like face-to-face and telephone contact. Chapter 4 emphasized the importance of satisfaction, loyalty and trust in customer relations, and gave insight in the different phases of loyalty, as explained by Oliver (1997). Combining these two aspects regarding customer relationships, and adding the specific aspects of SST portal-interaction, the conceptual model in figure 8 is proposed.

As can be seen, there are two different cycles where service quality (a cognitive response in Oliver's (1997) loyalty's framework), influences trust and satisfaction (affective responses in Oliver's (1997) loyalty framework), that in turn affect loyalty - which in terms of Oliver's (1997) loyalty framework is conative loyalty. Trust is believed to affect satisfaction and trust, as paragraph 4.3 has shown that trust is important in both online and insurance contexts, and is hypothesized to be necessary in order to become satisfied and loyal.

The first cycle is on portal level (depicted in blue in figure 8). Aspects of portal service quality – which are taken from the SST literature review in paragraph 3.3, and validated in paragraph 6.2 – influence trust and general satisfaction with that portal, which in turn affect portal loyalty. The same cycle exists on a company level – or overall level – which is depicted in figure 8 in black. The special aspect of the proposed conceptual framework, however, lies in the links between these two cycles. These are the red links in figure 8. It is hypothesized that when a customer is satisfied with a portal he will also become satisfied with the company that offers that portal.

The same link is proposed between portal loyalty and company loyalty; being loyal to a portal, the customer using that portal will also be more loyal to the company. These effects not only exist in a positive meaning but also in a negative one. When a portal dissatisfies customers, this will have an effect on overall customer satisfaction with the company. As customers only experience service when dealing with the service providing company through service encounters (Bitner et al., 2000), interacting with a company through a portal is expected to influence overall satisfaction and loyalty.

Figure 8: The conceptual model



5.2 Constructs

Four constructs are used to formulate the conceptual framework. These constructs are used on both portal and company level. These constructs are introduced in this paragraph. The service quality constructs are based on the literature review on services and SST in chapter 3. Satisfaction, trust and loyalty have been discussed in chapter 4. In this paragraph, these constructs will be repeated and explained briefly.

Service quality is widely recognized in literature as an antecedent to service satisfaction in both online (e.g. Lee et al., 2005; Collier et al. 2006; Yang et al., 2005) and offline settings (e.g. Winsted 2000; Jayawardhena et al. 2007). Service quality is the cognitive response to attributes of service. Delivering quality service is considered to be an essential strategy for success in today's competitive environment (Parasuraman et al., 1985; Caceres et al., 2007). Service quality is used in this study in both an online setting and an overall setting of company service quality.

The portal service quality construct consists of 6 dimensions: performance, ease of use, layout/design, convenience, control and efficiency. These dimensions of portal service quality are SST attributes, as they have been labelled in table 3, where they came forward from an extensive literature research on SST and were recognized as antecedents to SST adoption and SST satisfaction. The dimensions were confirmed in interviews with AEGON personnel (to be discussed in paragraph 6.2). Yen (2005) empirically proved that SST attributes positively effect user satisfaction with service. SST attributes – that can be seen as specific advantages of using SSTs – might be what satisfies customers and makes them loyal. Yen (2005) – in line with Dabholkar (1996) – proposes to centre on cognitive evaluations of [internet]SST attributes, for having an impact on expectations of service quality, satisfaction and intention to use. Shamdasani et al. (2008) use a similar approach to Yen (2005); however, in their study the SST attributes influence service quality.

For the overall, company, service quality component, the SERVQUAL construct (Parasuraman et al., 1988) is seen as a good reflection of overall service quality. The five SERVQUAL dimensions are tangibles, reliability, responsiveness, assurance and empathy.

Satisfaction was introduced in the previous chapter and is used here as overall satisfaction and reflects the customers' cumulative impression of performance (Parasuraman et al. 1994). Satisfaction is seen as an affective response in Oliver's (1997, 1999) loyalty framework. Both satisfaction on portal level and satisfaction are used in this thesis.

Trust is seen as an essential construct in forming loyalty in both offline and online contexts for exchange settings (e.g. Harris & Goode, 2004). In this thesis trust is used as: *'The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party'*. Trust is also seen as an affective

response in Oliver's (1997, 1999) loyalty framework. The construct of trust is used in this thesis on portal and company level as well.

Loyalty is a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future. Loyalty is used here as conative loyalty in Oliver's (1997, 1999) loyalty framework. Both repurchase and word-of-mouth intentions are used to investigate on (conative) loyalty in this thesis. Loyalty is taken into account on both portal and company level.

5.3 Hypotheses and model

In this paragraph the hypothesized relations between the constructs introduced in paragraph 5.2 are explained in more detail. These hypothesized relations will be discussed in order of how the constructs are determined, starting with the desired end-construct: loyalty. Next, effects on satisfaction and trust are discussed.

Loyalty

Companies strive to have customers become more loyal, as this can dramatically increase profitability (Reichheld & Sasser, 1990). Considering this with the nature of large purchases and transactions in a B2B setting, there can be huge rewards for companies who succeed in creating and maintaining customers (Rauyruen & Miller, 2007). Satisfaction can lead to loyalty, as reasoned by – amongst many others – Oliver (1999) and Kotler (2000). Satisfied customers are likely to stay longer with a company and do additional purchases. According to Grönroos (2000) only highly satisfied customers will repurchase and will engage in word-of-mouth; Chiou (2003) asserts that customers might be loyal without being completely satisfied. However, satisfaction remains the central construct in building loyalty. Anderson & Srinivasan (2003) show that satisfaction leads to loyalty in an online context as well. On a portal level, loyalty is used as a re-use intention. Hence,

Hypothesis 1A: Portal satisfaction will positively affect portal loyalty.

Hypothesis 1B: Company satisfaction will positively affect company loyalty.

Trust plays an essential role in financial services given their high uncertainty and credence qualities. Customers do not always have a clear view of what they are paying for. Therefore they need confidence in their exchange partner to act in their best behalf. For this reasons loyalty needs trust, especially in the context of financial

services. Gefen (2002) adds to the necessity of trust to gain loyalty, by concluding: “*Low degrees of consumer trust [...] inhibit consumers from returning for additional purchases*”(Gefen 2002, pag 39). Trust has a negative effect on the propensity to leave (Morgan & Hunt, 1994). Harris & Goode (2004) see trust as a pivotal driver of loyalty. Grönroos (2000) asserts that firms have to go beyond what is generally described as good service and that “*the firm must serve customers in such a way that they realize that the firm can be trusted in every aspect at all time.*” (Grönroos, 2000; pag 129). Chiou (2003) states that trust is a necessary ingredient for long-term orientation because it shifts the focus to future conditions. In online interactions trust is essential as well (Gefen, 2002). In accordance with this literature, the following hypotheses are proposed:

Hypothesis 2A: Portal trust will positively affect portal loyalty.

Hypothesis 2B: Company trust will positively affect company loyalty.

Also, it is assumed that customers that are loyal to the portal will become more loyal to the company. This assumption is parallel to Montoya-Weiss et al. (2003), who showed that the online channel evaluation influences the overall evaluation.

Hypothesis 3: Portal loyalty will positively affect company loyalty.

Satisfaction

Satisfaction is a result of the comparison of perceived performance with expectations. High satisfaction creates an emotional bond with the service provider, exceeding just a rational preference (Kotler, 2000). This places satisfaction as an affective response in Oliver’s (1997, 1999) loyalty framework.

Singh et al. (2000) state that so-called pre-trust will have direct influence on their post-purchase decision. Also, Morgan & Hunt (1994) proposed that trust is an important factor in outcome evaluations. Therefore, similar to Chiou (2004), this thesis proposes that trust will have positive impact on customers’ satisfaction:

Hypothesis 4A: Portal trust will positively affect portal satisfaction.

Hypothesis 4B: Company trust will positively affect company satisfaction.

Satisfaction is used in this thesis as an overall response to elements service that AEGON provides. Service quality is an aspect that has been researched quite elaborately (e.g. Parasuraman et al., 1985; Parasuraman et al., 1988; Yang et al., 2004). The evaluation of aspects of service quality is a cognitive response. Service quality has been

known to effect satisfaction (Oliver, 1997). Through the continuous experience with positive service quality aspects, customers will become satisfied. In online settings, service quality dimensions (e.g. Yang et al., 2004) and - more specifically - SST attributes (e.g. Yen & Gwinner, 2003; Yen, 2005) have been shown to positively influence satisfaction as well. According to Rodie et al. (2000), in general, more customer participation in services appears to correspond with higher levels of satisfaction. Consistent with this literature, the following hypotheses are proposed:

Hypothesis 5A: Portal service quality will positively affect portal satisfaction.

Hypothesis 5B: Company service quality will positively affect company satisfaction.

Consistent with Montoya-Weiss et al. (2003), satisfaction with the portal – or as Montoya-Weiss et al. (2003) define it: the online channel service quality perceptions – is assumed to positively influence the overall company satisfaction.

Hypothesis 6: Portal satisfaction will positively affect company satisfaction.

Trust

Customers that are content with aspects of service quality are assumed to build more trust. Dealing with both the company and the portal through several interactions, customers receive different signals on service quality that they interpret and evaluate. These evaluations of quality have an impact on the trust that customers have in their service provider. When customers are of the opinion that service quality is bad, they will feel that their service provider is falling them short, thereby decreasing the trust in their service partner. Also, it is assumed that SST attributes have the same influence on portal trust, as service quality does. Hence, in analogy with Ribbink et al. (2004),

Hypothesis 7A: Portal service quality will positively affect portal trust.

Hypothesis 7B: Company service quality will positively affect company trust.

This concludes the explanation of the proposed model and hypotheses. Chapter 6 will continue by outlining the research methodology, and will show how the framework proposed in this paragraph was tested.

Chapter 6 Research methodology

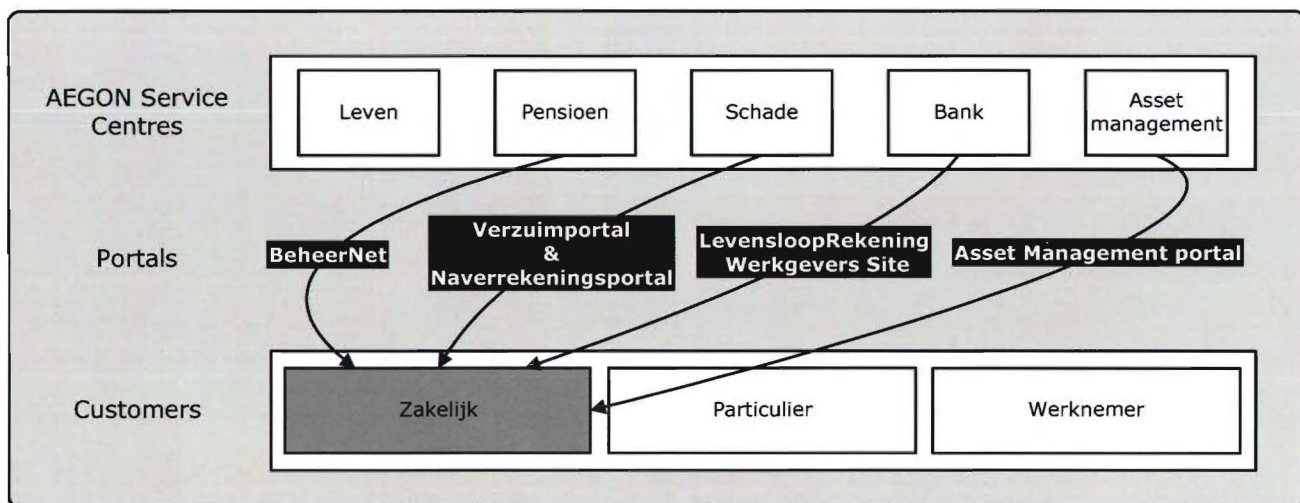
The methodology used in this study consists of both a qualitative and a quantitative part. Both will be explained in this chapter. The qualitative research – in the form of semi-structured interviews – was mainly designed to get a better overview of how AEGON’s portals for business customers function and how the interviewees see portal SSTs as a tool to serve customers. The quantitative research was designed to test the frameworks proposed in the previous chapter. Using multiple research methods allows for triangulation (Jick, 1979). Shah and Corley (2006) conclude that using both qualitative research and quantitative research adds to the richness of the study. Before both research methods will be discussed, a general introduction of AEGON’s portals for business customers is given.

6.1 Portals AEGON uses for its business customers

In this research, all portals that AEGON uses directly for its business customers are taken into account. These portals give customers specific and customized information on one of their products at AEGON, and some allow for customers to make changes to data online.

Clarke & Flaherty (2003) categorize B2B web-based portals along three dimensions: transactional versus informational, horizontal versus vertical, and public versus private. The AEGON portals taken into account in this research would fit in this categorization as being informational, vertical and private. In figure 9 all portals that AEGON uses to its business customers directly are displayed.

Figure 9: Portals to business customers



As can be seen from figure 9, five portals are aimed directly at AEGON's business customers ('Zakelijk').

Service Centre Pensioen has 'BeheerNet'. SC Schade uses 'Verzuimportal' and 'Naverrekeningsportal'. SC Bank provides customers with the 'LevensloopRekening Werkgevers Site', and SC Asset Management uses the 'Asset Management portal'. The goal and functioning of these portals is explained below.

BeheerNet: Using BeheerNet, business customers have an overview of the collective pension plan they have with AEGON, they can see the (employee) participants, and can make changes to any of these data (e.g. changes to an employee's salary).

LevensloopRekening Werkgevers Site: This portal lets AEGON collective 'Levensloop' customers download reports and information on their employees: whether they participate in Levensloop or not, whether employees gave orders to take up Levensloop funds and the employees' account numbers. It also gives employers the opportunity to view information that AEGON has on them, as far as Levensloop is concerned. Furthermore it allows employers to order a levensloop-brochure for one of their employees.

Asset management portal: This portal allows business customers to download both generic information and client-specific reports concerning their asset management with AEGON. Client specific information is reports on the asset management of the customers' funds, being either collective pensions funds or 'free funds'.

Verzuimportal: The Verzuimportal is a portal that gives business customers an overview of staff absence issues; both on a generic and client-specific level. The Verzuimportal lets business customers update staff absence online, immediately transferring this information to the AEGON-database.

