Value creation by software companies in the business-to-business market

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ABSTRACT: Value creation is of growing importance for marketers and is especially important in business markets, because it leads to customer loyalty, better financial performance and a sustainable advantage for companies and henceforth it is important for businesses to know how they can create value. Although the creation of customer value is usually brought into relationship with products and service, literature has overlooked how value creation in industrial contexts can be assessed from three different yet interrelated points of views: product, service and relationship. However, the manner how value for business customers can be created differs per industry. A market with a growing importance is the IT sector and especially the software part grows substantially. This article assesses value creation by software companies through the mentioned three aspects and provides a guide for software companies which want to generate the highest value for their business customers.

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Keywords
Software, value creation, information technology, marketing, business-to-business, consumer behavior.

6th IBA Bachelor Thesis Conference, November 5th, 2015, Enschede, The Netherlands.

1. INTRODUCTION

Creating and sustaining value for companies is essential for gaining and retaining customers. A customer will only buy a product or service, when it provides them with some kind of value. The creation of value is considered to lead to customer loyalty, better financial performance, support in predicting customer behavior and in realizing sustainable competitive advantage (Klanac, 2013) Hence, it can be said that the creation of value is of substantial importance. (Anderson and Narus, 1993). However, remarkably few firms know how to measure value and gain a decent return for the value they deliver to customers, according to Anderson and Narus (1999).

There is not one method to create value which is suitable for all companies, because the manners how companies create value for their customers differ between industry and markets (Lapierre,2000) (Anderson and Narus , 1999). For example, Anderson and Narus mentioned that functionality and performance are the main focus areas for customers when buying a product in the business market, whereas the focus in consumer markets is more on aesthetics and taste.

Especially in business markets is the creation of value for customers important It is said by Anderson and Narus that value creation is the cornerstone of marketing management in business markets. Anderson and Narus (1993) mentioned that "value in a business market is the underlying consideration that drives decisions about product development and modification, pricing, distribution alternatives and marketing communications". Also Ulaga and Chacour (2001) say that "the value concept is considered to be one of the most popular constructs among business managers and academia".

From a marketing perspective, it is traditionally said that a company offers a product, service or something in between (Talaya & Romero, 2013) (Zimmerman & Blythe, 2013) (Rao, 2009). The focus of value creation therefore also laid on the emphasis of one of these. However, the relationship between supplier and customer is also essential in the creation of value (Ravald & Grönroos, 1996) (Ulaga, 2003). Concluding, the creation of value is more than only the traditional view of the combination of product and service. Also relationship plays a key role. Only a few researchers took all aspects into account when they assessed value creation, like Lapierre (2000). Therefore this article assesses value creation through an analysis of three elements: product, service and relationship. Companies need to understand the importance of taking all three aspects into account when they want to assess how they can create value for their customers.

The manner how value for a company can be created differs per industry, because activities that are vital for a competitive advantage are industry dependent (Stabell and Fjeldstad, 1998). For instance, Lapierre (2000) showed that there are considerable different ways of value creation between the financial and the ICE (information, communication and entertainment) sector. Hence, it is hard to find a general answer to the value creation problem. In other words, one must be context specific since companies vary in the way value is created and delivered depending on the industry type or sector.

An interesting sector is the Information Technology sector. The importance and size of this sector has grown substantially over the past decades. Internet has become more and more important for both business and private usage. According to the data of the World Bank ("Internet users (per 100 people)" n.d.) there were 15.8 users per 100 users in 2005. In 2014 this grew to 40.7 users per 100, which shows a growth rate of 157.59%. Per capita generates internet US$1,488 in developed countries and US$119 per capita in undeveloped countries (Dutta, Geiger, Lanvin, 2015). Internet even accounted for 21% of the GDP growth between 2007 and 2011 in mature countries (Rausas, Manyika, Hazan, Bughin, Chui, Said, 2011). Correspondingly, investments in IT are big. According to Lin and Chuang (2003) the investments in this sector grew from $2.1 trillion in 2001 to $3.4 trillion in 2007 (Lin and Chuang, 2013). Likewise, current developments show that spending in the IT sector is still growing. According to Rivera and Van Der Meulen (2015), the growth rate in 2014 was 1.9%, whereas they expect a growth rate of 2.4% for 2015. Within IT, a distinction can be made between IT hardware, IT software and other office equipment (Lin, Chen and Sao, 2015). A distinction when analyzing the IT sector should be made, because the growth rates of the sectors differ.

