EXPLORING THE FACTORS ASSOCIATED WITH SUCCESS OF B2C E-COMMERCE

Bachelor Thesis Economie & Informatica
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Abstract

The B2C e-commerce is a booming business currently. There are lots of opportunities in this relatively new market. However, many firms do still not make profit with it because of the high return rates and dissatisfied customers. This paper explores the critical success factors in B2C e-commerce through a literature study. First, various critical success factors (CSF) models which already exist are investigated as well as fundamental theories in B2C e-commerce. These CSF models contain various differences in defining and measuring success. Also, their proposed success factors are different in terminology and concepts. Therefore, this study proposes five critical success factors based on these models which contain all aspects of the existing models. These factors are: information quality, system quality, service quality, trust and shopping benefits. Furthermore, this study investigated how performance on these critical success factors can be improved. Last of all, recommendations to researchers and online store managers will be provided together with potential directions for future research.

Keywords: B2C e-commerce, online retailing, web store, success factor model
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1 Introduction

According to an article published in the NRC Handelsblad (a Dutch newspaper focused on business) e-commerce is a booming business, especially in the Netherlands because the internet is accessible for almost everyone. However, only a few firms are able to earn a positive cash flow from it. The majority of the firms still struggles to get break-even, or have to deal with losses. Also, the return rate of products is way too high for some of those unsuccessful web stores. For instance, Wehkamp has a return rate of 45% of all the orders, and Zalando even more with 50% of all orders. These are two of the largest Dutch online retailers. Furthermore, Shopping2020 reported several interesting findings in the same newspaper. Shopping 2020 is a joint venture project between several Dutch firms that operate in the B2C e-commerce. With this joint venture they try to predict developments in online consumer behaviour. Their findings state that 17% of all products bought in the Netherlands were ordered online in 2013. They predict that this percentage will increase up to 36% in 2020. Most of these products were tickets for events and travel bookings, but also insurances, books and media & entertainment were bought online by many consumers. Because of this rapid growth in the online industry from which only a few firms take the advantage, this paper will investigate which factors determine the success of a web store in the case of online retailers.

1.1 The problem background

Although online retailing has become a channel of major importance for many firms, it is still a risky proposition. The amount of internet users that purchase online increased from 10% to 40% in the period of 2005 till 2007. Moreover, the online sales of the total retail sales in the United States were only 3% in 2002. This amount increased up to 6% in 2008 (Griffis et al., 2012). The degree of competition in the online retail market still grows rapidly. Therefore, current firms focus more on increasing consumers’ loyalty instead of motivating consumers to adapt to their online channels (Chiu et al., 2014). Also, Mainspring and Bain & Company (2000) found that a consumer will only be profitable when he buys products in the online store at least four times (Chiu et al., 2014). How to determine and measure success in the context of B2C e-commerce is still a relevant issue for many firms and researchers. For instance, Cao et al., (2005) created a framework which can be used to evaluate e-commerce website quality. However, they mention in the limitations of their study that more research is needed to validate their developed measures. Furthermore, Yoon & Kim (2009) developed a model to measure the success of online stores. Similar to Cao et al. (2005) they also mentioned in their limitations that more research is needed to assure the validity of their model. They also argue that a consistent measurement of success for online stores is needed. To cite them: “there are many studies that have proposed factors regarding system quality, information quality, and service quality, and there has been little commonality in the results among them. Although we set the factors of the dimensions of our model with logical reasoning, we cannot be absolutely sure of having established the correct ones.” (Yoon & Kim, 2009). Moreover, Liu & Arnett (2000) created a similar framework from which they mentioned that longitudinal data is needed on this subject because of the dynamics in e-commerce. Therefore, this paper will evaluate and provide a proper overview of the current situation by synthesizing various research studies that consider the topic of success factors for online stores. The results of this literature study will be useful as a foundation for future research. Moreover, recommendation to managers of online retail stores will be provided.
1.2 Problem statement and sub-questions

The problem introduced in the former section will be addressed in this research study and is stated in the following way:

“What factors determine the success of B2C e-commerce?”

In order to solve this general research question the following research questions will be answered in this paper:

- What is the definition of success for a web store; what outcome measures should be used?
- What theories form the foundations to construct success factor models for web store?
- What are the critical success factors for a web store and how can performance be improved?