Naverrekeningsportal: This portal gives business customers that have the 'AEGON Gezond Werkplan' the opportunity to update data of their personnel participants online and download an overview of these data.

6.2 Qualitative research

Before a quantitative research could be carried out, a set of eight interviews was performed. The interviewees were all stakeholders of the five portals. Some are active during the operating and maintenance stage of the portals, whereas others were involved with these portals during the development stage.

Qualitative research is usually used for theory development (e.g. Shah & Corley, 2006). This qualitative research served two goals. The first goal was to get a practitioner's view on the literature presented in chapter 3. The second was to get more information on the portals AEGON uses for its business customers.

Self-Service Technology for business customers in practice

A literature view on what are most important benefits and disadvantages was presented in paragraph 3.3. However, as most of the literature presented in that paragraph is on SST in B2, these interviews were held to check literature and find out what AEGON personnel saw as benefits and disadvantages of SST for business customers and for AEGON. This way, it could also be checked if the antecedents listed in table 3 are applicable in a B2B context as well.

Table 3 (repeated): Antecedents to SST usage used in selected studies

Category	Antecedent	Frequency
<i>User personal characteristics</i>	Attitude towards technology and/or SST	10
	Personal relationship (Need for personal interaction // attitude towards employees // perceived relational threat)	7
	Demographics	3
<i>SST characteristics/ attributes</i>	Enjoyment (fun)	2
	Control	4
	Ease of use	5
	Efficiency (saved money and time)	2
	Performance (reliability // does its job)	8
	Design	2
	Convenience	3
<i>Situational context</i>	Waiting time	4
	Availability of alternative	1
	Incentives	2

In the interviews all of the SST characteristics listed in table 3 except for enjoyment (fun) were mentioned at least once. It seems that enjoyment does not play a role in a B2B context. This could be due to the fact that in business settings, people are more focused on results.

As far as the user personal characteristics were concerned, the antecedents in table 3 were not completely subscribed. Most of the interviewees expected portal users - anno 2007 - to be accustomed to internet and SSTs, thereby hardly making this a factor determining or influencing SST usage and satisfaction. Concerning the relational aspects and need for personal interaction, two issues were mentioned. On the one hand interviewees expected that some users might not be completely satisfied with SSTs, as they prefer personal contact. On the other hand they expected that SSTs might improve the relationship between customer and AEGON contact person

as more simple and operational aspects of interaction can now be done through the SSTs, allowing for less but higher-quality personal contact.

A more elaborate overview of the interview questions and results can be found in appendix C.

Evaluation of portals

The second goal of the qualitative research was to get more insight into the five portals that AEGON currently uses towards its business customers. More information was needed in order to select portals for further (quantitative) research. Some of the outcomes of the interviews are displayed in table 4.

Table 4: Portals AEGON uses to business customers

Portal	BeheerNet	Levensloop-Rekening Werkgevers Site	Asset Management portal	Verzuim-portal	Naverrekenings-portal
Criterion					
Gives customized information	Yes	Yes	Yes	Yes	Yes
Customers can search data	Yes	Yes	No	Yes	Yes
Customers can enter data	Yes	No	No	Yes	Yes
Customers can change data	Yes	No	No	No	No
Usage frequency	Variable	Variable	Variable	Variable	Once per year
Total number of users	2624 (7472)	505 (1139)	378 / 135	1294	± 6000
Interviewees' opinion on portal	Moderate	Moderate	Negative	Negative	Moderate

Table 4 shows the five portals and how they are assessed on the criteria on the left. The first three criteria are on the functionalities a portal has. Table 4 shows that all five portals give customized information (either online, or through downloading options). Searching for data is not possible on the Asset Management portal. Entering data cannot be done on the LevensloopRekening Werkgevers Site or on the Asset Management portal. Changing data can only be done on BeheerNet.

The next criterion is the usage frequency. All portals except for the Naverrekeningsportal have a variable usage frequency. Some business users might use these portals once a week, or once a month, while others use it only once a year. However, for the Naverrekeningsportal all business users use the portal only once a year.

Next the total number of users is given. BeheerNet has a total of 7472 registered users of which 2624 have ever used the portal. The LevensloopRekening Werkgevers Site has 1139 users, of which 505 have actively used the portal at least once. For the Asset Management portal there are a total number of 378 users, from 135 business customers. This means that on average there are nearly three users per registered customer. The Verzuimportal is used by 1294 customers. Approximately 6000 business customers use the Naverrekeningsportal.

The criterion ‘AEGON opinion on portal’ is subjective but reflects what the general view on the portal is within AEGON. BeheerNet, LevensloopRekening Werkgevers Site and the Naverrekeningsportal are all rated moderate. This means that in general the interviewees were moderately satisfied about these portals. However, for each of these portals a strong persuasion exists that it has to be improved, as it definitely has its flaws. The Asset Management Portal is labelled ‘negative’ here. AEGON recognizes the very limited functionality and user friendliness, and therefore is not very satisfied about this portal. The Verzuimportal is rated ‘negative’ here as well. The user friendliness of this portal is generally seen as bad, and many customers complained about this portal in the past.

Selection of portals for further research

After more information was known on the five portals, a choice had to be made as to what portals would be selected to test the two conceptual frameworks presented in chapter 5. As the next text shows, some portals had to be excluded from further research.

From table 4 the choice was made not to include the Asset Management portal, because of its very limited functionality. Within AEGON, the Asset Management Portal is seen as a portal that is too limited in its functionality, which might lead to negative responses from customers. Also the amount of users is low. Therefore, AEGON was unwilling to have a quantitative research performed on the Asset Management Portal.

Another portal excluded from further research is the Naverrekeningsportal. This choice was mainly made because of practical reasons. As can be seen in table 4, customers use the Naverrekeningsportal only once a year. AEGON SC Schade invites its customers to enter changes to its personnel concerning the ‘AEGON Gezond Werkplan’ on the Naverrekeningsportal. Each week a group of customers is asked to submit the necessary data on the Naverrekeningsportal. However, at the moment the quantitative research were to take place, no usage of the Naverrekeningsportal was planned.

The third portal that will be excluded from further, quantitative, research is the Verzuimportal. The reason for this is that AEGON knows that the portal is very user-unfriendly. AEGON is very unsatisfied with this portal and knows that users are as well. Several users have cancelled their contracts with AEGON because of the

Verzuimportal. To avoid any further negative reactions from users, no quantitative research can be done regarding the Verzuimportal.

After the elimination of these three portals as options for quantitative research, two portals remain for further research: BeheerNet and the LevensloopRekening Werkgevers Site.

6.3 Quantitative research

In order to test the validity of the conceptual framework in chapter 5, the choice was made to carry out a quantitative, empirical research. Quantitative research is mostly used for theory testing (Shah and Corley, 2006).

Since portals are internet-based, the choice was made to develop an internet-based survey. Users of the two portals selected in paragraph 6.2 (BeheerNet and LevensloopRekening Werkgevers Site) are expected to have enough internet experience, and are likely to spend a considerable amount of time online, both at work and at home. Internet surveys have the benefits of being able to target unique populations, being timesaving – allowing for fast turnaround times – and cheap (Wright, 2005). Also lower respondent errors through less unanswered questions are mentioned (McDonald & Adam, 2003).

Different surveys were made for BeheerNet and the LevensloopRekening Werkgevers Site. However, these surveys are nearly identical, with the only differences being the names of the portal and what the portal allows the customer to do (for BeheerNet ‘pensioenadministratie bijhouden’ and for LevensloopRekening Werkgevers Site ‘levensloopadministratie bijhouden’).

The online surveys were built with NetailorLite. The online versions of the surveys can be found on www.aegon.nl/beheermetenquete and on www.aegon.nl/levensloopsiteenquete. A screenshot of the online version can be seen in figure 10. An offline version of the survey can be found in appendix B.

Figure 10: Screenshot online version of survey

AEGON Enquête BeheerNet

Stap 1 van 9

Hieronder staan 11 stellingen over BeheerNet

Selecteer voor iedere stelling in hoeverre u het met die stelling eens bent. Hierbij staat -- voor helemaal oneens en ++ voor helemaal eens.

	--	-	0	+	++
01. BeheerNet geeft me een accuraat overzicht van mijn pensioenadministratie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
02. Met BeheerNet kan ik mijn pensioenadministratie foutloos bijhouden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
03. Wanneer ik in BeheerNet wijzigingen doorvoer in mijn pensioenadministratie worden die snel verwerkt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
04. De site van BeheerNet laadt snel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
05. BeheerNet is altijd beschikbaar.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
06. Het is makkelijk om toegang te krijgen tot BeheerNet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
07. BeheerNet is gebruiksvriendelijk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
08. Het is makkelijk om je weg te vinden op BeheerNet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
09. De informatie op BeheerNet is aantrekkelijk gepresenteerd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. De indeling en kleuren van BeheerNet zijn aansprekend.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Ik ben tevreden over hoe BeheerNet eruit ziet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

TERUG VERDER

To increase the response, a 1GB iPod Shuffle was raffled under the respondents. Responders were asked to enter their email-address – in the very end of the survey – so they could be contacted in case they won. Also a question was added – at the end of the survey as well – that allowed users to choose whether to keep their responses private, or not. This question was added so that AEGON can get customer-specific information that can be useful to find out how individual customers value AEGON. Possibly account managers would contact customers regarding their responses. Also, three questions were added to give customers the chance to give qualitative feedback. They were asked to rate the portal on scale of 1-to-10, to give their general opinion on the portal, and to tell what they want improved on the portal most of all. These data can be very useful for AEGON during the redesign and redevelopment stages of the current portals.

Inviting portal-users

Invitations for the surveys were spread online as well. For BeheerNet a short and inviting text with link to the survey was placed as a so-called ‘service message’ for employee/business customers. When customers log in to BeheerNet, they see a startpage; this page also shows several service messages. Service messages are short

messages informing customers on different things like interest modifications, or on BeheerNet in general. These service messages can be designed so that they are only seen by certain groups of users. For this research, a service message was made that only business customers can see. The service message was placed on January 23rd.

For the LevensloopRekening Werkgevers Site customers were invited by email. This had two reasons. First of all, the total amount of the LevensloopRekening Werkgevers Site has a small amount of users (505), when compared to BeheerNet (2624). Using email, the chance to reach a larger amount of customers is bigger, since now also customers that hardly ever use the portal are made aware of the survey. The other reason for using email instead of a portal-based invitation is of a technical nature. Due to the fact that the management of the LevensloopRekening Werkgevers Site is outsourced to India, it is not possible to make small changes to the portal like adding a small text with link to the survey on a short time period. An email was sent on February 14th to 207 users of the LevensloopRekening Werkgevers Site. These 207 users made up all customers of which the email addresses could be derived and had used the LevensloopRekening Werkgevers Site at least once in 2007. Out of these 207 emails, 22 emails were not delivered, due to non-existing email-addresses or delivery errors. This leaves 185 users that were invited to participate in the survey.

Scales used in survey

As far as possible, existing scales were used to ensure construct validity. However, given the specific context and goals of the portals, and the fact that the survey had to be held in Dutch, the scales had to be adapted and translated. Through several iterations, questions were checked by AEGON personnel and changes were made to better suit the context and insure that responders would understand the questions. Responses were ranked using five-point Likert-scales, except for the service quality on company level, which used a 5-item satisfaction scale.

The scales for *performance*, *convenience*, *control* and *efficiency* were adapted from Yen (2005). The original scales contained two items per scale. For performance, convenience and efficiency additional items were added from interviews.

The scale for *ease of use* was taken from Ribbink et al. (2004). The original scale consisted of four items, this was reduced to three, leaving out the third item 'navigation on this site is easy', as this resembled the fourth item 'it is easy to find your way on this site' very much.

The scale for *design/layout* was taken from Ribbink et al. (2004) as well. Here, their scale for e-scape was used as measure for design/layout. All three items were adapted.

For *service quality on company level* a 5-item satisfaction scale was used that is based on Parasuraman et al.'s SERVQUAL (e.g. Parasuraman et al. 1988) and reflects the five SERVQUAL dimensions – tangibles, reliability, responsiveness, assurance and empathy – with one question per item.

For *trust in portal* three individual items were used. One was adapted from Ribbink et al. (2004) and one was adapted from Lee et al. (2005). The remaining item came from an interview.

The scale for *trust in company* was adapted from Hwang et al. (2007). Hwang et al. (2007) used a trust scale made up out of benevolence, integrity and ability, with three items per construct. For this survey, a six-item trust scale was designed, adapting two out of every three items that Hwang et al. (2007) used. Hwang et al. (2007) derived their scales from Gefen (2002).

The scale for *satisfaction* was identical on portal and company level. These items were adapted from items of Lin et al. (2007) and Lam et al. (2004), asking for general satisfaction and the level of expectation fulfillment.

Items for the *loyalty* scale were partly derived and adapted from literature, namely from Lam et al. (2004), Lin et al. (2007), Van Birgelen et al. (2002) and Yen (2005). Other items came from interviews. Items were – as far as possible – designed to be similar on portal and company level.

Besides the scales on the proposed constructs that are part of the research model (figure 8), a number of control variables was taken into account. These include demographics, perceived intention of AEGON with portal, personal relationship, usage period and frequency of portal, company size, way of contact with AEGON and internet experience. All scales used in the survey can be found in appendix B.

Chapter 7 Research results

In this chapter the results of the quantitative research explained in chapter 6 will be presented. First, sample size characteristics are discussed in paragraph 7.1. Next, the measurement model is validated and hypotheses are tested in paragraph 7.2. Finally, some alternative models are analysed using hypotheses that were not part of the original model, and the possible moderating effect of 'report grade' is investigated in paragraph 7.3.

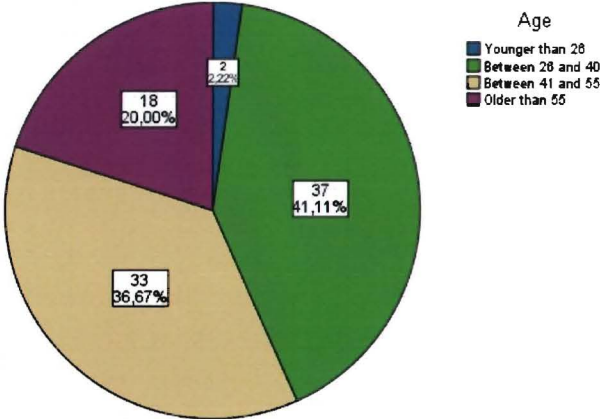
7.1 Sample size characteristics

The total number of (usable) responses received on both online surveys was 90. For BeheerNet 56 answers were returned in a period that 862 employers logged in to BeheerNet, which renders a response rate of 6.5 percent. For the LevensloopSite survey 34 usable responses were received. With 185 correctly received emails, this yields a response rate of 18 percent. The response rate for the LevensloopSite is considerably higher. This can be explained by the difference in the way users were targeted. Characteristics of the responders are given below.