Software will be according to Rivera et al. (2015) the fastest growing part of IT spending. It is forecasted that the worldwide spending in 2015 on enterprise software will be 335 billion U.S. Dollars, with a growth rate of 5.5 per cent. This growth rate is higher than all the other growth rates within IT. Having good software is essential for companies, because it is critical for business success (Behkamal, Kahani, Akbari, 2009). It is also said that software leads to enhanced efficiency, effectiveness, competence and creativity (Kohn and Hüsig, 2008), which are all of importance for companies.

The combination of the forecasted growth, the importance of having good software and the benefits of value creation makes knowledge of value creation by software companies essential. It is hence important for software companies to know how they can deliver value for their business customers: they need to know which aspects business customers value most when buying software.

Lapierre (2000) did show how value can be created, assessed from the three perspectives, for different sectors in the business-to-business context, but created one information, communication and entertainment sector. This is not software specific. There is literature that shows that IT creates value (Lin and Shao, 2006) (Lin, 2009) (Kohli and Grover, 2008). However, this accounts for IT in general and there is hardly

literature that discusses value creation by the software sector in business-to-business markets.

Concluding, there is a lack of literature about how companies can deliver value for their business customers through an assessment of all the three aspects: product, service and relationship. Especially in the software sector is nothing known about value creation. Hence a literature gap of the combination of these subjects exists. The purpose of this research is to fill the gap in literature about what customer value means for business customers requiring software including what software suppliers should (re)consider about their assumptions of what their customers value by an assessment from three perspectives: product, service and relationship. Besides theoretical relevant, this research is practically relevant because software companies can use this research when they want to examine how they best can create value for their customers.

In this article the overall idea of value will first be discussed, followed by an assessment of literature about value creation in the business-to-business sector and value creation by the IT sector. Consequently, the software quality framework FURPS will be discussed. The theory will be tested in a quantitative way, to find out what customers value most when buying software, by analyzing product, service and relationship aspects. The article concludes with a discussion which answers the research question how software companies can create value for their business customers and which product, service and relationship aspects are important for software buying companies.

2. VALUE

The word 'value' has many meanings. Value in its broadest form is the "generic noun for all kinds of critical or pro and con predicates, as opposed to descriptive ones, and is contrasted with existence or fact" (Frankena, 1967). The concept of value has been widely discussed in different contexts, i.e. in the economical, accounting, financial, strategy, production management and marketing disciplines (Wilson and Jantrania, 1997). However, the meaning of the worth value depends on its context (Mitcham, 2005)

Marketers focus on customers, what customers remark as value has their utmost importance. Value for customers is according to Ulaga et al. (2001) a "trade-off between benefits and sacrifices perceived by the customer in a supplier's offering." The term 'customer-perceived value' can be used to describe this category of value (Lapierre, 2000).

There are reasons why companies are thriving to generate value. Value creation leads to greater levels of customer satisfaction, customer loyalty and retention, positive word-of-mouth, a stronger competitive position and ultimately a higher market share. (Ulaga et al., 2001) (Klanac, 2013). All these aspects are of great interest to companies.

Value in marketing can be seen from two different perspectives (Matthyssens, Bocconcelli, Pagano, Quintens, 2015). One of these is value of buyer-seller relationships and the other is the value of goods and services. Both perspectives should be used to obtain a complete image on how a company can create value for its customers. The value of buyer-seller relationships focuses more on less measurable approaches; the value of goods and services focusses on the monetary aspect of value. Value generated by buyer-relationships is seen as reputation, relationship quality, trust, customer satisfaction and customer retention (Bocconcelli et al., 2015). According to Biggeman and Buttle (2005) B2B relationships deliver value in four different forms:

1) Personal value indicated in customer retention and referral

2) Financial value expressed through increases in efficiency, share of business/wallet, share of market and received price

3) Knowledge value, expressed through market intelligence, idea generation and innovation

4) Strategic value, experienced through gains in long term planning and access to extended networks

The idea of value from the goods and service perspective is further elaborated by Anderson et al. (1999). They made a distinction of value perception between consumer and business customers. As mentioned before, customers in business markets focus more on functionality and performance whereas customers in consumer markets predominantly focus on aesthetics and taste. Therefore a different definition is required for value perception in the business market. Value in business markets is according to them "the worth in monetary terms of the economic, technical, service and social benefits a customer firm receives in the exchange for the price it pays for a market offering". The authors conceptually represent any market offering as a set of economic, technical, and social benefits a customer firm receives. With benefits, net benefits are meant, which are the benefits less costs (Mittoo,1992). These costs are any costs a customer experiences in obtaining the desired benefits, except for the purchase price.