1.3 Demarcation and definitions

This research will only focus on B2C (business to consumer) e-commerce. B2B and C2C e-commerce will not be discussed. Online stores include both web only firms and “click and mortar firms”. Click and mortar firms do their business online and in the traditional way through physical stores. The focus of this study is on the web stores of these firms which are accessible through the World Wide Web. Other channels such as mobile app stores and telephone sales are out of the scope. Although one section deals with multi-channel management, this paper will not discuss strategies to improve these other channels separately. Since online shopping for consumers emerged around 1995, most articles used in this paper will be from that year on until now. This paper will examine the topic from a marketing and information management perspective. That means that mainly articles from IM and Marketing literature will be used.

1.3.1 Definition of e-commerce B2C and the distinguish from e-business

E-Business and e-commerce are broad and similar concepts. For many years, the expressions e-business and e-commerce were used interchangeable. However, in 1997 a clear distinction was made between the terms as a result of a thematic campaign launched by IBM. According to Ribbers & Papazoglou (2006), e-business can be defined as “the conduct of automated business transactions by means of electronic communication networks (e.g. via the Internet and/or possibly private networks) end-to-end.” The expression end-to-end means that the information systems used for the automated business transactions are successfully integrated. To exemplify, e-business can contains all parties which are involved in the supply chain in order to conduct the process. It focuses not only on business transactions, but also on collaborating with business partners and optimizing the supply chain. E-Commerce, however, only focuses on buying and selling of goods, services or other financial transactions by using communication technology to conduct the process (Ribbers & Papazoglou, 2006). Therefore, e-commerce is only a part of the broader concept, e-business, which contains all the processes in the entire supply chain that are done electronically. Since this paper only focuses on B2C e-commerce (business to consumer) and B2B e-commerce (business to business) is out of the scope, only a definition of the first form of e-commerce will be given. In 2001, Jewels & Timbrell developed such a definition. They define B2C e-commerce as: “an exchange between producers and end consumers of goods, services and explicit knowledge about goods and services (or information about consumers) for available consumption in return for the actual or potential payment of monies”. Therefore, B2C e-commerce will be discussed in this paper is focused on the end of the supply chain in which the consumer receives the product or service. However, this definition is more focused on the B2C part and not on the phenomenon of e-commerce. Delone & McLean (2004) defined e-commerce as: “The use of the Internet to facilitate, execute, and process business transactions. Business transactions involve a buyer and a seller and the exchange of goods or services for money”. A combination of these two definitions will be used for the purpose of this paper. Therefore, B2C e-commerce will be defined as: An exchange between producers and end consumers of goods, services and explicit knowledge about goods and services (or information about consumers) for available consumption in return for the actual or potential payment of monies, which are facilitated by the use of the Internet.
1.3.2 Definition of success in the context of a web store

Since this is an important part for answering the general research question, the next chapter is completely dedicated to this topic.

1.4 Research design and data collection

This research is only based on literature and will synthesize various research studies that consider the topic of success factors for online stores. As mentioned in the former section, information management literature and marketing literature will be used to reach this goal. All articles are retrieved between January and May 2014. Keywords that are used are combinations of the following: B2C, online shopping, online store, web store, web shop, e-commerce, critical success factor, quality factor and success. For instance, e-commerce success gives back 144,000 results in Google Scholar, 2,522 in ACM Digital Library, and 365 in Web of Science. Of course, the majority of these results are not relevant although this gives an indication of the amount of search results for a single request. To filter out irrelevant papers as much as possible certain tactics are used such as: only searching in titles, look at the relevance based on the number of times the paper is cited and the publication year, searching in the keywords. As the example indicates, Google Scholar basically gives the most results. This is because it incorporates all papers of their complete database with the key words e-commerce and success. Google Scholar automatically ranks results based on the relevance. This relevance takes into account the full text, the publication, the cited amount by other research studies. Google Scholar also offers an option to show the results by publication year. All studies that have been found by other literature sources could also be retrieved by Google Scholar since their database is so large. However, other literature source libraries offered different search functions which were sometimes preferable. For instance, Web of Science and Microsoft academic offer functions to search by research area or domain. Another issue of Google Scholar’s ranking is that is primarily based how often a source has been cited, which can be very low for the most recent articles. Additional Sources that have been used to find literature are:

- IEEE Digital Library
- Web of Science
- Microsoft Academic
- ACM Digital Library
- Tilburg University Library (Including the information portal and underlying journal databases)
- Google Scholar