Demographics

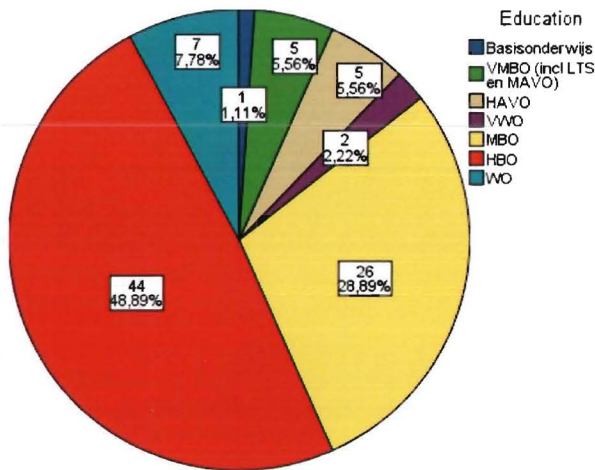
Out of the 90 responses, 40 respondents were male and 50 were female. This means a 44-56 percent split, which is quite good. As figure 11 shows, most of the respondents were in the age group between 26 and 55, which is normal given that respondents are professionals, working in companies that are clients of AEGON.

Figure 11: Age of respondents



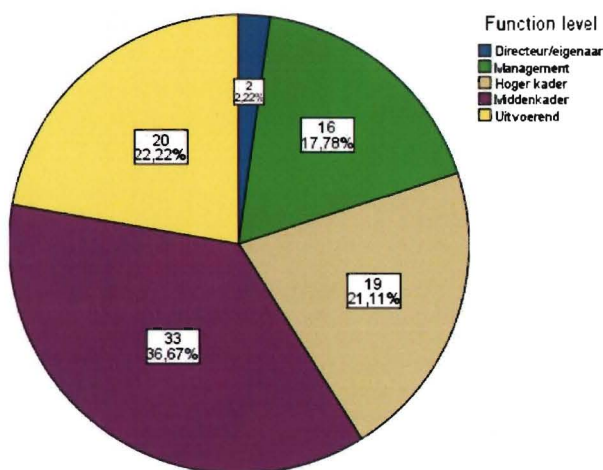
The educational level of respondents for this survey has also been analysed. Figure 12 gives an overview of the results. As can be seen nearly half of the respondents (49 percent) had an HBO education, and 29 percent finished an MBO education.

Figure 12: Education level of respondents



Next, function level of the respondents was checked for. Results of this frequency analysis show that function levels of the respondents were quite mixed. Only the number of director/owners participating in the research is low with 2 percent as can be seen in figure 13. 'Middenkader' represented the biggest group of respondents.

Figure 13: Function level of respondents



Also the internet experience of respondents was evaluated. 93 percent of the respondents (84 persons) had at least 5 years of internet experience. The remaining seven percent had used internet between 2 and 5 years.

Portal usage

How often, and for how long respondents had been using the portal was also included in the questionnaire. Figure 14 shows that the portal usage frequency varies. Nearly half of the respondents use the portal at least once a month, while the other half uses it less frequently.

Figure 14: Usage frequency of portal

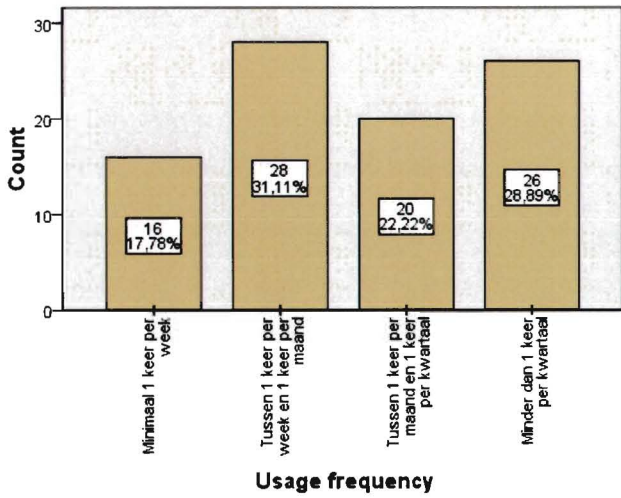
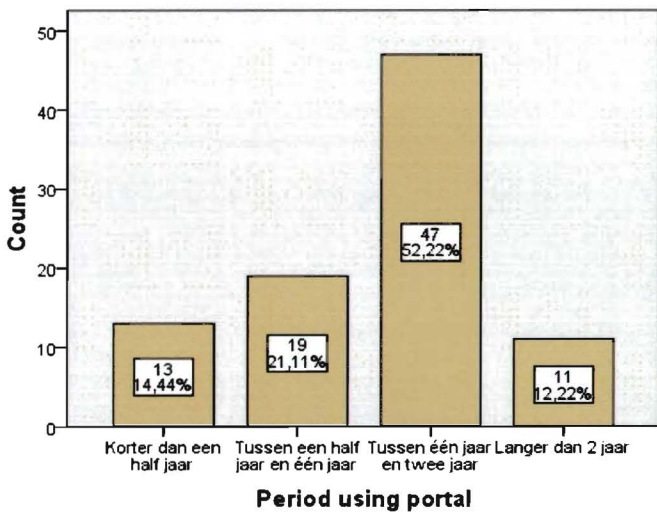


Figure 15 displays how long respondents have been using the portal that is being studied. More than half of the respondents have been using the portal between one and two years. Therefore it can be said that most users are quite experienced with the portal.

Figure 15: Length of period using portal



Company size

The companies in which the respondents worked were divided almost completely evenly. 31 respondents worked in small SMEs (up to 50 employees). 28 respondents worked in large SMEs (51 to 250 employees) and the remaining 31 respondents worked in large companies with more than 250 employees.

Contact with AEGON

As expected beforehand, not all of the respondents had contact with AEGON directly. Still, nearly half of the portal users – 42 – did have a direct relationship with AEGON. This represents 47 percent of the total sample size. 19 respondents (21 percent) only had a relationship with AEGON through an intermediary and had no direct relationship with AEGON. The final 29 respondents (32 percent) had both a direct relationship and a relationship through an intermediary.

Perceived intention that AEGON has with portal

Respondents were asked to give feedback on what they thought AEGON was trying to achieve offering customers this portal. The means of these options are shown in table 5. The mean values are on a scale of 1-to-5, where 1 stands for ‘I totally disagree’ and 5 stands for ‘I totally agree’. These results show that all intentions received high means (all well over 3). The statement that AEGON offers the portal to reduce its own costs scored the largest mean at 4,08, while the two other statements that AEGON offers portals for its own benefit (MO3_4 and MO3_5) receive relatively low means.

Table 5: mean values obtained for questions regarding intention with portal and personal relationship

	Item-code	Mean value
<i>Wat denkt u dat AEGON wil bereiken met BeheerNet?</i>	MO3	
▪ Betere service aan klanten verlenen.	MO3_0	4,01
▪ Betere bereikbaarheid aan klanten bieden, ook buiten de reguliere kantooruren.	MO3_1	3,99
▪ Gemak voor de klant verhogen.	MO3_2	3,94
▪ Kosten voor AEGON verlagen.	MO3_3	4,08
▪ Klanten meer zelfwerkzaam maken.	MO3_4	3,63
▪ Klanten minder persoonlijk te woord hoeven staan.	MO3_5	3,51
▪ Meegaan met de laatste ontwikkelingen.	MO3_6	3,92
▪ De waarde voor de klant verhogen, door een extra dienst te bieden.	MO3_7	3,86
Regarding personal relationship	MO4	
▪ Door het gebruik van BeheerNet heb ik minder contact met mijn AEGON contactpersoon.	MO4_0	3,26
▪ Door het gebruik van BeheerNet heb ik minder behoefte aan contact met mijn AEGON contactpersoon.	MO4_1	2,84
▪ Door het gebruik van BeheerNet verbetert de kwaliteit van de relatie met mijn AEGON contactpersoon.	MO4_2	2,72

Personal relationship

Table 5 also shows that, in general, customers feel that using a portal reduces their contact with their contact person (value over 3, which means neutral). However, customers are of the opinion that using the portal does not

reduce their need for personal contact with their AEGON contact person, and using the portal does not improve the relationship they have with their contact person either (both means are just under the neutral 3).

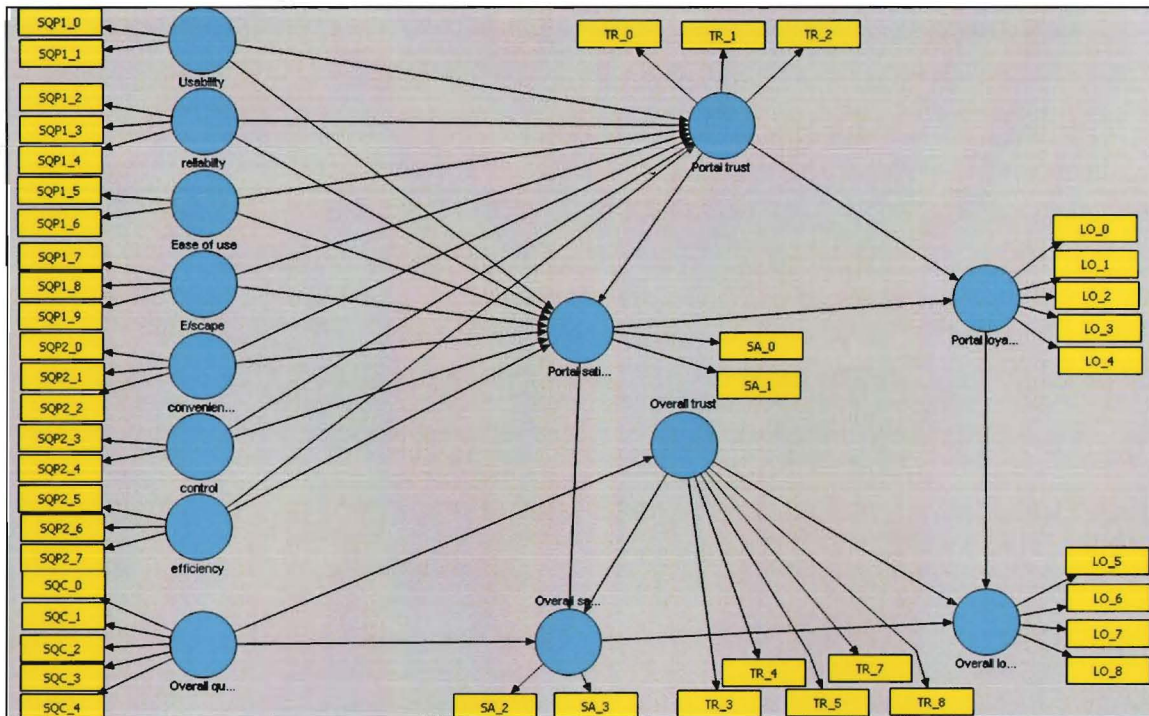
7.2 Data analysis

To test the validity of the measurement model and to estimate the equations in the conceptual model, the software program SmartPLS (version 2.0.M3) was used. Partial Least Squares (abbreviation: PLS) was chosen because it makes no assumptions on the underlying data distributions and is well applicable for smaller data sets. Stan & Saporta (2005) and Chin & Newsted (1999) report that minimal recommendations for sample sizes for PLS analysis range from 30 to 100. Also, a rule of thumb often used to determine the minimal sample size required for PLS is to take the largest of two possibilities: 1) the block with the largest number of formative indicators, or 2) the dependent latent variable with the largest number of independent variables impacting it. Then the largest number of these options should be multiplied by ten to calculate the minimum sample size requirement*. Using this heuristic, the minimal sample for this model size would be 70 (explanation: ten times seven, which is the largest number of independent variables influencing a single latent variable: portal satisfaction and portal trust). Therefore, the sample size of 90, used in this research, is sufficient for PLS analysis. Also, PLS has the benefit of simultaneously estimating the measurement model and the structural model.

In order to analyse the model, the guidelines for PLS analysis as described by Hulland (1999) were followed, which have also been used by – amongst others – Wuyts & Geyskens (2005) and So & Bolloju (2005). The conceptual model was re-created in PLS, and the measures were connected to their respective constructs. The conceptual framework construct of ‘Portal Service Quality’ was split into seven dimensions (see also appendix B): usability, technical performance, ease of use, design/layout (e-scape), convenience, control and efficiency. According to Hulland (1999; pag: 196-197), “when a particular construct is more properly conceptualized as multidimensional [...], researchers’ causal models should include separate constructs representing each of these dimensions”. Doing this also allows researchers to investigate the different effects that these dimensions might have on other constructs (Hulland, 1999). The resulting model as used in PLS is depicted in figure 16.

* Source: <http://disc-nt.cba.uh.edu/chin/plsfaq/samplesize.htm>

Figure 16: Model in PLS



Validation of measurement model

First the adequacy of the measurement model was reviewed. Basic item correlation analysis in SPSS showed that SQP1_4, which was intended as an ‘ease of use’-item, shared considerably more correlation with the technical performance-items and was therefore regrouped as a ‘technical performance’-item (see also appendix B). Apparently respondents were more triggered to think about the technical performance aspects of entering a website, than about the ease of use aspects.

Individual item reliability in PLS can be assessed by inspecting the loadings of the items on their respective constructs. As recommended by Hulland (1999), items with loadings below 0.70 were deleted. For this reason LO_4 and LO_6, with loadings of 0.619 and 0.648 respectively, were deleted immediately. Then the PLS algorithm was rerun. All remaining items had factor loadings exceeding the 0.70 guideline, although LO_1 (0.704), TR_3 (0.722) and TR_4 (0.719) only marginally surpassed the 0.70 cut-off. All other items had factor loadings well over the 0.70 guideline, with a minimum of .808 for LO_3.