The above mentioned market offering has two essential characteristics: value and price (Anderson et al., 1999). They captured their definition of value in the following equitation:

$(Value_f - Price_f) > (Value_a - Price_a)$

Where "$Value_f$ and $Price_f$ are the value and price of a particular firm's market offering ($Offering_f$) and $Value_a$ and $Price_a$ are the value and price of the next-best alternative market offering of a competitor ($Offering_a$)". Henceforth a product has a higher value than its competitor when its value minus price is higher than the value minus price of the competitor.

2.1 Categorization of value deliverables

Anderson et al. (1999) included a number of factors which significantly affect a customer's perception of the value it received, such as the length of customer lead times, effectiveness of after-sales

support and maintenance cost and difficulty. These are all factors that are not factors of the product itself, but do affect a customer's perception of value.

Another approach is that of Lapierre. Customer-perceived value in industrial contexts can according to Lapierre (2000) be assessed from different perspectives. The categorization Lapierre made is the division of qualities as product, service or relationship related. This also has a link with the above mentioned distinction between the goods & services and relationship approach of value. Lapierre described 10 value drivers as benefits that a customer can perceive and categorized them as product, service or relationship oriented.

Product related aspects are:

(1) Alternative solutions

(2) Product quality

(3) Product customization

Service related aspects are:

(4) Responsiveness

(5) Flexibility

(6) Reliability

(7) Technical competence

Relationship related aspects are:

(8) Supplier's image

(9) Trust

(10) Supplier solidarity with customers

Sweeney and Soutar (2001) made another distinction and used the categories quality, emotional, price and social to divide their questions about customer-perceived value. However, the emotional and social categories include questions which are more concentrated on the individual and therefore are more business-to-consumer focused. Nevertheless price and quality are important within a business-to-business relationship.

3. BENEFITS OF IT

The interest and importance of IT is caused by the advantages it can provide. Most anticipated benefits of investment in IT are intangible, such as enhanced capability, coordinated control, improved communication and competitive advantages. It is difficult to make these benefits quantitative (Lin, 2009). Economic benefits are easier measurable. Frequently used economic measurements are according to Lin and Shao (2006) profitability, productivity, costs, quality, operative efficiency, and consumer surplus. It has also been proved by Lin, Chen and Shao (2015) that IT has a positive impact on the output and hence the (average) technical efficiency of a company. This also accounts for IT investment. (Lin and Shao, 2000)

The widespread use of IT by businesses, the government and the population has also brought many benefits which are broader than the creation of economic opportunities (Dutta et al., 2015). It also caused the emergence of new business models. For example, due to the development of the IT sector, 3D printers have gained an increasing amount of popularity. It furthermore provides alternative sources of credit for individuals and entrepreneurs: nowadays crowdfunding and equity-crowdfunding platforms are used to obtain money. Similarly it offers social benefits: it provides people access to financial services and education. It even led to a more direct interaction between populations and government.

4. VALUE OF SOFTWARE

There are a lot of benefits caused by the emergence of IT. Also creates software specifically benefits including enhanced efficiency, effectiveness, competitiveness and creativity (Kohn et., 2008). It is also said that software is essential for business success (Behkamal et al, 2009). However, there is not a lot known about value creation in the software sector. Nevertheless, there are some models which measure the quality of software and as mentioned by Behkamal et al. (2009), the correct operation and therefore quality is of substantial importance for software. Also is quality one of the value drivers mentioned by Lapierre (2000).

Software, quality can be measured in different ways: there are different models that set quality characteristics that describe the product and form the basis for the evaluation. As mentioned before, functionality and performance are both important for value creation for business customers. These aspects are included in the quality framework FURPS (Behkamal et al., 2009) and this FURPS-model is seen as a suitable framework to measure the quality of software.

FURPS can be decompound by functional and non-functional requirements. The F stands for functional requirements; the usability, reliability, performance and supportability (URPS) are the non-functional requirements.

Functional requirements (Grady & Caswell, 1987) represent the main product features like security, printing and reporting. Usability represents characteristics such as aesthetics and consistency in the user interface, reliability, availability (the amount of system "up time"), accuracy of system calculations, and the system's ability to recover from failure. Performance is concerned with characteristics such as throughput, response time, recovery time, start-up time, and shutdown time and supportability is concerned with characteristics such as testability, adaptability, maintainability, compatibility, configurability, installability, scalability, and localizability.