First, in order to determine this, the listed literature sources were explored to find the most fundamental success factor models in the context of measuring B2C e-commerce success. This was primarily based on the relevance of search results according to Google Scholar. Based on these fundamental research studies, the critical success factors were established. After that, each success factor is investigated separately based on additional literature. It is investigated how these factors contribute to success as well how they can be measured. Moreover, this study searched for ways to improve the performance on these factors. Last of all, gaps in the current research on these success factors were identified.
2 Definition of success in the context of a web store

All observed research studies for this paper use different definitions and measurements for success of a web store. For instance, Weathers et al (2006) observed several web stores for a period of four years and marked one as successful if it was still operational after that period. Since not all research studies observe a list of online stores, success is also explained in different ways. Chambers (1994) defined success as “having achieved the desired results, effects or outcomes”. To accomplish this, managers should pay attention to areas which should function adequate for the business to prosper. These key areas are called critical success factors (CSF) (Rockart, 1979). The achievement of progress toward the desired state is called performance. Performance can only be measured when it is defined (Strassman, 1985). Therefore, all critical success factors have to be defined by a company in order to measure the performance (Dubelaar et al., 2005). Also, Molla & Licker (2001) mentioned about the success in e-commerce that: “The Success is a multidimensional construct and attempts to define it otherwise will be flawed both in concept and operation”.

Liu & Arnett (2000) specify a success of a website based on the general definition of information system (IS) success according to Farhoomand & Dury (1996): “the extent to which a system achieves the goals for which it was designed”. This general IS success definition is derived from the Oxford English Dictionary that defines success as “The accomplishment of what was aimed at”. Therefore, Liu & Arnett (2000) argue that a web store is successful if it is able to attract customers and makes them feel trustable, dependable, reliable and satisfied about the web store, which are their critical success factors. Similar, De Wulf et al. (2006) argue that website success in the context of online shopping should be measured on multiple dimensions: satisfaction, commitment and trust. A dimension in their case is also similar to a critical success factor defined by Rockart (1979). The dimension of trust turned out to be a decisive variable for e-commerce purposes (Hoffman et al., 2006 & Jarvenpaa et al., 2000).

Moreover, Delone and McLean (2004) applied the six dimensions of their IS success factor model from 1992 to the context of e-commerce. Their model form is fundamental for many web store success models that will be discussed later. In their approach, they focus on e-commerce success measured based on the created value by saving time and money. For this purpose, they make use of a multiple dimension approach which is also done by Park & Gretzel (2007) who used certain similar dimensions complemented by some others which will also be discussed in the next section. Park & Gretzel (2007) also make a distinction between motivation factors and hygiene factors based on Herzbergs two factor theory. In their view success basically depends on outstanding motivation factors together with adequate hygiene factors. On the other hand, Cao et al. (2005) measure success based on only one aspect: the intention of customers to revisit a web store. This approach focuses on the loyalty of a customer. Chiu et al. (2014) and Zhang & Von Dran (2001) also used loyalty to define success; however, they used repeat purchase intention as outcome measurement. They both mentioned that customer attraction and customer retention are important to generate sales although real revenue comes from loyal customers. Therefore, repeat purchase intention determines if an online store will be successful. Yoon & Kim (2009) also used repeat purchase intention as outcome measure for success. Ayonso et al. (2010) use a quite similar way. In their approach, they link business value to sales performance in order to define success. Souitaris & Balabanis (2007) define success of online retailers based on two dimensions: Overall satisfaction and loyalty. Two kinds of shoppers are distinguished in their research, goal-oriented and experimental shoppers. They argue that satisfied goal-oriented shoppers will become loyal, but on the other hand, this is not the case for experiential shoppers, who have recreation and experience as a main objective for their shopping behaviour. For this reason, both loyalty and overall satisfaction are needed to define success of a web store according to Souitaris & Balabanis (2007). For the reasons mentioned above, this study will use the following definition of success for a web store:

The extent to which the system achieves customer satisfaction and customer loyalty which can respectively be measured by the outcome measurements: initial purchase intention and repeat purchase intention
For this research, customer satisfaction is based on the pre-sale stage of the purchase cycle. This means that in the case of an initial purchase intention the customer feels satisfied about the situation because he wants to buy the product or service. When the customer does not feel satisfied after experiencing the whole purchase it will definitely affect his loyalty. This will influence the next purchase; however, the first purchase can be seen as successful from the online retailer’s perspective. Therefore, the outcome measures of initial purchase intention and repeat purchase intention will be enough to deal with both experiential and goal-oriented shoppers. Every purchase intention after the initial one is called a repeat purchase intention. This can be used to measure customer loyalty.