Next, for the remaining items, the convergent validity was checked. Just as in So & Bolloju (2005), this was done using the internal consistency measure (Fornell & Larcker, 1981). In PLS, internal consistency can be assessed by

the composite reliability measure, which is similar to cronbach's alpha. For convergent reliability a minimum 0.80 guideline was followed, based on So & Bolloju (2005). As can be seen in table 6 the composite reliability of all constructs well exceeded 0.80, which means that items load on their constructs very well. The average variance explained was checked as well. According to So & Bolloju (2005), the average variance explained (AVE) for each construct has to be at least 0.50. Table 6 shows that all constructs have an AVE of more than 0.50.

Table 6: Composite reliability, AVE and square root of AVE for all constructs

	Composite Reliability	AVE	Square root of AVE
Layout/design (E-scape)	0,929424	0,814497	0,902
Ease of use	0,929203	0,867778	0,932
Overall loyalty	0,938682	0,836188	0,914
Overall quality	0,950064	0,792047	0,890
Overall satisfaction	0,968991	0,939846	0,969
Overall trust	0,898690	0,640981	0,801
Portal loyalty	0,909891	0,718820	0,848
Portal satisfaction	0,962720	0,928120	0,963
Portal trust	0,911463	0,774650	0,880
Usability	0,928021	0,865708	0,930
Control	0,936264	0,880176	0,938
Convenience	0,908338	0,767899	0,876
Efficiency	0,952938	0,871003	0,933
Technical performance	0,939877	0,839022	0,916

The next step was to assess the discriminant validity. The method used to do so was adapted from Hulland (1999) and Wuyts & Geyskens (2005). The square root of the average variance explained by the construct was compared with the correlations of that construct with other constructs. The average variance shared between a construct and its measures should exceed the variance between the construct and other constructs in the model (So & Bolloju, 2005). Table 7 displays the latent variable correlations, with on the diagonal the square root of the AVE, which can be found in table 6 as well. The diagonal elements in table 7 should be greater than the other values in their corresponding columns and rows. As table 7 shows, all values of square root of AVE are bigger than the covariance of that construct with other constructs, thereby demonstrating good discriminant validity. Another measure to 'roughly assess' the discriminant validity is by comparing the root AVE values to the path coefficients they are trying to explain (Hulland, 1999; pag 200-201). As can be seen from table 6 and table 8, all

root AVE values are larger than the path coefficients related to their respective constructs. The smallest root AVE has a value of 0,801 and the largest path coefficient is 0,788. This result gives a second confirmation of discriminant validity.

Table 7: Latent variable correlations and square root AVE (underlined on diagonal).

	Layout/Design (E-scape)	Ease of use	Overall loyalty	Overall quality	Overall satisfaction	Overall trust	Portal loyalty	Portal satisfaction	Portal trust	Usability	Control	Convenience	Efficiency	Technical performance
Layout/Design (E-scape)	<u>0,902</u>													
Ease of use	0,648	<u>0,932</u>												
Overall loyalty	0,321	0,396	<u>0,914</u>											
Overall quality	0,368	0,270	0,731	<u>0,890</u>										
Overall satisfaction	0,430	0,348	0,757	0,819	<u>0,969</u>									
Overall trust	0,378	0,243	0,690	0,788	0,777	<u>0,801</u>								
Portal loyalty	0,659	0,665	0,518	0,478	0,525	0,460	<u>0,848</u>							
Portal satisfaction	0,599	0,694	0,499	0,468	0,589	0,385	0,836	<u>0,963</u>						
Portal trust	0,510	0,368	0,504	0,554	0,561	0,661	0,499	0,393	<u>0,880</u>					
Usability	0,442	0,588	0,548	0,581	0,631	0,408	0,699	0,731	0,428	<u>0,930</u>				
Control	0,575	0,503	0,474	0,572	0,648	0,558	0,709	0,672	0,501	0,574	<u>0,938</u>			
Convenience	0,568	0,419	0,320	0,393	0,432	0,421	0,633	0,580	0,422	0,430	0,749	<u>0,876</u>		
Efficiency	0,498	0,571	0,397	0,428	0,505	0,448	0,756	0,745	0,397	0,616	0,781	0,720	<u>0,933</u>	
Technical performance	0,554	0,489	0,273	0,316	0,401	0,436	0,585	0,637	0,434	0,388	0,566	0,611	0,559	<u>0,916</u>

Hypotheses testing

After the measurement model was validated, hypotheses could be tested. Hypotheses were tested estimating the path coefficients (the strengths of the relationship between the dependent and independent variables), the R^2 (the amount of variance of a construct explained by independent variables) and the significance of the relationships between constructs (t-statistic). The latter was calculated in PLS using the bootstrap-algorithm with 90 cases and 500 samples. The results are shown in table 8. In the first half of the table the constructs are depicted with their R^2 . In the second half of the table the hypotheses are repeated, and the respective path coefficients, t-statistics and the outcome is given. The relationships between portal service quality, and portal satisfaction and portal trust (H5A and H7A) are split into seven sub-hypotheses.

Table 8: Results of PLS analysis, displaying the constructs' R², the path coefficient of the hypothesized relationships, the corresponding t-statistics and whether or not the hypothesis is supported

Outcomes PLS analysis				
Construct	R ² Value			
Portal trust	0,359			
Portal satisfaction	0,769			
Portal loyalty	0,732			
Overall trust	0,621			
Overall satisfaction	0,768			
Overall loyalty	0,615			
Hypothesis	Path coefficient	t-statistic	Result	
H1A	Portal satisfaction -> Portal loyalty	0,756	15,545	Supported*
H1B	Overall satisfaction -> Overall loyalty	0,494	4,497	Supported*
H2A	Portal trust -> Portal loyalty	0,128	3,076	Supported*
H2B	Overall trust -> Overall loyalty	0,237	1,992	Supported*
H3	Portal loyalty -> Overall loyalty	0,150	1,500	Not supported
H4A	Portal trust -> Portal satisfaction	-0,097	1,342	Not supported
H4B	Overall trust -> Overall satisfaction	0,386	3,922	Supported*
H5A	Usability -> Portal satisfaction	0,330	3,458	Supported*
	Technical performance -> Portal satisfaction	0,233	2,982	Supported*
	Ease of use -> Portal satisfaction	0,180	1,730	Supported**
	Layout/Design (E-scape) -> Portal satisfaction	0,076	1,070	Not supported
	Convenience -> Portal satisfaction	-0,051	0,552	Not supported
	Control -> Portal satisfaction	0,039	0,582	Not supported
	Efficiency -> Portal satisfaction	0,277	2,443	Supported*
H5B	Overall quality -> Overall satisfaction	0,433	4,497	Supported*
H6	Portal satisfaction -> Overall satisfaction	0,257	4,088	Supported*
H7A	Usability -> Portal trust	0,214	1,768	Supported**
	Technical performance -> Portal trust	0,147	1,215	Not supported
	Ease of use -> Portal trust	-0,089	0,727	Not supported
	Layout/Design (E-scape) -> Portal trust	0,304	2,391	Supported*
	Convenience -> Portal trust	-0,007	0,029	Not supported
	Control -> Portal trust	0,260	1,501	Not supported
	Efficiency -> Portal trust	-0,116	0,790	Not supported
H7B	Overall quality -> Overall trust	0,788	19,127	Supported*

*: Supported at p<0,05 (t-statistic cut-off: 1,64)
 **: Supported at p<0,10 (t-statistic cut-off: 1,96)

Most of the hypotheses are supported, as can be seen in table 8 and also in figure 17, which gives a graphical representation of the results in table 8. In the remaining part of this paragraph, first the general hypotheses will be discussed and explained. Next, the relationships between portal service quality, and portal satisfaction and portal trust (hypotheses H5A and H7A) are reviewed. Finally additional model validation is provided by analysing the model in parts; so-called “model building”.

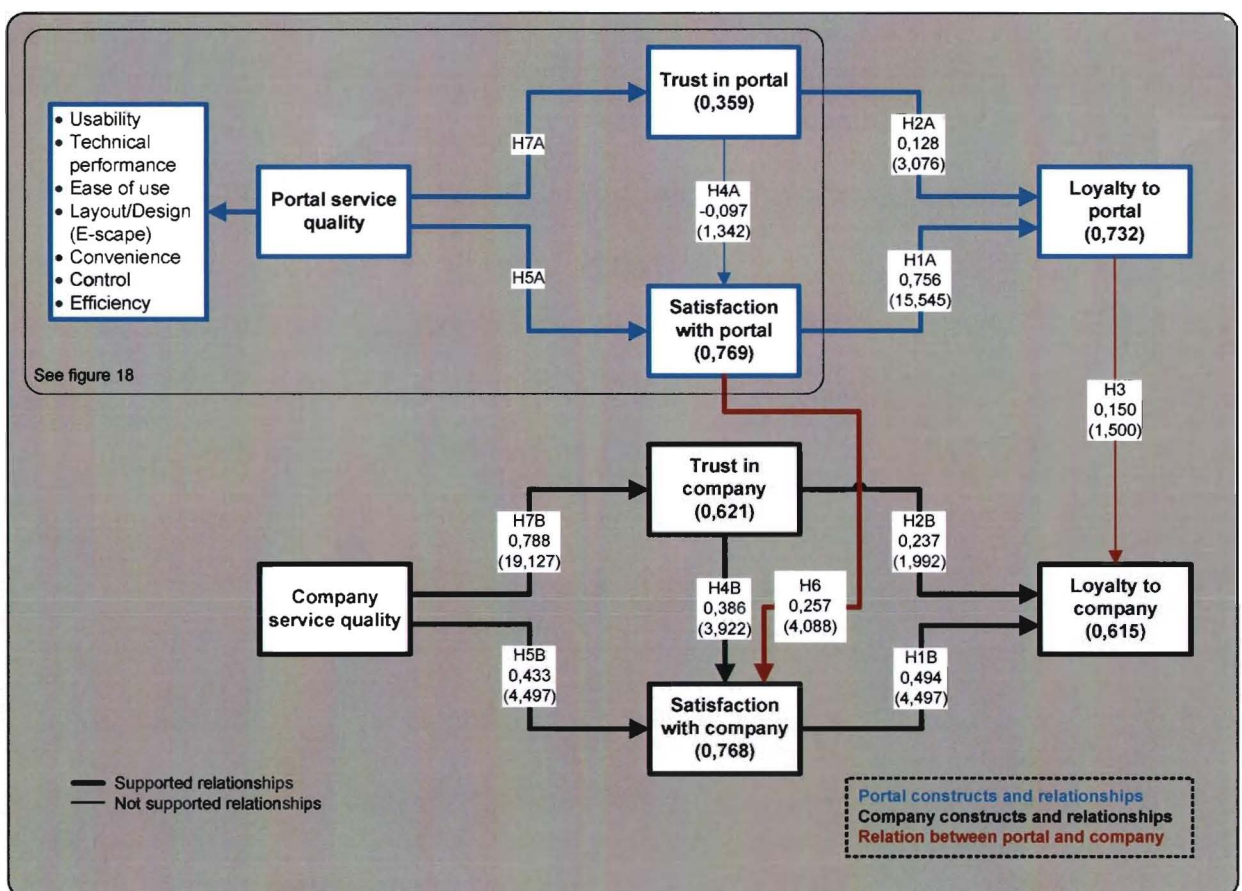
General hypotheses

As far as the general hypotheses are concerned (hypotheses not including portal service quality), all except for two hypotheses could be supported. First of all, hypothesis 4A, the relationship between portal trust and portal satisfaction, could not be supported. In this research no direct link between these two constructs exists. Trusting a portal and being satisfied with it, apparently, are two distinct aspects. When customers trust the portal, they might

still be dissatisfied with it. Portal trust is presumed to be strongly related to overall internet trust, which is not specifically incorporated in this research. When comparing the R^2 of portal trust and portal satisfaction, it is clear that portal trust depends a lot less on portal service quality than portal satisfaction does. Figure 18 also shows that different aspects of portal service quality affect portal trust and portal satisfaction, which might be an explanation why these constructs are unrelated.

Secondly, hypothesis 3 – the relationship between portal loyalty and overall loyalty – was not found to be significant. This means that loyalty towards the portal has no direct effect on loyalty to the company in this research design. When customers are loyal to the portal, they will not automatically become loyal to the company that provides that portal as well. Other aspects regarding their relationship and their satisfaction with their service provider seem very important, thereby preventing a direct relationship between portal loyalty and company loyalty.

Figure 17: Conceptual model with path coefficients, t-statistics, and R^2 of constructs



Even more important than the relationships that are not supported by the data, are the relationships that are supported. On both levels, the hypothesized relationships between satisfaction and loyalty (H1A and H1B) are

supported. As expected from the literature review in chapter 4, satisfied customers are more likely to become loyal, and satisfaction is the strongest influencer of customer loyalty. The relationships between trust and loyalty are supported on both levels as well (H2A and H2B). This result shows that satisfaction is not enough to attain customer loyalty; trust is needed too. These relationships, however, are not as strong as the relationships between satisfaction and loyalty. At the overall/company level, the relation from company trust to company satisfaction (H4B) is also found to be strong and significant. For an insurance company like AEGON, trust is very important. Customers 'give' AEGON their money for pension and levensloop contracts, only trusting that they will get it back later, under the circumstances AEGON promised them. Trust in AEGON is very strongly explained by the company service quality (H7B). The service quality aspects determine how customers experience AEGON, and evaluations of this cognitive service quality strongly lead to the affective construct of company trust. The same goes for the link between company service quality and company satisfaction (H5B). Also for satisfaction, the evaluations of company service quality determine how customers build an affective overall satisfaction towards AEGON.

Perhaps the most interesting result is the significant relationship between portal satisfaction and overall satisfaction. The existence of this relationship stresses the importance of portals in AEGON's customer communication scope. When customers are satisfied with a portal, they will also become more satisfied with AEGON, and when customers are dissatisfied with a portal, they will become dissatisfied with AEGON. As customers evaluate AEGON on the basis of their interactions with AEGON, portal satisfaction will impact on overall company satisfaction. Taking into account the positive link between company satisfaction and company loyalty, portal satisfaction can also – indirectly – affect company loyalty.