5. METHODS

According to the theory some factors seem to be more important than other factors within the creation of (business) value. Lapierre (2000) made a distinction between service, relationship and product aspects. Within these aspects different types of groups exist. Product stands on itself whereas

relationship and service have more to do with the supplier. Some aspects within these categories are probably more important than other aspects and therefore it is hypothesized that:

H1: There are product, service and relationship aspects that are significant more important than other aspects within the creation of value for software buying companies.

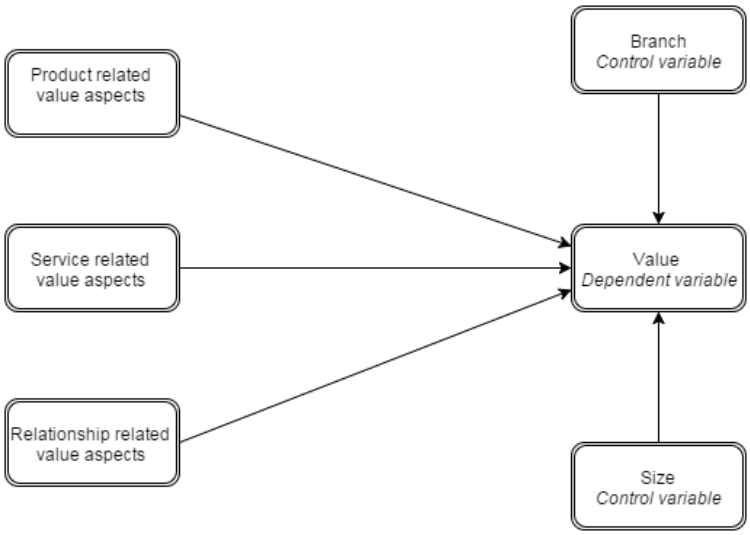
As said before, there are differences in value creation between sectors. Therefore it is hypothesized that type of branch has influence on the importance of aspects from the underlying models. This can be seen as a control variable. The branches researched are finance, enterprise, (semi-)government, research & education and business services.

H2: Type of branch influences the importance of different value aspects of software

Another aspect which should be taken into account is the size of a company: bigger companies have more software users and therefore it is hypothesized that size influences the importance of certain aspects when buying software. Size can be seen as a control variable. The categorization of size is companies with 0-100, 101-250, 251-500, 501-1000 and 1000+ employees.

H3: The size of a company influences the importance of different value aspects of software.

Figure 1: the conceptual value model



5.1 Sample

For this research, a quantitative approach to value creation has been used. Online surveys were used to test the significant importance of the different value drivers of software.

For the online survey, a stratified sample of people who are member of German project management and IT groups on LinkedIn and Xing were asked to fill in the survey, of which 130 people (partially) filled it in. All were working in Germany. 73.9% of them worked in businesses which are business-to-business focused. Most people (40.8%) worked in companies which have more than 1000 employees. 69.2% of the companies are operating international. 106 persons actually completed the questions about what they find most important when they buy software and what they find the most important characteristics of a software supplier. Only 61 people were working in the researched branches.

5.2 Value models

First, a model to measure the value of software assessed from the product perspective has been developed. This model is based on a combination of the customer-perceived value model of Lapierre (2000) and the software quality model FURPS. The model of Lapierre includes quality as value driver and software quality can be assessed with the FURPS model. This model focuses on the product part of the model of Lapierre, which includes product quality and customization. However, alternative solutions have been omitted, because not all software suppliers sell various products and eliminating this element simplifies the research. Price has also been added, because this is according to Sweeney et al. (2001) and Anderson et al. (1999) an aspect of importance in the creation of value.

The software value model

(1) Price
(2) Functionality
(3) Possibility to adapt product to personal wishes
(4) Ease of use
(5) Technical architecture
(6) Stability
(7) Image product
(8) Delivery time
(9) Speed
(10) Maintenance costs and time
(11) Design
(12) Speed and ease of implementation
(13) Data security
(14) Supporting standards/methods
(15) Possibility to get software training

Respondents were asked to rate software aspects listed below from 1 to 4, where 1 means really not important, 2 means not important, 3 means important and 4 means really important. This scale has been used, because respondents consider a scale with fewer options easier to rate (Diefenbach, Weinstein and O'Reilly, 1993).