Now that this section has discussed multiple approaches towards measuring and defining success in online retailing, the next section will elaborate on fundamental theories that are used to construct CSF models for online stores. This will be followed by a section that will go into more detail about several CSF models and compare them.

3 Fundamental theories for CSF models in the context of online stores

3.1 IS success factor model Delone & McLean (1992)

Delone and McLean (1992) developed the IS success model in order to synthesize previous research about IS success into a model which could be used by future researchers. The model is based on the communication research of Shannon and Weaver (1949), the influence of information theory of Mason (1978), as well as various empirical research studies on MIS which are done between 1981 and 1987. It measures IS success based on six categories which have temporal and causal relations with each other. This model is widely used by many researchers and multiple attempts have been done in order to extend this model. It forms a foundation for many success models for online stores. This will be discussed in the next section.

![Figure 1 – IS success model (Delone & Mclean, 1992)](image)

3.2 Delone & Mclean (2003) - The extended IS Success factor model

In 2003, Delone & McLean extended their IS success factor model made in 1992, in order for it to be useful for e-commerce systems, such as web stores. A first attempt of such an extension to the original IS success factor model was done by Molla & Licker (2001) from which the relevant findings will be discussed in the next section. The updated model by Delone & McLean (2003) contains an additional dimension, service quality. This is added because an IS does not only contain products, but it also provides various services which also have an impact on the overall effectiveness of the system (Delone & McLean, 2004). Moreover, the impacts on the individual and the organization have been combined into “Net Benefits”. This is done because the term “impact” does not specify if it is positive or negative, which is confusing. The term “Net benefits” is chosen because there is hardly an outcome that is completely positive without any negative consequences, so this will be most accurate. The benefits can be measured from different perspectives, depending on the context. That is why the extended model does not define this. It can be useful for all different stakeholders (Delone & McLean, 2004). The dimensions (CSF’s) which their extension now includes are shown in the figure below. Some details of these dimensions which are relevant for this study will be discussed in another section.
Another instrument that is widely used by many web store success models is “SERVQUAL”, developed by Parasuraman et al. (1988). Their instrument contains 22 items to measure the quality of a service in service and retail organizations, from the viewpoint of the customer. This is based on five dimensions: tangibles, reliability, responsiveness, assurance and empathy. Basically, it was developed for offline retail stores, but when online retail stores emerged it seemed also applicable to them. The instrument is very flexible and has a great variety of potential applications. For instance, it can help to assess the consumers’ expectations of a company. It can also assess which areas of service need to be improved. The use of this instrument in the context of web store success factors will be discussed in next section.

3.4 Technology Acceptance Model

In 1989, Davis developed the technology acceptance model (TAM), which is currently a preeminent theory of technology acceptance in the IS science. The model is validated by numerous empirical tests that found that TAM explained typically about 40% of the variance in the usage intentions and behaviour (Venkatesh & Davis, 2000). In general, TAM uses two perspectives to measure the intentions to use a certain system: perceived usefulness and perceived ease of use. They are defined as:

- Perceived usefulness: “the extent to which a person believes that using the system will enhance his or her job performance” (Venkatesh & Davis, 2000).
- Perceived ease of use: “the extent to which a person believes that using the system will be free of effort” (Venkatesh & Davis, 2000).
These two beliefs together with the attitude toward using the technology mediate the relation between system characteristics and the behavioural response of an individual to actually use the system. Moreover, the perceived ease of use has a significant influence on the perceived usefulness because the easier a system is to use, the more an individual will perceive it as useful (Venkatesh & Davis, 2000). Since e-commerce also includes information technology, TAM can also be applied to this research field. Several research studies have done this in order to determine if the web store will be used by customers. This will be discussed in another section.