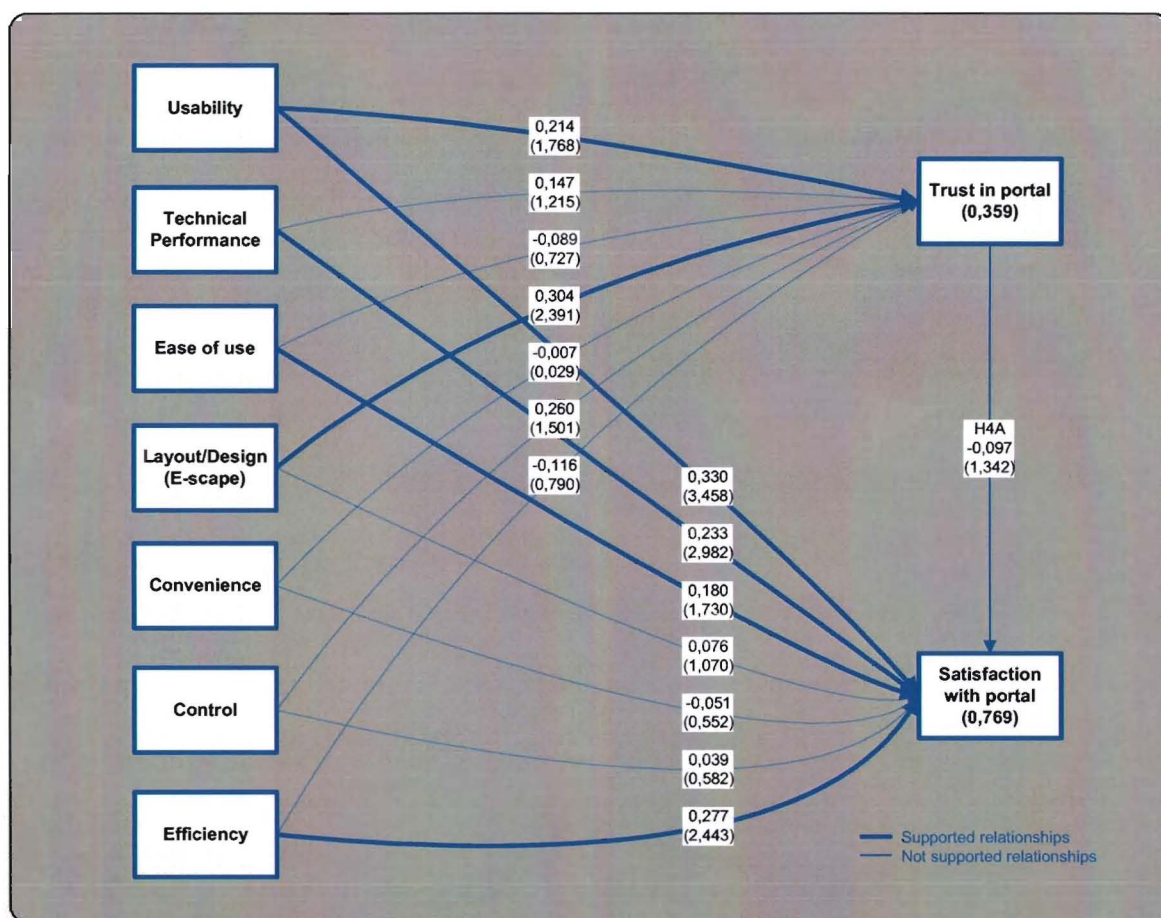
Influences of portal service quality dimensions

Both hypothesis H7A and hypothesis H5A were only partly supported. Not all elements of portal service quality influenced portal trust and portal satisfaction. Figure 18 depicts the relationships between the dimensions of portal service quality, portal trust and portal satisfaction. Portal trust was found to be influenced by usability and layout/design (e-scape). The existence of a positive relationship between usability and trust seems obvious. When customers feel that the portal is not doing what it is supposed to do, they will doubt the portal is working correctly

and have less trust in the portal. Layout/design is the second aspect of portal service quality that has an effect on portal trust. It seems that when customers rate the design of the portal highly, they will have trust in it. However, if customers are of the opinion that a portal looks messy or unprofessional, they have less trust in this portal.

In the discussion of the alternative models - which is presented below - a model is concerned where the portal service quality construct is alternatively modeled as one construct. PLS analysis shows that portal service quality has a strong effect on both portal trust and portal satisfaction.

Figure 18: Relationships between dimensions of portal service quality, portal trust and portal satisfaction; displaying the path coefficients, t-statistics and the R² of constructs



Portal satisfaction was affected by four dimensions of portal service quality: usability, technical performance, ease of use and efficiency. If the usability of a portal is regarded to be low, customers will be less satisfied with it. When a portal is not always complete and correct in what it displays and is not useful to the customer, customers are less satisfied with that portal. The second dimension of portal service quality that influences portal satisfaction is technical performance. If a portal is offline often, loads very slowly or is not easily accessible, customers will be dissatisfied with that portal. Ease of use is the third dimension of portal service quality that has a significant

relationship with portal satisfaction as discovered in this thesis. In case a portal is perceived to be user-friendly and navigation is self-explanatory, customers will become more satisfied with that portal. The final dimension of portal service quality with a positive effect on portal satisfaction is efficiency. Providing customers with a portal as a way of communication that is fast, time-saving and efficient for them is a way to make them satisfied with that portal.

'Model building'

Additional validation of the original model and the research results was also provided by analysing the model in steps. This process is called 'model building' and is explained in appendix F. Appendix F shows that the model is robust, as the underlying basic models can be validated as well. The only remarkable result is that when portal service quality is not taken into account, the relationship between portal trust and portal satisfaction can be supported, which cannot be done as soon as the portal constructs are added. This might be explained by the fact that the portal service quality constructs explain a large amount of variance in both portal trust and portal satisfaction, and act as a stronger predictor of portal satisfaction than portal trust.

The originally proposed model does not take into account all possible relationships between the constructs. Some additional relationships, including a link between the two trust constructs is proposed in the next paragraph, that also contains an analysis of what would happen if portal service quality was analysed as one construct.

7.3 Alternative models and the moderating effect of report grade

In this paragraph some alternative models are proposed. These are models that differ in some way from the original conceptual model proposed in chapter 5, using hypotheses that were not taken into account for the original model. First, a model is analysed where portal service quality is measured as one construct, no longer distinguishing between the different dimensions. Secondly, an alternative model is proposed that investigates on the relationship between portal trust and overall trust. Next, models are analysed that take into account the direct effects of portal service quality dimensions on overall trust and overall satisfaction. This paragraph ends with the analysis of the possible moderating effect of the report grade that portal users gave the portal.

Alternative models

After the validation of the original research and structural model, a few alternative models were estimated, using some hypotheses that were not taken into consideration in the original model.

One portal service quality construct

First a model was estimated in PLS that does not distinguish between the different dimensions of portal service quality. In this alternative model all seven dimensions of portal service quality and their 18 corresponding items were used in one portal service quality construct. The rest of the original model remained the same.

This alternative model was run in PLS, and ten items of the portal service quality construct had to be deleted due to item-loadings lower than 0,70 (SQP1_0, SQP1_1, SQP1_3, SQP1_4, SQP1_5, SQP1_6, SQP1_7, SQP1_8, SQP1_9, SQP2_1). The relationship between this new portal service quality construct and portal satisfaction had a path coefficient of 0,757 and a t-statistic of 10,690. The path coefficient of the relationship between portal service quality and portal trust was 0,472 and had a t-statistic of 3,972. For portal satisfaction the new amount of variance explained was 60 percent (R^2 of 0,600), and for portal trust this amount was 22,3 percent (R^2 of 0,223). All other relationships and R^2 s remained the same as they were in the original model.

Given these results, it is concluded that portal service quality in general does have a large and significant effect on both portal trust and portal service quality. However, using one portal service quality construct tries to fit all portal service quality items into one construct, which results in the elimination of more than half of these items. Doing this decreases the explanatory power of the original model, and takes away some of the richness of using multiple constructs when analysing the effect of portal service quality.

Influence of overall trust on portal trust

Secondly, the relationship between overall trust and portal trust was estimated in PLS. It was hypothesized that when a customer already trusts a company, he is likely to also trust something that is created by that company – in this case the portal. With all things being equal in the original model as explained earlier, the relationship between company trust and portal trust was modelled. The measurement model was assessed again and could be validated as has been done before. This relationship was found to be strong (path coefficient of 0,526) and significant (t-

statistic of 4,699). This supports the hypothesis that the customers' trust in the company as a whole positively affects the customers' trust in the portal.

Appendix D demonstrates that a hypothesized relationship between portal trust and overall trust can also not be rejected. This is evidence of the fact that portal trust and company trust are strongly connected, and that the relationship between the two constructs go both ways. Customers that have trust in a company are more likely to trust its portal, and also customers that trust a portal, trust the company that offers that portal.

Effect of overall loyalty on portal loyalty

Next, the relationship between portal loyalty and overall loyalty as proposed in the original model (see figure 17) was reversed. AEGON was interested in knowing whether loyal customers would be more likely to become loyal to a portal that AEGON provides. Again, with all other things being equal to the original, the proposed relationship was modelled, and the PLS model was analysed. After measurement model validation – in which LO_1 had to be deleted* – the path coefficient of this relationship turned out to be very low, at 0,031. The t-statistic of this path was 0,423 and therefore this relationship was found not to be significant. Hence, the hypothesis was declined. Apparently, more is needed to make customers loyal to a portal than only having them be loyal to the company providing it. Appendix D gives a better overview of the relationships between the portal and company level constructs.

Relationships of portal service quality on overall satisfaction and overall trust

Also, direct relationships between portal service quality dimensions and overall satisfaction were modelled. Here, it was hypothesized that some SST attributes – that were incorporated as dimensions of portal service quality – might have an influence that exists more on overall level than only on the portal level. Yet again the measurement model was assessed and validated. Results showed that only one dimension of portal service quality had a significant relationship with overall satisfaction: control (path coefficient of 0,221 and t-statistic of 1,999). It

* PLS estimates parameters for both the links between measures and constructs and the links between different constructs at the same time (Hulland, 1999; page 198). For this reason item reliability can be only assured for the model under consideration; if the model is changed item-validity needs to be re-evaluated. Measurement validity depends on the model set-up.

seems that customers see portals as a communication option that gives them more control over services and service delivery, thereby resulting in higher overall satisfaction with the company providing that portal.

Parallel to the previous hypothesis, direct relationships from dimensions of portal service quality to overall trust were modelled. In this setting, there were two dimensions of portal service quality that had a significant relationship with overall trust: usability (path coefficient of -0,200 and t-statistic of 2.092) and technical performance (path coefficient of 0,205 and t-statistic of 3,229). The negative path coefficient of usability on trust seems counterintuitive and cannot be explained. The positive link from technical performance to overall trust is more obvious. Apparently, when a portal offers low reliability, this significantly decreases the overall trust in AEGON.

Moderating effect of report grade

Respondents were asked to rate the portal on a scale of 1-to-10. For BeheerNet the average report grade the portal received was a 5.8; for the LevensloopSite this was a 5.6.

It was decided to have a separate PLS run for respondents who rated the portal with a 5 or lower, and a run for those who rated it with 6 or higher. By doing so it was checked if relationships are different for users that are – in general – satisfied with the portal when compared to users that are dissatisfied. Users that rate the portal with a 5 or lower already are very discontent with the portal. But still a positive bias exists, as these are clients of AEGON that – despite their dissatisfaction with the portal – are still using it. Another group of users that were so dissatisfied with the portal that they already stopped using it has not even been taken into account in this research.

The original dataset of 90 was split into two groups. 63 respondents had rated the portal with 6 or higher, whereas 27 respondents had rated it with less than a 6. Both datasets were run in the measurement model that had been validated earlier and results were compared.

For the dataset containing the responses with report rates over 5, measurement model validation required for several items to be deleted. SQP2_2, LO_1, LO_3, TR_4, TR_5 and TR_7 had to be deleted due to low factor loadings. The most important outcome of the analysis of the high rates – when compared to the dataset containing all responses – was that the relation between usability and portal trust is no longer supported.

During the measurement model validation of the dataset with report rates of less than 6, LO_1 and LO_3 were deleted. As now the sample size is very low, the prediction power of the analysis is reduced, which means that only very strong relationships will be supported (Chin et al., 1996). As a result, the only factor that affected portal satisfaction and portal trust was usability. Also, the relationship between overall trust and overall loyalty was no longer found to be significant. But as mentioned before, results might be influenced and underestimated by the small sample size.

Chapter 8 Conclusions, managerial recommendations and limitations

This last chapter first presents the main conclusions of the performed study in paragraph 8.1. Secondly, the recommendations for AEGON resulting from the conclusions are given in paragraph 8.2. Finally, the limitations this research has are addressed in paragraph 8.3.

8.1 Conclusions

This study set out to connect customer portal satisfaction and loyalty to overall company satisfaction and loyalty. At the same time it attempts to give insight into what aspects of a portal influence portal satisfaction and portal trust. A research framework based on the consecutive stages of loyalty as provided by Oliver (1997) was developed and empirically tested for two portals AEGON offers to business customers. The results showed that nearly all hypothesized relationships were supported (see also figure 17 on page 70).

On the company level - or overall level - the proposed relationships were all supported. Cognitive responses to aspects of service quality lead to affective responses: company trust and company satisfaction. In the context of financial services, company trust was found to be a strong influencing factor of both company satisfaction and company loyalty. The strongest link to company loyalty, however, does not come from company trust, but from company satisfaction. Customers that are satisfied are more likely to also become loyal to the company. Company satisfaction is more important than company trust when it comes to building loyalty, but trust is necessary to attain loyalty as well.

At portal level, nearly all relationships are supported. When modelling all dimensions of portal service quality as one construct – as has been done in an alternative model on page 74 – this construct influences both portal trust and portal satisfaction significantly. (The separate dimensions of portal service quality will be dealt with later on.) In turn, both portal trust and portal satisfaction show a significant effect on portal loyalty. The link between portal satisfaction and portal loyalty is considerably stronger than the one between portal trust and portal loyalty, which means that – on the portal level – satisfaction is more important for customers in order to become loyal than trust is. However, trust still is an important factor. When it is lacking, it will prevent customers from becoming loyal.

The proposed link between portal trust and portal satisfaction could not be supported in a model containing portal service quality. In a model without portal service quality (appendix F) this relationship could be supported, which probably means that portal service quality probably is a better predictor of portal satisfaction than portal trust is.