The influence of branch and size will also be analyzed, to see if these factors affect the customer-perceived value. Also a model to measure the most important characteristics of software suppliers has been created. This model is likewise based on the framework created by Lapierre (2000) and focuses on the service and relationship value drivers, because this is value created by the supplier and not specifically by the product itself. Anderson et al.

(1999) also mentioned that certain aspects of the supplier which are not related to the product itself are important within value creation.

The software-supplier value model

(1) Expertise – service aspect
(2) Good support – service aspect
(3) Flexibility – service aspects
(4) Customer care – service aspect
(5) Fast response rate – service aspect
(6) Having the right certificates/quality marks – service aspect
(7) Reliability of supplier – relationship aspect
(8) Customer engagement within product development – relationship aspect
(9) Speaking the mother tongue of the customer – relationship aspect
(10) Image of supplier – relationship aspect

The respondents were asked to choose the 3 most important characteristics of a software supplier. This is important to assess the value created by software outside the product itself. Branch and size are both analyzed in comparison with this model to see if these aspects have influence on the outcome.

6. ANALYSIS

6.1 Product aspects

The software product aspects were first analyzed. The respondents were able to give a mark between 1 and 4. A weighted average of the given numbers has been calculated, whereas 1 weighted as 1, 2 weighted 2, 3 weighted 3 and 4 weighted 4. The more important an aspect is valued, the higher the average weight. This gave the following summary. For more detailed information, see appendix 1

Table 1: Software value aspects

Software value aspect	*Mean*
Ease of use	3.65
Functionality	3.63
Stability	3.62
Data security	3.57
Supporting standards/methods	3.26
Speed	3.16
Possibility to adapt product to personal wishes	3.12
Maintenance costs and time	3.07
Speed and ease of implementation	3.03
Price	2.8
Design	2.73
Technical architecture	2.66
Training possibilities	2.63
Delivery time	2.43
Image of product	2.13

The average of all means is 3.03 and the standard deviation is 0.467. The mean of ease of use, functionality, stability and data security are really close to each other and should be considered as the most important software product aspects. Also supporting standards is an important aspect of the product, but the difference between the mean of supporting standards and the above mentioned is relative high.

6.1.1 Product aspects and the size of the company

There were not a lot of significant differences between size and importance of product aspects see table 2. Overall gave the 500-1000 group a higher rating on all aspects. The aspect 'possibility to adopt

Table 2: Software aspects and size

Software aspects – Size	0-100	101-250	251-500	501-1000	1000+
Ease of use	3,59	3,44	3,80	3,91	3,64
Functionality	3,59	3,56	3,60	3,82	3,64
Stability	3,55	3,67	3,80	3,55	3,64
Data security	3,62	3,44	3,50	3,45	3,60
Supporting standards/methods	3,00	3,44	3,30	3,55	3,32
Speed	3,07	3,00	3,50	3,36	3,13
Possibility to adapt product to personal wishes	3,07	3,11	3,10	3,45	3,09
Maintenance costs and time	2,97	3,11	3,20	3,27	3,04
Speed and ease of implementation	2,93	3,44	2,80	3,27	3,00
Price	2,97	2,67	2,80	3,09	2,66
Design	2,72	2,67	3,00	2,55	2,72
Technical architecture	2,41	2,67	2,80	2,82	2,74
Training possibilites	2,45	2,56	2,80	2,73	2,7
Delivery time	2,28	2,56	2,40	3,00	2,38
Image product	2,17	2,11	1,70	2,18	2,19
	n=29	n=8	n=10	n=11	n=45

Table 3: Software aspects and branch

Software aspects – Branch	Enterprise	Finance	Research and education	Business Services	(Semi)-Government
Ease of use	3.83	3.57	4.00	3.47	4.00
Functionality	3.74	3.71	4.00	3.47	4.00
Stability	3.66	3.64	4.00	3.53	4.00
Data security	3.68	3.36	4.00	3.53	4.00
Supporting standards/methods	3.52	3.00	3.00	3.37	4.00
Speed	3.32	3.21	3.00	3.21	3.50
Possibility to adapt product to personal wishes	3.28	3.21	3.00	3.21	3.50
Maintenance costs and time	3.15	3.21	4.00	3.05	3.50
Speed and ease of implementation	2.99	3.21	3.00	3.00	3.50
Price	3.00	2.64	2.00	2.79	3.00
Design	2.70	2.71	3.00	2.79	2.50
Technical architecture	2.65	2.57	3.00	2.68	3.5
Training possibilities	2.97	2.57	3.00	2.58	3.00
Delivery time	2.34	2.36	2.00	2.47	2.50
Image of product	2.26	1.93	2.00	2.21	2.00
	n=25	n=14	n=1	n=19	n=2