3.5 Herzberg’s two factor theory

The motivation-hygiene theory which was developed by Herzberg consists of two factors that affect the job satisfaction. Basically, the motivators cause positive satisfaction for the employee and the hygiene factors result in dissatisfaction if they are not perceived to be adequate by the employee (Herzberg, 1968). Based on this theory, Zhang & Von Dran (2000) created a two factor model for website design and evaluation. This model contains motivators (satisfiers) and hygiene factors (dissatisfiers) which are both factors that influence the value appreciated by the visitor. The absence of dissatisfiers will result in less functionality and serviceability of the website. Satisfiers, on the other hand, are those factors that add value to website. Numerous of research studies in the B2C e-commerce describe website features based on the two factor theory of Herzberg. Therefore, this theory will be addressed in another section.

3.6 The Kano model

In the research study of Zhang & Von Dran (2001), they used an application of the Kano model (which is comparable with Herzberg’s motivation-hygiene theory) in order to create a website quality model. The Kano model measures customer expectations for the quality of products and services among three different levels of needs (Kano et al., 1984). First, the basic needs are similar to the hygiene factors of Herzberg. These needs are fulfilled by features that at least should be properly according to the customer. They should always perform on an adequate level. Second, the performance needs are factors that are consciously noted and improve the satisfaction. If these factors are not included in the website, consumers will be dissatisfied. Third, the excitement needs (comparable with motivation factors) are usually not known before consumers are confronted with them. Therefore, they do not lead to dissatisfaction when they are left out. On the other hand, when these factors are included in the website they will definitely improve the loyalty and delight of consumers. Moreover, the Kano model assumes that after time expires, competitors will be able to imitate features. As a result of this, excitement needs change into performance needs at a certain moment, likewise do performance needs turn into basic needs. Zhang & Von Dran (2001) argue that the important features differ per website domain. The important features for e-commerce will be discussed in another section.
4 Fundamental web store success factor models

This part will assess the most important web store success factors. As a result of the first exploration by using the literature databases, seven research studies that proposed critical success factor models in the context of e-commerce were found. These models are considered as fundamentals for this study and are summarized in table 1. Many other researchers have cited these sources which confirmed their external validity. These studies are examined in order to know what the most critical factors are to measure success. Note that Yoon & Kim (2009) and Chiu et al. (2014) have not been cited very often because they are relatively new. Also, the paper of Park & Gretzel (2007) is taken into account because a meta-analysis to synthesize web store success factors is done, which contains useful results. Moreover, the paper of Zhang & Von Dran (2001) is examined because it complements the findings of Park & Gretzel (2007).

All assessed fundamental studies have empirical evidence that web store evaluation methods should consist of multiple dimensions. Most of the studies were exploratory, except for Delone & McLean (2003) and Park & Gretzel (2007). Although all these studies attempted to find the critical success factors for online stores, their lists of factors are different. Moreover, they all define success in a different way and they use different outcome measurements to measure success. This was already discussed in a previous section and is now summarized in the table together with their CSF’s. For the CSF’s, the majority of the studies used information quality, service quality, system quality. Responsiveness and customer service are conceptually similar to service quality. The trust dimension is sometimes used as a complementary success factor, or it is included in service quality or service quality (see Table 1). In addition to these factors, the shopping benefits dimension should be included to cover all possible aspects that affect the success. Based on these research studies, this literature research revealed five factors which are believed to affect the success of an online store. These factors are: Information quality, system quality, service quality, trust and shopping benefits. Each of these factors will be discussed separately in the following sections and they will be complemented with information from additional literature sources.
Table 1 – fundamental web store success factor models