The relationships between constructs on portal level and the same constructs on company level are very important. In literature, the effects of using business portals – as an example of self-service technology – on overall satisfaction and loyalty have not been researched, though they are of great importance to companies offering these portals. In this study, portal satisfaction was found to have a strong and statistically significant effect on company satisfaction, and indirectly - given the strong link between company satisfaction and company loyalty – on company loyalty as well. This stresses the importance of portal satisfaction: when customers are dissatisfied by the portal that AEGON offers them, they not only become disloyal to that portal but also get less satisfied in AEGON as a whole, which leads to customers being less loyal to AEGON, and possibly even leaving the company.

The second link between the portal level and company level that was proposed in the original model is the link between portal loyalty and company loyalty. Results show that only providing customers with a portal they will be become loyal to, will not automatically lead to them becoming more loyal to AEGON as well.

The third link between the portal and company level that was researched, is the link between portal and company trust. This link was found to be quite complex. Appendix D demonstrates that both a portal-to-company, and a company-to-portal trust relationship can be statistically supported. The effect of company trust on portal trust was found to be the larger of the two. When customers have trust in a company they are inclined to trust portals that company offers as well. Clearly labelling the offered business portals as AEGON portals uses the trust business customers already have in AEGON to build trust in the portal. At the same time, it is also important to keep the existence of the reversed relationship in mind. When portal trust is damaged by portal service quality, this also leads to a decrease in overall company trust. And, given the significant relationships company trust has with company satisfaction and loyalty, portal trust has an indirect effect on company satisfaction and loyalty.

As the importance of portal trust and portal satisfaction have been emphasized above, knowing which aspects of portal service quality affect these constructs is important. In the original model, five out of the seven dimensions of portal service quality were found to significantly influence portal trust and portal satisfaction. *Usability* – similar to Meuter et al's (2000) 'did its job' – was the only dimension that affects both. This stresses the importance of building a portal that does what it has to do, and has no errors in this process. *Technical performance* – a dimension including reliability – strongly affects customer satisfaction. *Ease of use* of the portal under investigation also significantly influences how satisfied customers are with a portal. The final portal service quality dimension that affects portal satisfaction is *efficiency*. If using a portal results in increased efficiency for the customer (for instance time-savings), he or she will be satisfied using it. *Layout/Design (E-scape)* was the second dimension of portal service quality that affects portal trust. When customers find that a portal does not look professional, this affects their trust in that portal.

During alternative model testing, an experimental model was proposed where portal service quality dimensions directly affect company trust and satisfaction. *Control* was discovered to have a positive relationship with overall satisfaction. This is explained by the fact that a portal is a tool that gives customers more control and influence over how and when they deal with AEGON. *Technical performance* was the only dimension found to positively and directly affect company trust. Customers that are of the opinion that the technical performance of a portal is bad will lose interest in the company providing that portal.

The average report rates of both portals for which the quantitative research was held - 5.6 for the LevensloopSite and 5.8 for BeheerNet - are evidence that currently AEGON's business portals are not yet functioning as they should. Clearly, there is room for improvement. The feedback that customers could give in the online survey (appendix E), gives useful input for the redevelopment phase. Customers mainly perceive BeheerNet as being not very user-friendly, and the remark heard most often regarding the LevensloopSite concerns its availability.

Summarizing, the hypothesized model can be largely validated. Interactions between portal level and company level exist on the level of satisfaction and trust. Portal satisfaction leads to company satisfaction; trust

relationships work in both directions. These findings stress the importance of portal service quality, as this significantly affects both portal trust and portal satisfaction. Different aspects of portal service quality were found to (directly) affect trust and satisfaction, mainly on portal level. The results of this research are very useful when redeveloping the current portals, which are not yet functioning to full satisfaction of the users. The existence of a positive link between portal satisfaction and company satisfaction also shows that portals can be a tool for building customer satisfaction - and customer loyalty - towards AEGON. This research tells AEGON what aspects of a portal are important to the business customer. At the same it adds to literature by linking the portal level – or SST level – to the overall company level.

8.2 Managerial recommendations

The results and conclusions of this study also call for managerial recommendations to AEGON. This research has demonstrated that portal satisfaction and portal trust have an impact on company satisfaction and company trust. For this reason AEGON has to make sure customers are satisfied with the portal and trust the portal; if they are not satisfied and do not trust the portal, this will reflect on their overall satisfaction and trust towards AEGON.

Learning process

First of all, building portals for business customers is a learning process. Companies like AEGON, whose core business it is to offer financial services to customers, are now faced with the specific and technical problems of building portals. Especially in the financial service industry, building portals is difficult: customers are not very knowledgeable on most products, and both the processes and products that portals are built for are complex. AEGON should acknowledge the difficulties involved with building portals and should see the process of developing portals as a learning curve. Building the perfect portal immediately is impossible.

The low report rates that both portals received should give AEGON insight into where it currently stands as far as business portals are concerned. AEGON aims to have customer satisfaction for all aspects of customer service to be at least a seven on a scale of 1-to-10. As the portals are currently being valued a 5.6 and a 5.8, it is obvious there is work left to be done. The links between portal satisfaction and company satisfaction, and between portal trust and company trust call for a sense of urgency. The report rates are a reflection of low portal satisfaction, which has been proven to affect overall satisfaction. To make sure customers will not lose loyalty towards AEGON, the business portals have to be improved.

Focus for next stages

Given these results, AEGON should focus on the short term, and should not 'reach for the sky'. Although trying to build portals that are better than what any competitor has to offer is strive worthy, AEGON first needs to make sure the business portals stop dissatisfying customers. Current problems need to be addressed and dealt with as soon as possible. This also calls for more and better monitoring of how customers think of portals. Doing so allows for problems to be recognized early, so that appropriate measures can be taken before customers are so

dissatisfied with the portal, that they become dissatisfied in AEGON as a whole and no longer want to be a customer.

Customer feedback

Asking customers for feedback on the portal is not something to be ashamed of, but when doing this AEGON has to make sure this feedback is used. Follow-up is necessary. A personalized response to received feedback makes sure customers see that their input is not in vain. Also, it is important to constantly keep updating the portal. As soon as an error or dissatisfying factor is recognized from customer input, changes should be made to stop this factor from dissatisfying more customers as soon as possible. A hands-on approach is called for.

More practically, customer feedback can be received by regularly holding customer surveys as used in this thesis, or by adding a function on the portal where customers can enter their feedback.

BeheerNet

When zooming in to both portals under investigation, it is clear to see that both face different problems. Appendix E shows that the remarks BeheerNet received most often were regarding its user-friendliness. Apparently customers do not find BeheerNet very easy to use. AEGON has recently responded to this problem by starting to train customers how to use BeheerNet. However, this is more a short-term solution. For the longer term AEGON should focus on building a portal that does not require personal explanation to use it. Giving personal training before a portal can be used beats the purpose of building a self-service technology, which is – amongst others things – built to reduce personal contact. For the long term, significant effort should be put into building a portal that is straightforward and self-exploratory. To avoid any problems customers might have, extensive help-functions have to be considered. A users manual that has not been updated since 2005 – as mentioned by one of the respondents (appendix E) – is unacceptable.

LevensloopSite

When looking at the LevensloopSite, the availability is the aspect mentioned most often in customer responses (appendix E). This result might be influenced by the fact that at the moment the initiation email was sent, the portal was offline. In February 2008 the availability rate of the LevensloopSite was 94 percent. Taking into account the direct link between technical performance and portal satisfaction, the availability of the LevensloopSite should be improved.

Currently the management of the LevensloopSite is outsourced to India. All changes to the portal have to go through a formal process and require an official re-release of the portal. No doubt the outsourcing has advantages for AEGON – mainly in the costs aspect – but as AEGON is in a learning process concerning portals, changes have to be made regularly – as explained earlier – which is hindered by the current outsourcing arrangements. Perhaps AEGON should reconsider these current arrangements and processes to see if faster re-release times can be made possible.

Importance of portal service quality dimensions

Concerning the dimensions of service quality that were taken into account in this research, figure 18 shows that the ‘simple’ aspects regarding a portal are most important for building portal trust and satisfaction. A portal has to be built that ‘does its job’ without errors (*usability*), is reliable and always available (*technical performance*), is easy to use (*ease of use*) and makes customers feel they are using a timesaving and efficient tool (*efficiency*). These portal service quality aspects make customers satisfied or dissatisfied about a portal. The layout and design of the portal (*layout/design*) are also very relevant as these affect portal trust.

Although these results might seem obvious, they should not be taken lightly. For instance, if AEGON wants to provide customers with a portal as a tool to give them an online overview of their collective pension administration and make changes online, AEGON should do just this. It is essential to make sure this tool is reliable, correct, up-to-date, efficient and easy to use. Trying to build a portal that has high-tech functionality is far less important than building a portal that ‘just’ works, in every possible way. This underlines what has been recommended before: AEGON’s focus first needs to be on building a perfectly functioning portal, taking away dissatisfying factors.

8.3 Limitations

Some limitations of this research have to be taken into account when wanting to generalize the outcomes of this study. First of all, this research was only conducted at one insurance company in the Netherlands. Validation of the proposed model in other insurance companies, and in other countries is advised. Both cultural difference and opinions concerning the company in which the model is tested, should be taken into account as possible moderators when using the model in other contexts. Testing the model in different countries and across different companies might bring forward different results.

Secondly, the model was only validated in an insurance industry context. The general influence of portal constructs on overall company constructs for business portals cannot be done without validating the proposed model in other industry settings. The insurance industry is known for trust playing a central role. In other industry settings, the role of trust would probably be smaller.

Another limitation is that the conceptual model was only tested for two portals. The specific problems with these portals might 'colour' the results. The fact that both portals were rated quite low might have an impact on the results and discovered relationships. It would be interesting to test the conceptual model for better functioning portals.

Also, the sample size was quite low. Ninety responses were sufficient for PLS validation and analysis of the basic model, though a larger database would allow for deeper analysis of possible moderating effects that were originally proposed but have not been tested in this thesis. A larger database would increase the statistical power of the model analysis as well.

The dataset used in this thesis only contains experienced internet users. Although it can be expected that portal users in a business-to-business context are familiar with internet, a positive bias could exist.

The fact that – especially for the BeheerNet survey – only business customers still using the portal took part in the survey might bring a positive bias to the results. Customers that were so dissatisfied with the portal that they have already stopped using it altogether have not participated in this research. Setting up a survey that also targets customers that have stopped using the portal, might give different results.

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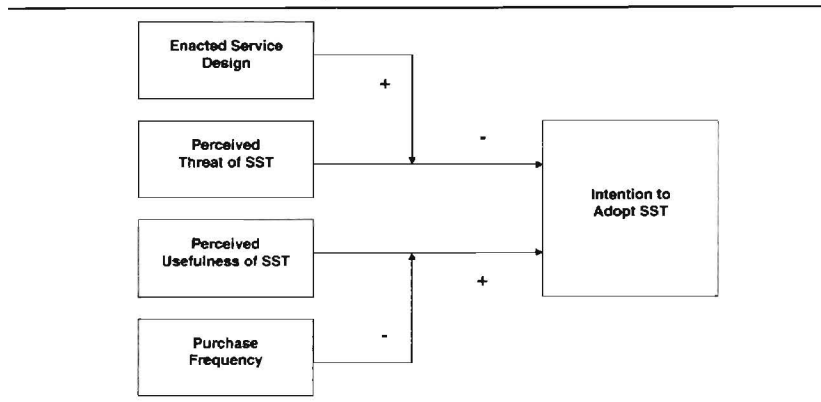
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Appendix A: Discussion of Bhappu and Schultze (2006)

Bhappu and Schultze's study focused on antecedents to adoption (Bhappu and Schultze 2006). Their focus was to find out how perceptions on relational and operational performance influenced the intention to use a SST. The research model Bhappu and Schultze (2006) used is depicted in figure 19.

Figure 19: The research model used by Bhappu and Schultze (2006)

Antecedents of Customers' SST Adoption in Business-to-Business Service Relationship Designs



Bhappu and Schultze (2006) found that B2B customers see SST as a threat to relational performance – when using a SST, business customers have considerably less contact with service employees with whom customers built a relationship – which lowers their intention to use a SST. This effect was strongest for customers who enacted strong service relationships because they had developed tight social bonds with providers and stood to lose the confidence, and the social and special treatment that they were accustomed to.

On the other hand, B2B customers acknowledge the operational benefits of using SSTs, as the SSTs improve productivity, effectiveness and performance. This effect was smaller for customers with higher purchase frequency who would invariably assume more co-production responsibilities once they adopted SST. They felt that a bigger part of the service delivery process had become theirs, which they thought to be decreasing their productivity.

Overall, the positive operational effects outweighed the negative relational effects in Bhappu and Schultze's (2006) research.

Appendix B: Survey

On the next six pages, an offline version of the survey held under BeheerNet users can be found. This includes the literature the questions are based on, and the item coding used for data analysis. The questions for the Levensloopportal are the same.

The service quality questions regarding usability, technical performance and ease of use, require some more explanation. SQP1_2 and SQP1_3 were originally part of a broader term ‘performance’. SQP1_4 was originally designed as part of the three-item ease of use scale. However, brief exploratory factor analysis in SPSS made clear that the performance term had two very different dimensions, which resulted in splitting this dimension into two other dimensions: ‘usability’ and ‘technical performance’. Furthermore, SQP1_4 correlated considerably more with the technical performance items, than it did with the two other ‘ease of use’-items. Respondents apparently saw ‘Het is makkelijk om toegang te krijgen tot BeheerNet’ more as a question reflecting technical aspects of entering the portal, than overall ease of use of the portal. Figure 20 shows the correlations among the items of the three discussed constructs.