product to personal wishes' is also significant higher in this group than other groups, however the high overall rating made by this group should be taken into account before drawing conclusions. What may be considered as remarkable is that price is one of the least important aspects of the 1000+ group. There is quite a difference between the company size 0-100 and the rest of the groups for the aspect 'supporting standards/methods': it is less important for the group with 0-100 employees than for bigger companies. Furthermore rate companies with a size of 250+ employees ease of use, speed and training possibilities higher than companies with fewer employees.

6.1.2 Product aspects and branch

There were not enough respondents within the research & education (n=1) and the (semi-)government (n=2) sectors to say something about the deviation from these sectors to other sectors. Therefore we can only draw conclusions for the enterprise, finance and business services branches. Image and delivery time are not important in all these sectors. However, there are some remarkable differences between branches. Ease of use and training possibilities seem to be more important in the enterprise sector than in other sectors.

Maintenance costs and time and functionality are relatively less important for businesses in the business services sector, whereas price, data, security and supporting standards/methods seems relatively less important for finance companies. Image and delivery time are not important in all these sectors

6.2. Relationship and service aspects

Respondents were asked to choose the 3 most important software supplier aspects from the software-supplier value model. This gave the following percentages. For more detailed information, see appendix 2.

Table 4: software supplier aspects

Software supplier aspects	*Percentage*
Expertise	56.7%
Reliability	55,8%
Good support/helpdesk	52,9%
Flexibility	49,0%
Customer engagement within product development	22,1%
Fast responding to questions	22, 1%
Customer friendliness	21,2%
Speaking the mother tongue of the customer	8,7%
Having the right certifications/quality marks	6,7%
Image of supplier	4,8%

Table 5: Software supplier aspects - branch

Aspects software supplier - Branch	Enterprise	Finance	Research and education	(Semi-) government.	Business Services
Customer engagement within product development	10,26%	7,14%	0,00%	0,00%	8,77%
Customer friendliness	7,69%	2,38%	0,00%	0,00%	5,26%
Expertise	19,23%	19,05%	33,33%	16,67%	12,28%
Fast responding to questions	8,97%	4,76%	0,00%	16,67%	5,26%
Flexibility	12,82%	19,05%	0,00%	0,00%	14,04%
Good support/helpdesk	12,82%	19,05%	33,33%	33,33%	17,54%
Having the right certifications/quality marks	1,28%	4,76%	0,00%	0,00%	5,26%
Image	3,85%	0,00%	0,00%	0,00%	3,51%
Reliability	17,95%	16,67%	33,33%	33,33%	24,56%
Speaking the mother tongue of the customer	5,13%	7,14%	0,00%	0,00%	3,51%
Grand Total	100,00%	100,00%	100,00%	100,00%	100,00%
	n=25	n=14	n=1	n=2	n=19

The aspects expertise, reliability, good support and flexibility differ significantly from other aspects. Where these aspects approximately have been chosen by half of the grou00p, the other aspects have been chosen by less than a quarter of the group. Customer engagements within product development, fast responding to questions and customer friendliness have approximately the same level of importance. Speaking the mother tongue of the customer, having the right certifications/quality marks and image of supplier can be assessed as the least important aspects of a software supplier.

6.2.1. Software supplier aspects and branch

As stated earlier, only the branches enterprise, finance and business services will be discussed. Therefore we can only draw conclusions for these sectors. There are some discrepancies which software companies should take into account.
Whereas expertise seems to be the most important aspect within the enterprise and finance branch, this is less important for business services, where reliability is the most important aspect. Speaking the mother tongue of the customer is together with image the least important aspect within business services, this aspect has higher importance within the enterprise and finance sectors. Furthermore, customer friendliness seems less important in the finance sector in comparison with the other sectors.

6.2.2 Software supplier aspects and size

There are some differences between chosen supplier aspects and the size of the company. Reliability is the second most important aspect, except for the size 101-250, which only had a rate of importance 4.17%, which is remarkable. Furthermore are expertise and reliability the most important aspects for the groups 0-100 and 1000+, whereas flexibility is the most important aspect for the remaining groups.