<table>
<thead>
<tr>
<th>Research And cited amount*</th>
<th>Method</th>
<th>Amount of CSF’s</th>
<th>Critical success factors</th>
<th>Success based on (outcome measure)</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liu &amp; Arnett (2000)</td>
<td>Conducted a survey among 122 webmasters of Fortune 1000 companies. Used collected data for exploratory factor analysis in order to identify web store success factors.</td>
<td>4</td>
<td>- Information &amp; Service Quality - Playfulness - System design Quality - System Use (trust)</td>
<td>Attract and please customers, making them dependable, meeting demand, operating trustworthy and being reliable.</td>
<td>Lack of external validity, cannot be generalized to all businesses since only data from large businesses are used for this study.</td>
</tr>
<tr>
<td>Zhang &amp; Von Dran (2001)</td>
<td>Conducted a survey among 67 graduate students from Syracuse University with high level of web experience. Used collected data for thematic analysis in order to assess the most important web site features in the context of e-commerce.</td>
<td>5</td>
<td>- Security of data - Easy to navigate - Appropriate explanatory level - Search Tool - Product and service price concerns</td>
<td>Loyalty (costumer attraction and retention affected by customer satisfaction)</td>
<td>Lack of external validity, The sample consisted only of students from Syracuse University.</td>
</tr>
<tr>
<td>Delone &amp; McLean (2003)</td>
<td>Reviewed more than 100 articles in Information Systems Research, Journal of Management Information Systems, and MIS Quarterly in order to update there IS Success Model in order to apply it to the context of e-commerce.</td>
<td>6</td>
<td>- Information Quality - System Quality - Service Quality (trust) - Intention to Use - User Satisfaction - Net Benefits</td>
<td>Cost/benefit analysis, Creating value, saving time &amp; Money (Net benefits, affected by user satisfaction and intention to use)</td>
<td>More field study research is needed considering the ‘net benefit’ factor.</td>
</tr>
<tr>
<td>Park &amp; Gretzel (2007)</td>
<td>Conducted a qualitative meta-analysis by synthesizing results of 100 e-commerce journals as defined by Bharati &amp; Tarasewich (2002) in order to list the most important web store success factors.</td>
<td>9</td>
<td>- Ease of Use - Responsiveness - Fulfillment - Security/Privacy - Personalization - Visual appearance - Information Quality - Trust - Interactivity</td>
<td>No outcome measure specified since they synthesized many research studies that all used different outcome measures. Examples of these outcome measures: e-quality, e-satisfaction, e-loyalty</td>
<td>Based on Herzberg’s two factor theory, it is not clear yet which of these CSF’s are hygiene factors and which are motivation factors</td>
</tr>
<tr>
<td>Cao et al. (2005)</td>
<td>Conducted a survey among students from Arkansas State University that use amazon.com, biggerbooks.com, and half.com to buy books online.</td>
<td>4</td>
<td>- System Quality - Information Quality - Service Quality (trust) - Attractiveness</td>
<td>Loyalty (intention to revisit the website, affected by attitude consumer)</td>
<td>Lack of external validity, may not be generalizable to other B2C industries such as music, computer, travel, clothes.</td>
</tr>
<tr>
<td>Yoon &amp; Kim (2009)</td>
<td>Conducted a survey among 244 ordinary customers of 69 different web stores. Used collected data for confirmatory factor analysis by using structural equation modeling to validate their proposed model.</td>
<td>4</td>
<td>- System Quality - Information Quality - Service Quality - Trust</td>
<td>Loyalty (repeat purchase intention, affected by trust, service quality, information quality)</td>
<td>Lack of external validity; research failed to control factors such as geographical location, main type of product sold and other socioeconomic information that may have had an effect on the results.</td>
</tr>
<tr>
<td>Chiu et al. (2014)</td>
<td>Conducted a survey among 782 Yahoo/Kimo customers. Used collected data for confirmatory factor analysis by using structural equation modeling to validate their proposed model.</td>
<td>5</td>
<td>- Website Attributes - Seller Attributes - Consumer Beliefs/Perceptions (trust) - Customer Service - Shopping Benefits (playfulness)</td>
<td>Loyalty (initial and repeat purchase intention affected by hedonic and utilitarian value)</td>
<td>The sample consisted of active online consumers of Yahoo/Kimo, who already had experience with the shop before the survey conducted. This might have affected their perceptions of utilitarian and hedonic value.</td>
</tr>
</tbody>
</table>

* Cited amount is based on Google Scholar’s information retrieved on 24-05-2014
** Their research study is mainly based on their previous work (Zhang & Von Dran, 2000) which is cited 389 times.
5 Information Quality

The information quality dimension is used by numerous of research studies to measure performance. Some research studies refer to this concept in terms of information richness or content quality. In the meta-analysis of Park & Gretzel (2007), in which they used 100 papers derived from the top 10 e-commerce journals (as defined by Bharati & Tarasewich (2002)) in order to find the most used website evaluation factors, information quality was used by 83% of the papers. One of those observed papers is written by Liu & Arnett (2000). These authors argue that the information quality dimension should measure if the information is relevant, accurate, supporting the business objectives, fulfil ethical standards, is presented in a customized way and describes the products/services completely. They derived their information quality dimension from the IS success model of Delone & McLean (1992). In 2003, Delone & McLean updated this model to apply it to the context of e-commerce. According to Delone & Mclean (2003), the information quality measures the semantic success of an IS. It should measure this in terms of ease of understanding, relevance, completeness, personalisation and security. In addition, Yoon & Kim (2009) argue that the information quality dimension focuses on the value, relative importance and usefulness of the output that is produced by the information system. This should be measured in terms of perception by the user of the system, which is an online customer in the case of a web store.