Figure 20: Part of the item correlation matrix in SPSS

	SQP1_0	SQP1_1	SQP1_2	SQP1_3	SQP1_4	SQP1_5	SQP1_6	SQP1_7
Correlation SQP1_0	1,000	,731	,357	,349	,378	,556	,453	
SQP1_1	,731	1,000	,323	,285	,293	,582	,432	
SQP1_2	,357	,323	1,000	,788	,705	,430	,452	
SQP1_3	,349	,285	,788	1,000	,782	,323	,336	
SQP1_4	,378	,293	,705	,782	1,000	,497	,463	
SQP1_5	,556	,582	,430	,323	,497	1,000	,736	
SQP1_6	,453	,432	,452	,336	,463	,736	1,000	
SQP1_7								1,000

SERVICE QUALITY				
Selecteer voor iedere stelling in hoeverre u het met die stelling eens bent. Hierbij staat -- voor helemaal oneens en ++ voor helemaal eens.		(Answer-code)	Item-code	Based on
<i>Service quality and SST evidences for portal</i>				
Usability*		-- - 0 + ++		
1.	BeheerNet geeft me een accuraat overzicht van mijn pensioenadministratie.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_0	(Yen (2003))
2.	Met BeheerNet kan ik mijn pensioenadministratie foutloos bijhouden.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_1	Yen (2003)
Technical performance*		-- - 0 + ++		
3.	De site van BeheerNet laadt snel.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_2	
4.	BeheerNet is altijd beschikbaar.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_3	
5.	Het is makkelijk om toegang te krijgen tot BeheerNet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_4	Ribbink (2004)
Ease of use *		-- - 0 + ++		
6.	BeheerNet is gebruiksvriendelijk.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_5	Ribbink (2004)
7.	Het is makkelijk om je weg te vinden op BeheerNet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_6	Ribbink (2004)
E-scape (layout/design)		-- - 0 + ++		
8.	De informatie op BeheerNet is aantrekkelijk gepresenteerd.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_7	Ribbink (2004)
9.	De indeling en kleuren van BeheerNet zijn aansprekend.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_8	Ribbink (2004)
10.	Ik bentevreden over hoe BeheerNet eruit ziet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP1_9	(Ribbink (2004))
Convenience		-- - 0 + ++		
1.	Met BeheerNet kan ik mijn pensioenadministratie bijhouden op een tijdstip dat mij uitkomt.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_0	Yen (2003)
2.	Met BeheerNet kan ik mijn pensioenadministratie bijhouden op een plek die ik makkelijk vind.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_1	Yen (2003)
3.	BeheerNet maakt het bijhouden van mijn pensioenadministratie makkelijker voor mij als klant.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_2	
Control				
4.	Door het gebruik van internet voel ik me meer in controle over mijn pensioenadministratie.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_3	(Yen (2003))
5.	Met BeheerNet heb ik het gevoel meer controle te hebben over mijn pensioenadministratie.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_4	Yen (2003)
Efficiency		-- - 0 + ++		
6.	Met BeheerNet kan ik snel mijn pensioenadministratie bij AEGON bijhouden.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_5	Yen (2003)
7.	Het gebruik van BeheerNet bespaart mij tijd.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_6	
8.	Met BeheerNet kan ik mijn pensioenadministratie op een efficiënte manier bijhouden.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQP2_7	Yen (2003)
Rapportcijfer + ruimte voor opmerkingen				
Wat voor een rapportcijfer geeft u BeheerNet (tussen 1 en 10)		(getal)	Rapportcijfer	
Heeft u verder nog opmerkingen over BeheerNet (optioneel)		(tekst)	Rapportcijfer_1	
Wat zou u vooral verbeterd willen zien aan BeheerNet (optioneel)		(tekst)	Rapportcijfer_2	
<i>Service quality company in general</i>		-- - 0 + ++		
Hoe tevreden bent u over de volgende aspecten van de service van AEGON? (-= helemaal ontevreden, += helemaal tevreden)				
1.	Het personeel en de middelen die AEGON inzet bij de geboden diensten.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQC_0	(SERVQUAL)
2.	De betrouwbaarheid van AEGON om de beboefde service gedegeen en op het afgesproken tijdstip te leveren.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQC_1	(SERVQUAL)
3.	De bereidheid van AEGON om klanten op een snelle wijze service te verlenen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQC_2	(SERVQUAL)
4.	De competentie, beleefdheid en geloofwaardigheid van het personeel van AEGON.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQC_3	(SERVQUAL)
5.	De inleving van AEGON in haar klanten en de individuele aandacht die AEGON aan haar klanten besteedt.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SQC_4	(SERVQUAL)

TRUST				
Selecteer voor iedere stelling in hoeverre u het met die stelling eens bent. Hierbij staat – voor helemaal oneens en ++ voor helemaal eens		(Antwoord-code)	Item-code	Based on
<i>Trust in portal</i>		-- - 0 + ++		
1.	Ik ben het ermee eens dat BeheerNet goed beveiligd is.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_0	
2.	Ik ben bereid privacy-gevoelige informatie in te vullen op BeheerNet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_1	Ribbink (2004)
3.	Ik ben het ermee eens dat BeheerNet betrouwbaar is.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_2	Lee (2005)
<i>Trust in company</i>		-- - 0 + ++		
4.	Ik verwacht dat AEGON altijd het goede met mij voorziet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_3	Hwang (2007)
5.	Ik verwacht dat de inspanningen van AEGON altijd welwillend zijn.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_4	Hwang (2007)
6.	Afspraken die AEGON maakt zijn betrouwbaar.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_5	Hwang (2007)
8.	Ik ben het ermee eens dat AEGON verstand heeft van de verzekerings- en pensioenmarkt.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_7	Hwang (2007)
9.	AEGON weet hoe ze uitstekende service moet leveren.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	TR_8	Hwang (2007)

SATISFACTION				
Selecteer voor iedere stelling in hoeverre u het met die stelling eens bent. Hierbij staat – voor helemaal oneens en ++ voor helemaal eens.		(Antwoord-code)	Item-code	Based on
<i>Satisfaction with portal</i>		-- - 0 + ++		
1.	Over het geheel gezien ben ik tevreden over BeheerNet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SA_0	Lin (2007), Ribbink (2004), Yang (2004)
2.	BeheerNet voldoet aan mijn verwachtingen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SA_1	(Lam (2004))
<i>Satisfaction with company</i>		-- - 0 + ++		
3.	Over het geheel gezien ben ik tevreden over AEGON.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SA_2	Lin (2007), (Lam (2004))
4.	AEGON voldoet aan mijn verwachtingen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	SA_3	(Lam (2004))

LOYALTY				
Selecteer voor iedere stelling in hoeverre u het met die stelling eens bent. Hierbij staat -- voor helemaal oneens en ++ voor helemaal eens.		(Answer-code)	item-code	Based on
		-- - 0 + ++		
<i>Loyalty towards portal</i>				
1.	Als iemand mij daarnaar zou vragen, zou ik het gebruik van BeheerNet aanraden aan andere bedrijven.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_0	Lam
2.	Als AEGON mij dat zou vragen, zou AEGON mij als referentie voor BeheerNet mogen gebruiken.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_1	
3.	Als ik opnieuw voor de keuze zou staan, zou ik mij weer aanmelden voor BeheerNet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_2	Lin
4.	Ik zal in de komende periode BeheerNet zeker blijven gebruiken.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_3	Lin
5.	Ik zal nooit overstappen naar een andere verzekeringsmaatschappij die geen site zoals BeheerNet heeft.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_4	
<i>Loyalty towards company</i>				
6.	Als iemand mij daarnaar zou vragen, zou ik AEGON aanraden aan andere bedrijven.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_5	Lam
7.	Als AEGON mij dat zou vragen, zou AEGON mij als referentie mogen gebruiken voor potentiële AEGON klanten.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_6	
8.	Als ik opnieuw voor de keuze zou staan een contract te tekenen, zou ik weer voor AEGON kiezen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_7	Lin
9.	Wanneer er zich een moment voordoet dat er een nieuw verzekerings- of pensioencontract moet worden afgesloten, is AEGON mijn eerste keus.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	LO_8	Van Biegelen, Yen

POSSIBLE MODERATORS				
Selecteer voor iedere stelling in hoeverre u het met die stelling eens bent. Hierbij staat -- voor helemaal eens en ++ voor helemaal eens.		(Answer-code)	Item-code	Based on
<i>Intention</i>				
1. Wat denkt u dat AEGON wil bereiken met BeheerNet?		-- - 0 + ++	MO3	
a.	Betere service aan klanten verlenen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_0	
b.	Betere bereikbaarheid aan klanten bieden, ook buiten de reguliere kantooruren.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_1	
c.	Gemak voor de klant verhogen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_2	
d.	Kosten voor AEGON verlagen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_3	
e.	Klanten meer zelfwerkzaam maken.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_4	
f.	Klanten minder persoonlijk te woord hoeven staan.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_5	
g.	Meegaan met de laatste ontwikkelingen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_6	
h.	De waarde voor de klant verhogen, door een extra dienst te bieden.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO3_7	
<i>Personal relationship</i>		-- - 0 + ++	MO4	
2a.	Door het gebruik van BeheerNet heb ik minder contact met mijn AEGON contactpersoon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO4_0	
2b.	Door het gebruik van BeheerNet heb ik minder behoefte aan contact met mijn AEGON contactpersoon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO4_1	
2c.	Door het gebruik van BeheerNet verbetert de kwaliteit van de relatie met mijn AEGON contactpersoon.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	MO4_2	
<i>Company size</i>			MO5	
3.	Hoeveel werknemers heeft uw bedrijf?			
	<input type="checkbox"/> Tussen 1 en 50 werknemers	1		
	<input type="checkbox"/> Tussen 51 en 250 werknemers	2		
	<input type="checkbox"/> Meer dan 250 werknemers	3		
<i>Usage of portal (frequency)</i>			MO6	
4.	Hoe vaak gebruikt u BeheerNet gemiddeld?			
	<input type="checkbox"/> Minimaal 1 keer per week	1		
	<input type="checkbox"/> Tussen 1 keer per week en 1 keer per maand	2		
	<input type="checkbox"/> Tussen 1 keer per maand en 1 keer per kwartaal	3		
	<input type="checkbox"/> Maximaal 1 keer per kwartaal	4		
<i>Usage of portal (length)</i>			MO7	
5.	Hoe lang maakt u zelf al gebruik van BeheerNet			
	<input type="checkbox"/> Kortere dan een half jaar	1		
	<input type="checkbox"/> Tussen een half jaar en één jaar	2		
	<input type="checkbox"/> Tussen één en twee jaar	3		
	<input type="checkbox"/> Langer dan 2 jaar	4		
<i>Contact with AEGON</i>			contact	
6.	Hoe verkoopt uw contact met AEGON?			
	<input type="checkbox"/> Via een tussenpersoon	0		
	<input type="checkbox"/> Direct met AEGON	1		
	<input type="checkbox"/> Zowel direct met AEGON als via een tussenpersoon	2		

PERSONAL INFORMATION				
		(Answer-code)	Item-code	Based on
<i>Sex</i>				
1.	Wat is uw geslacht?		PI1	
	<input type="checkbox"/> Mannelijk	0		
	<input type="checkbox"/> Vrouwelijk	1		
<i>Age</i>				
2.	Wat is uw leeftijd?		PI2	
	<input type="checkbox"/> Jonger dan 25	1		
	<input type="checkbox"/> Tussen 25 en 40	2		
	<input type="checkbox"/> Tussen 41 en 55	3		
	<input type="checkbox"/> Ouder dan 55	4		
<i>Level of education</i>				
3.	Wat is uw hoogst genoten opleiding?		PI3	
	<input type="checkbox"/> Basisonderwijs	1		
	<input type="checkbox"/> VMBO (ook LTS en MAVO)	2		
	<input type="checkbox"/> HAVO	3		
	<input type="checkbox"/> VWO	4		
	<input type="checkbox"/> MBO	5		
	<input type="checkbox"/> HBO	6		
	<input type="checkbox"/> WO	7		
<i>Internet experience</i>				
4.	Hoe lang maakt u al gebruik van internet?		PI4	
	<input type="checkbox"/> Korter dan 1 jaar	1		
	<input type="checkbox"/> Tussen 1 en 2 jaar	2		
	<input type="checkbox"/> Tussen 2 en 5 jaar	3		
	<input type="checkbox"/> Langer dan 5 jaar	4		
<i>Function level</i>				
5.	Wat is uw functieniveau?		PI5	
	<input type="checkbox"/> Directeur/eigenaar	1		
	<input type="checkbox"/> Management	2		
	<input type="checkbox"/> Hoger kader	3		
	<input type="checkbox"/> Middenkader	4		
	<input type="checkbox"/> Uitvoerend	5		

ANONYMITY + LOTTERY

		Answer-code	Item-code
Anonymity			
1.	<p>Zoals in de inleiding al is aangegeven, worden uw gegevens geheel vertrouwelijk verwerkt. Wij willen u bij deze de keuze laten zelf te bepalen of u uw antwoorden anoniem wil laten verwerken.</p> <p>Indien u ervoor kiest uw antwoorden niet anoniem te laten verwerken, zou het kunnen gebeuren dat uw accountmanager contact met u opneemt om een gesprek aan te gaan over uw antwoorden op deze vragen.</p> <p>Indien u ervoor kiest uw antwoorden wel anoniem te laten verwerken, worden ze alleen gebruikt voor statistische analyses.</p> <p>Wilt u uw antwoorden in dit onderzoek geheel anoniem laten verwerken?</p> <p><input type="checkbox"/> Ja ik wil mijn antwoorden geheel anoniem houden</p> <p><input type="checkbox"/> Nee, mijn antwoorden hoeven niet anoniem verwerkt te worden. => Vult u dan aub uw bedrijfsnaam en uw eigen naam in.;</p>		anoniem
		Ja	
		Nee + Anoniem_txt1	
Lottery			
2.	<p>Zoals eerder aangegeven wordt er een AEGON I-GB iPod Shuffle verlot onder de deelnemers van dit onderzoek.</p> <p>Wilt u kans maken op deze prijs?</p> <p><input type="checkbox"/> Nee</p> <p><input type="checkbox"/> Ja => Laat u dan uw (zakelijk) emailadres achter zodat wij contact met u kunnen opnemen wanneer u de winnaar bent. NB: Uw emailadres doet alleen dienst als uw lotnummer. Uw antwoorden in deze enquête worden volledig vertrouwelijk behandeld. Het kansmaken op de iPod heeft geen invloed op de anonimiteit, waarover u in de vorige vraag heeft besloten.;</p>		Prijsvraag
		0	
		1 + Prijsvraag_txt1	

Appendix C: Interviews

Interview structure and semi-structured questions (in Dutch)

1. Wat ziet u als het voornaamste doel van portal xxx?
 - a. Met welk doel is portal xxx opgezet?
 - b. Wat is naar uw mening het voornaamste voordeel van portal xxx ten opzichte van een situatie zonder portal xxx voor de klant ?
 - c. Wat is naar uw mening het voornaamste nadeel of risico van portal xxx ten opzichte van een situatie zonder portal xxx voor de klant ?
 - d. Wat is naar uw mening het voornaamste voordeel van portal xxx ten opzichte van een situatie zonder portal xxx voor AEGON?
 - e. Wat is naar uw mening het voornaamste nadeel of risico van portal xxx ten opzichte van een situatie zonder portal xxx voor AEGON?
2. Hoe verliep het klantencontact, dat nu d.m.v. portal xxx wordt geregeld, voorheen plaats? (doorvragen: medium/f2f)
3. Zijn er al onderzoeken naar tevredenheid over portal xxx gedaan? Zo ja, welke focus en kan ik die inzien? (Vooral van belang voor beheernet, andere portals waarschijnlijk te nieuw, maar toch vragen)
4. Wat is uw mening over de invloed van het gebruik van SST (portal xxx) op relatie tussen de zakelijke klant en AEGON? (gezien het spanningsveld meer efficiency en gemak versus verlies persoonlijk contact)
 - a. Wat heeft hierop naar uw mening invloed? (Eigenschappen/attributes portal xxx + hoeveelheid gebruik/gebruik waarvoor)
5. Wat zou u beter willen zien bij portal xxx?
6. Wat zou u beter willen zien bij interactie tussen AEGON en haar zakelijke klanten m.b.t. product xxx in het algemeen? (aftersales)
7. Denkt u dat opvatting van de klant over SST meespeelt in hun tevredenheid en loyaliteit?
8. Heeft u verder nog opmerkingen m.b.t. deze kwestie en dit onderzoek?
9. Heeft u nog aanbevelingen wie ik verder nog zou kunnen of moeten spreken?
10. Zou ik ook klanten kunnen benaderen om dit onderwerp te bespreken? (enquête/persoonlijk interview). Altijd checken bij account manager voordat dit daadwerkelijk gebeurd!!!