Table 6: Software supplier aspects and size

Aspects of software supplier	0-100	101-250	251-500	501-1000	1000+
Speaking the mother tongue of the customer	2,30%	4,17%	0,00%	6,06%	2,96%
Expertise	22,99%	12,50%	16,67%	18,18%	17,78%
Flexibility	10,34%	25,00%	26,67%	21,21%	15,56%
Good support/helpdesk	16,09%	25,00%	16,67%	15,15%	17,78%
Image	3,45%	0,00%	0,00%	0,00%	1,48%
Customer friendliness	9,20%	8,33%	6,67%	12,12%	4,44%
Customer engagement within product development	4,60%	8,33%	3,33%	6,06%	10,37%
Fast responding to questions	9,20%	12,50%	6,67%	3,03%	5,93%
Having the right certifications/quality marks	2,30%	0,00%	6,67%	3,03%	1,48%
Reliability	19,54%	4,17%	16,67%	15,15%	22,22%
Grand Total	100,00%	100,00%	100,00%	100,00%	100,00%
	n=29	n=8	n=10	n=11	n=45

7 DISCUSSION

The question how software companies can create value for their business customers and which product, service and relationship aspects are important for software buying companies can be answered by making a distinction between product related, service and relationship related aspects.

The most important product related aspects are ease of use, functionality, stability and data security. These aspects all have a mean close to 4, which implies that on average respondents find these aspects really important. The image of the products is the least important aspect of software. This is consistent with the model of value created by the supplier, which showed that the image of the supplier is really not important. Hence, software buyers do not find image important and therefore it can be said that image is not something a software company has to take account when they are investigating how they can create value for their customers. Also delivery time can be considered to be not important and should not have high priority for software suppliers

Aspects which are related to the quality of software, like ease of use, functionality, stability and speed are all rated higher than price. Hence it can be said that quality is more important than price and that software companies rather should focus on providing good quality than a low pricing strategy.

Also product customization seems to be important, however is the 7th most important aspect, and henceforth product quality, as mentioned by Lapierre, is more important than the ability to customize products.

The most important aspects of the supplier value model are expertise, reliability, good support/helpdesk and flexibility. The most important service aspects are expertise, good support/helpdesk and flexibility and the most important relationship aspects are reliability and customer engagement with product development. These conclusions are also consistent with service literature: it squares with the most important service quality drivers, based on the SERVQUAL model of Parasuraman, Zeithaml, and Berry (1988).

When comparing these to the model of Lapierre, the factors with the highest rating are all service related, except reliability. It hence shows that the service related aspects of a supplier are more important than the relationship related aspects: providing good service should have higher importance than focusing on relationship aspects for software companies.

Engagement with the customer, fast responding to questions and customer friendliness are equal important, but do not have the high importance rate as the aspects mentioned above and companies should not give the highest priority to these aspects. Having the right qualifications/certifications and speaking the mother tongue of the customers are also not factors on which software companies should focus when they are assessing how they can create value for their business customers.

As can be seen, there are product, service and relationship aspects that are significant more important than other aspects within the creation of value for software buying companies and therefore H1 can be confirmed.

Concluding from the analyses has branch influence on the rating of aspects of product, relationship and service aspects. Software companies should take into account in what sector their customers fall. Finance companies find price, data security and support of standards/methods less important than enterprise and business services and companies focusing on this sector should focus more on providing functionality and stability. Also ease of use is important, but less important than all these aspects. Relational and service aspects which are important for this sector are expertise, flexibility and providing good support. Customer friendliness is less important for this sector than for the other sectors.

Ease of use and training opportunities are more important for enterprise companies than for companies from other sectors. Also is price highest rated by the enterprise sector and this probably means that enterprise companies are more price-sensitive when buying software than other sectors.

Maintenance costs & time and functionality are less important in the business services sectors than other sectors and has no product related aspects which are significant more important than the other sectors. Expertise also seems to be less important in this sector, just as speaking the mother tongue of the customer. The latter suggests that business services may be more international oriented. Reliability of the supplier is more important in this sector than in the other sectors.

There are clearly differences in value assessment by different branches and therefore we can confirm H2: type of branch influences the importance of different value aspect of software. Therefore the idea that value creation is context specific, both assessed by Stabell et al. (1998) and Lapierre (2000), is confirmed by this research.