5.1 Cultural differences in information quality

In a more recent study, Chen et al. (2014) applied the extended IS success model of Delone & Mclean to a cross-cultural study. For this purpose, created a model based on Delone & Mclean (2003) in which they added the five cultural dimensions of Hofstede to better understand the impact of culture on e-commerce. They conducted a survey among Taiwan and Thailand in order to test their model which led to interesting results. For instance, among Taiwanese people, the higher the level of information quality, the less people trust it and feel satisfied when visiting it. This can be explained by the design of Taiwanese web stores. Compared to Thai web stores, Taiwanese make much more use of bright colours and multimedia content. Taiwanese e-commerce websites are more complex, condensed and cluttered in general. All in all, this research study showed that understanding cultural differences is very important for e-commerce.

5.2 Improving the information quality

Ahn et al. (2007) mention that information quality aspects depend on the operations of the system, so it should be updated on time. When the information quality of a web store is very high, it could lead to more convenience, enjoyment and improved purchase decisions by the customer. Furthermore, Jarvenpaa & Todd (1996) argue that the visual appeal and clarity of product information can be improved by positive comments of other customers. This is also verified by Koufaris (2002) who made a distinction between non-value-added information and value-added information which can be used for search mechanisms in an online store. Non-value-added information is general information that is easy accessible and publicly available. For instance, product descriptions such as brand, year produced, weight etc. are considered to be non-value-added information. Value-added information, on the other hand, deals with all information that is generated by the web store itself, the customer, or third parties in order to enhance the content of the online store. For instance, product reviews by customers or third parties can be used or weekly bestseller list created by the online retailer. Both value-added and non-value added information should be presented in a proper way to please the customer and improve the information quality.

In addition, Chen et al. (2004) refer to the information quality dimension in terms of information richness. They argue that online stores have a disadvantage in providing product information compared to physical stores because customers can not touch, smell or try on products. On the other hand, online environments offer opportunities to make the search process easier. Search tools and product comparing mechanisms should be exploited to enhance the information quality. Online consumers do demand rich product information which is easy comparable. The technical aspects of the
system should support this. These aspects are part of the system quality dimension, which will be discussed in the next section.

Last of all, Huang & Benyoucef (2013) argue that there are various opportunities to create a competitive advantage by using social network applications to improve the content of the web store. Online retailers should consider implementing a social commerce strategy which utilized features of the Web 2.0 to improve the success of e-commerce. For instance they can add social media features to their e-commerce platform or add e-commerce features to the social network platform. This makes the information easier assessable and personalized.

6 System Quality

Where information quality deals with the content issue, system quality is about how the system technologically functions. Basically, system quality is concerned with how information is processed by the system whereas information quality is concerned with what kind of information is produced by the system. Examples of technical aspects of the websites are: well organized hyperlinks, customized search functions, high speed of accessing the web and ease of correcting server’s error (Liu & Arnett; 2000). According to Yoon & Kim (2009), system quality and information quality are the crucial aspects for a successful information system to perform. The system quality dimension was also used in both the first IS success model (Delone & McLean, 1992) and in the updated model of 2003. In this revised model, Delone & McLean (2003) used the following aspects of the system that are valuable for the consumer in e-commerce to measure the dimension: usability, adaptability, reliability, availability and response time. System quality is about the quality of information processing by the system itself (Yoon & Kim, 2009). It measures the efficiency of the system. For instance, response time and ease of use determine systems efficiency. Note that the ease of use is a construct of the TAM which is also argued to be useful by Cao et al. (2005). These authors argue that this construct of the TAM is useful to measure the system quality. Furthermore, Chen et al. (2004) used a dimension conceptual similar to the system quality dimension, which they called the usability of a storefront. In their context, the storefront is the website of the online store. It measures the quality based on the perception of the consumer. They measured it by seven items: experienced frustration, experienced confusion, the speed of accomplishing a task, the required effort to find desired information, the difficulty to find desired information, the confidence about the completeness of the information, and the overall usability of a virtual store. The impact of the aggregation of these items turned out have a significant influence on acceptance of the online store by customers, and therefore the success.