Overview of interview outcomes with AEGON employees, regarding portals for business clients:

The people interviewed were:

- A. T. (General portals/Werkgeversportal)
- A. K. (Naverrekeningsportal)
- D. J. (BeheerNet)
- G. K. (General portals)
- M. v. d. D. (AEGON Assetmanagement portal)
- O. S. (Verzuimportal)
- P. I. C. (BeheerNet)
- R. V. (Levensloop portal Werkgevers)

Most interview questions were formulated on a portal specific level. In this overview a general overview will be given. As functionalities vary across portals, these answers might have differing outcomes due to these functionality variations.

Why was the portal set up?

- Born out of emergency (NVP) because AEGON needed customer information. Digitally was the easiest way.
- To speed up the provision of information to customers (AMP). Also to go along with competitors and technological developments.
- To make mutations easier and faster (BN) and have a web-based application.
- To better steer the process and to give insight in status (VP).
- Because customers asked for it (LWG) and to give digital insight and overview.

Positive and negative points, using the portal:

Benefit for customer

- Smaller chance of errors (thanks to standardisation)
- Customer support
- Information no longer location-tied
- Speed
- 24/7 available

- Convenience
- Provides overview
- More control
- Time benefit
- Status report

Downside/risk for customer

- Multiple log-ins required. Each portal has a different log-in
- No status-insight
- General/standard risk of (losing) classified information
- Lack of performance and reliability
- Requires discipline to effectively use portal
- Lack of functionality portal

Benefit for AEGON

- Efficiency
- If customers make a mistake, it's not AEGON's fault
- Process and chain integration
- Increased speed
- Increased customer satisfaction
- Gives cross-sales opportunities

Downside/risk for AEGON

- No downsides or risks if portal works properly, otherwise this might a negative effect on customer satisfaction and loyalty
- More a challenge: using portals to customers requires openness and transparency towards customers
- General/standard risk of (losing) classified information
- Contact with customers is more distant
- Usage is still not as high as wanted

How did contact take place before the introduction of the portal?

In some cases there was no previous situation, and in other situations contact went through telephone, email, mail (using both standardized and un-standardized formats), fax or another internet-using information system (a windows application that required downloading by the users).

Have customer satisfaction researches been done?

In most cases: no.

In the other cases, researches were aimed at functionality improvements, or they were of a very generic level (not portal-specific).

What is opinion on influence of using SSTs on customer satisfaction and loyalty (given the trade-off between more efficiency and convenience versus less personal contact).

Prior to the introduction of the portal/SST most contact already took place in an impersonal manner (or in some cases this contact was through intermediaries), so there is not much change here.

As SSTs can improve efficiency and convenience, they might improve customers' satisfaction with AEGON. Moreover, SSTs allow AEGON to have more customer contact on a higher level of importance, so that account managers and other employees do not have to answer questions on changes, status and so forth anymore. This should allow them to build better relationships in the moments they do have contact with customers. A very important note here is that this requires the portal to work properly, as problems in SST' reliability and performance will have a negative impact on customer satisfaction.

Currently performance is not always sufficient (especially the lack of a status-overview has been mentioned often).

What do you want improved in the current portal?

- Increased functionality:
 - In case of losing password, automated email to a specified address
 - Archiving old reports, ranked on date
 - Help-function
 - Idiot-proofing
 - Status-reports of changes made by customers
 - Allowing for mutations online (if not already present)
 - An automatic "call me" button. (AEGON calls customer to help him; so that the customer doesn't have to pick up the phone himself.)
- Increased usability
- Improved design
- Improved performance (e.g. loading-times) and reliability
- Too much efficiency orientated approach, should focus more on benefit for customer.

- Improved output for AEGON
- Integration into one employers' portal: This is already in development. (Also focus on one customer portal instead of a employers'/employees' portal has been mentioned.)

In general, what should be improved when it comes to AEGON-customer contact? (Not necessarily focusing on portals)

- There is no 1 central customer database, only department (or portal) specific databases. Registration is very difficult. This makes that customers have different log-ins for every portal. This is very customer-unfriendly. Customers don't see AEGON as one entity at the moment (expressed in the form of one portal). In an ideal situation both the databases and portals should be brought together, to get a better AEGON- (from the viewpoint of the customer) and customer- (from the viewpoint of AEGON) understanding. This complete understanding is lacking now, as all is organized in the fragmented service centres.
- Personal contact will always remain, even with increasing usage of portals. (Relationship marketing will stay.)
- More and specialized personnel required to 'sell' portals to customer. To convince customers of the importance and benefits of using them. Personnel with both enough technical and financial knowledge, and the power to convince customers of this, are lacking.
- The customer should be put in the point of focus more.
- AEGON should communicate to customers more: what is going on and what does AEGON need from customers. In general, AEGON should be more open en transparent when it comes to customer communication. This would give customers a better overview of what is going on.
- Better cooperation between SCs and the sales organisation.

Does the customer opinion on SSTs affect their satisfaction and loyalty when having to use a SST?

Overall it is expected that nowadays using internet SSTs is generally accepted by customers, and therefore will not provide problems. A pro-internet attitude is expected (Customer readiness has developed over time).

However, a difference can be expected between big customers with specialised employees, and MKB-customers. For instance a small bakery with only a few employees will not be used to dealing with SSTs as a big company like Shell is. This requires special attention when setting up a portal. Most of them will still find it easier to (for instance) pick up the phone and call to make changes, then to start up their PC and use a portal, due to a lack of time and some form of customer anxiety.

In general it is expected that customers are positive about the benefits from using internet, if and when they are able to see the added value using SSTs provides for them. To let them see these benefits, the portal-interaction should be made as easy as possible for them.

It is possible, but not very likely, that customers perceive SSTs as putting more work on them.

Especially when functionality and usability are decent/sufficient, this effect will be small (or can even become a positive effect). It can be expected that this will work the same way as online banking.

Other remarks regarding these questions and my research:

- AEGON should react to customer's request quicker
- AEGON underestimates the importance of its internet-site (example: late website reaction to AJAX sponsorship)
- Current focus is on functionality, where it should be on (usability and) ease of use/user friendliness.
- AEGON used to be behind on competition but has pretty much caught up now. However, still a lot of work can be done and should be done here.
- Why not start with WG-portal already? Even if it is just a website with all portal entrants, and very limited added functionality.
- Sometimes it is better to just put out a version with limited functionality and improve it gradually (after hearing customers' responses) than to try and set up a perfect portal in one stage. This is also reflected by the VZP. Whereas most portals have a small functionality that needs to be extended, the VZP has too much functionality and is very confusing for customers.
- AEGON thinks too much from its own point of view, not the customer's point of view. Too much product and process orientated. Never the customer is asked what he really wants.
- 1 log-in code would be better
- Differences within AEGON and between SCs make it difficult to introduce an overall portal.
- Why not build a company exceeding portal? This would be really positive for customers, but requires a lot of courage from AEGON to set up.
- Why doesn't AEGON use the knowledge it has from its employees (being customers as well)?
- "Focus of this research is very narrow; it largely neglects the overall strategy. How is this of use to AEGON?"

Appendix D: Relationships between portal and company level constructs

The relationships between the portal and company level constructs need a closer look. The relationships between these constructs that exist on both levels will be zoomed in on in this appendix. To see, for instance, if the relationship between portal trust and overall trust is stronger than the reversed relationship. In order to do so, this analysis contains three steps. First a model is run in PLS that only takes into account links from the portal level to the company level. Secondly, the reversed is modelled. Finally, a model that uses the strongest relationships discovered in both previous steps is analysed. As a base model, the model original model validated in paragraph 7.2 is used.

Table 9 shows the results of these steps. Analysis of the results obtained in the first two steps shows that both the path coefficient and t-statistic are larger for the relationship between portal satisfaction and overall satisfaction than for the reverse of that relationship. The same can be said for the relationship between portal loyalty and overall loyalty. The relationship between the two trust constructs, however, provides a less clear result. The t-statistic is larger when portal trust affects overall trust, while the path coefficient is bigger when this relationship is reversed.

Therefore it was decided to first insert the two relationships that give a clear result – which are equal to the original model – and then model both possible relationships between the trust constructs in that model. Table 9 shows that the relationship between overall trust and portal trust has both a higher path coefficient and a higher t-statistic. Given this result it can be concluded that overall trust has a bigger effect on portal trust than vice versa. However, the reversed relationship can also not be declined.

Table 9: results of PLS analysis regarding inter-level reactions

Step	Relationship	Path coefficient	T-statistic
1	Portal satisfaction -> Overall satisfaction	0,256	4,230
	Portal trust -> Overall trust	0,331	3,440
	Portal loyalty -> Overall loyalty	0,150	1,490
2	Overall satisfaction -> Portal satisfaction	0,158	1,566
	Overall trust -> Portal trust	0,526	1,577
	Overall loyalty -> Portal loyalty	0,060	0,740
3	Portal trust -> Overall trust	0,331	3,751
	Overall trust -> Portal trust	0,526	4,755

Explanation of steps:

- Step 1: Portal level -> Overall level
- Step 2: Overall level -> Portal level
- Step 3: Additional analysis of the relationship between trust-constructs, using results from step 1 and 2 regarding satisfaction and loyalty relationships

Appendix F: Model building

To provide additional proof for the robustness of the proposed conceptual model, the choice was made to perform a stepwise model analysis. First a model is estimated in PLS, only taking account the three main overall constructs: overall satisfaction, overall trust and overall loyalty. The same is done with a model only containing the aforementioned constructs on portal level. In the second step these two models are combined into one model, adding the links between satisfaction in portal and satisfaction in company, and the link between portal loyalty and overall loyalty. Further expansion of this second step model would lead to the originally proposed conceptual model as depicted in figure 16.

Step 1: Two models with only level satisfaction, trust and loyalty

Two separate models were run in PLS, one with only the portal level constructs, and one with only the overall, company level constructs. Both service quality constructs were not included. Figure 21 and figure 22 show the results of these analyses, displaying the path coefficients, the t-statistics and the R². As can be seen from the t-statistics and the thickness of the lines linking the constructs, all proposed relationships could be supported in these sub-models.

Figure 21: only portal level constructs (not including service quality)

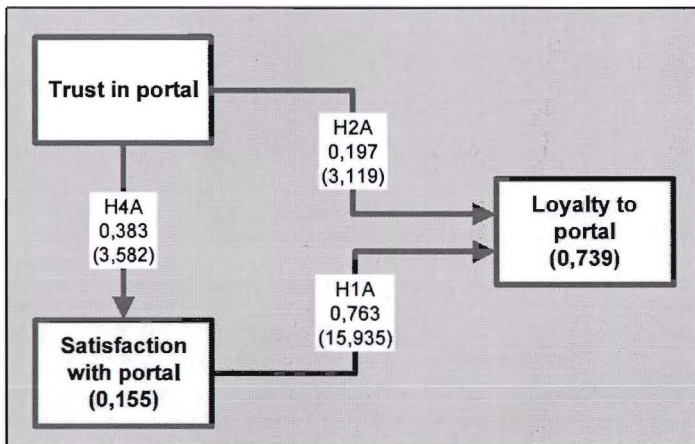
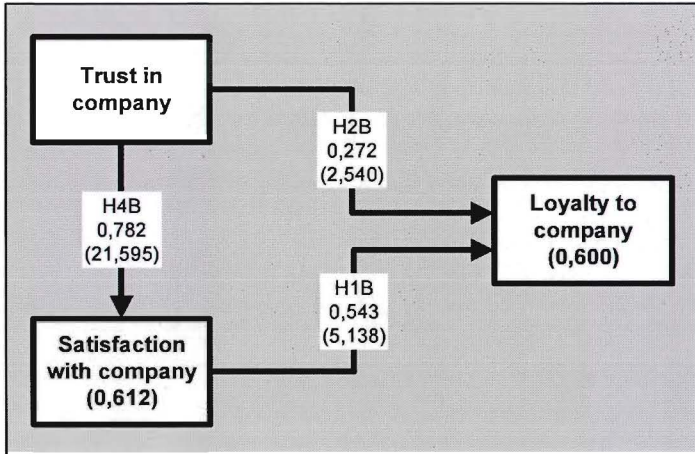


Figure 22: only company level constructs (not including service quality)



Step 2: Combining both step 1 models into one model

In this second step, both previous models were combined, adding the links proposed in the original model between portal satisfaction and overall satisfaction, and between portal loyalty and overall loyalty. Figure 23 demonstrates that all links except for the one between portal loyalty and overall loyalty could be supported.

Figure 23: model building: step 2