Size may have influence on which aspects are valued most, but does not influence product aspects a lot. However, it can be seen that companies with 1000+ employees see price as less important and that the group 0-100 find a good support of standards/methods less important than the other sizes. Furthermore gives the group 501-1000 a significant higher average rating on product quality aspects than the other groups. On the supplier side are expertise and reliability the most important aspects for the groups 0-100 and 1000+, whereas flexibility is the most important aspect for the remaining groups.

Size of the company may affect product, relationship and service aspects, but this research showed no significant differences of value assessment between sizes of companies and therefore H3 can neither be reject neither be confirmed, and a conclusion about the influence of size on the valuation of product, relationship and service aspects cannot be drawn.

8 CONCLUSION

Literature shows that there is not a lot known about value creation through the assessment of three value driving aspects: product, service and relationship. It also showed that value creation for business-focused companies is important, that the manner how value can be created is context-specific and that the software sector faces an enormous growth. However, hardly any literature covered the assessment of value creation for the software sector through the three mentioned aspects.

This research provides an answer to the question how software companies can create value for their business customers assessed from three perspectives: product, relationship and service. Having software which has a high ease of use, good functionality, stability and data security is essential to create value for business customers. Service aspects of the supplier are more important than relationship aspects. Having expertise, providing good support and flexibility are the most important service aspects for a software supplier and reliability and customer engagement within product development are the most important relationship aspects. Henceforth this research filled the gap in literature how software companies can create value for their customers, analyzed from product, service and relationship perspectives.

However, the results are based on respondents from Germany and future research should apply a more global scope, because this may have influenced the answers given by the respondents. Also the differences between other sectors than the finance, enterprise and business services sectors should be investigated: the dataset was too small to assess the influence of the (semi-)government and research and education sector on value creation by software companies and also other sectors like healthcare which were not mentioned in this research should be examined. Furthermore further research is needed to examine other factors which may influence the value perception of software buying companies. Additionally, future research should integral analyze product, service and relationship aspects

Software companies can use the results of this research to see which product, relationship and service aspects are important to focus on to create value for their business customers, while keeping the differences between branches in mind If their customers are in the finance sector, they need to focus on other aspects than i.e. in the enterprise sector. Software companies can use the model to improve their companies: they should asses what they are doing well and what they can improve on the basis of the two models and adopt their products and services to this. When software companies reform on basis of these models, they will create higher value for their business customers and this will lead to customer loyalty, a better financial performance, positive word-of-mouth and a sustainable competitive advantage.

9 ACKNOWLEDGEMENTS

I want to thank my supervisor R.P.A. Loohuis for all the valuable insights he gave me during writing the thesis. Furthermore I want to thank P. Bliek for taking the time to be my second supervisor and my external supervisor R.J. Holterman from Fortes Solutions for all the advice and support during writing the thesis and creating the possibility to get many respondents for my online survey. Last but not least I want to thank all the respondents which have filled in the survey.

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11. APPENDIX

Appendix 1: Overview importance aspects when buying software

How important are the following aspects for you when buying software						
Answer Options	**Very unimportant**	**Unimportant**	**Important**	**Very important**	**Rating Average**	**Response Count**
Ease of use	2	1	29	74	3.65	106
Data security	2	4	32	68	3.57	106
Design	5	22	76	3	2.73	106
Speed and ease of implementation	3	20	54	29	3.03	106
Functionality	2	0	33	71	3.63	106
Delivery time	7	54	37	8	2.43	106
Possibility to adapt product to personal wishes	2	13	61	30	3.12	106
Price	4	30	55	17	2.80	106
Image of product	18	57	30	1	2.13	106
Speed	2	11	61	32	3.16	106
Stability	2	2	30	72	3.62	106
Technical architecture	9	31	53	13	2.66	106
Supporting standards/methods	2	6	60	38	3.26	106
Maintenance costs and time	2	16	61	27	3.07	106
Training possibilities	8	34	53	11	2.63	106

Appendix 2: What are the 3 most important aspects of a software supplier?

What are the 3 most important aspects of a software supplier		
Answer Options	**Response Percent**	**Response Count**
Speaking the mother tongue of the customer	8.7%	9
Expertise	56.7%	59
Flexibility	49.0%	51
Good support	52.9%	55
Image	4.8%	5
Customer care	21.2%	22
Customer engagement within product development	22.1%	23
Fast responding to questions	22.1%	23
Having the right certifications/quality marks	6.7%	7
Reliability	55.8%	58
answered question		**104**
skipped question		**26**