A recent research study by Chiu et al. (2014) found that the quality of the system is only perceived to be a motivational factor by customers for their initial purchase at a specific web store. After that, it will change into a hygiene factor. Therefore, it will only lower their shopping intentions when it is not adequate and when it is very proper it will not increase their shopping intentions (Herzberg, 1968). This is because people expect the system quality to be at least at the same level as at the time of their initial purchase. However, the system design quality should not be underestimated because privacy and security issues are currently still relevant and insufficient performance on these aspects will discourage consumers to shop online.
6.1 Security and reliability issues in system quality

Also reliability and security are important aspects for a high quality system. Shankar (1996) verified this in their research study. They argue that system design quality is very crucial for success in e-commerce, especially security (Liu & Arnett; 2000). Moreover, Cristobal et al. (2007) argue that one of the main issues in current B2C e-commerce is still the inadequate security level perceived by online consumers. People are discouraged because of the idea that their financial information could possibly be intercepted by strangers which could lead to cyber-crime.

6.2 Improving the system quality

To improve security, the system should be programmed in such a way that it ensures the following aspects (Cristobal et al., 2007):

- Integrity - the data of a transaction should not be able to be modified by anyone except for the parties with permission.
- Confidentiality - Only authorized parties should be allowed to see the data of a transaction.
- Authentication - the involved parties in a transaction should identify themselves in a way the system can check that all parties are really the ones they claim to be.
- Non-repudiation - When a party has carried out a certain action it should indisputable that they have done it and not someone else.

In order to improve the perception of consumers about the system, web masters could implement and improve the most important features of an e-commerce website which are according to Zhang & Von Dran (2001):

1. Security of Data (exciting feature)
2. Easy to navigate (performance feature)
3. Appropriate explanatory text (exciting feature)
4. Search Tool (exciting feature)

The features are ranked by using the Kano model which is already discussed in a previous section. Note that the third point deals with product information which is part of the information quality as discussed in the previous section. Most of these are exciting features, so they require new knowledge and techniques and are hard to define specifically. Consequently, they offer opportunities to create competitive advantages. A more recent research by Green & Pearson (2011) confirmed that the navigability of an online store is important for the customer purchase intention. They describe navigability as the consistency of design protocols, the organisation of the layout and the page sequence. To improve the performance of navigability, all pages on the website should make use of a standard design which ensures uniformity. Also, the information that a customer will receive on a certain page should be predictable so that he knows where to search for a specific information request. Moreover, the website should ensure that an adequate amount of information is displayed on the screen per page. Information overload will confuse customers, as well as too less information. Last of all, Cao et al. (2005) suggest that web stores should also focus on the hardware capabilities, instead of solely the software. This was also advised by Clyde (2000) who said that a website should have simple pages without complex graphics so that they can be loaded in a tolerable amount of time. If this is not the case, customers will redirect their web browser to other websites and perhaps buy the product or service at a competitor.

Not only does a web store needs proper information and system quality, but also the service level of the online business has to be adequate to be successful. The next section will deal with this.
7 Service Quality

Zeithaml et al. (1996) stated that service quality is known to be a decisive factor for success and survival in a very competitive environment, such as e-commerce. Therefore, this element of success is considered further in e-commerce studies, in which many refer to it as the concept of e-service (Rust & Lemon, 2001). According to Zhang & Von Dran (2001), the user interface of a web store can be seen as a service which is delivered to consumers that visit the website. The quality of this service should be seen similar to services that are delivered by hospitals, hotels, or the customer service of a bookstore for instance. Because there is no face-to-face human interaction possible in this environment, the design of the web store is even more important for delivering the service. Services and support have to be delivered to customers in the pre-sale phase, the online-sale phase, and the after-sale phase. However, after a consumer has experienced the whole cycle once, the service quality tends to reduce from a motivation factor to a hygiene factor (Brown & Jayakody, 2009; Chiu et al. 2014). This is equal to the expectation of the system quality; people expect the service quality to be at least at the same level as at the time of their initial purchase.

As mentioned earlier, Delone & McLean (2003) extended their IS success factor model from 1992 to be useful for e-commerce systems, such as web stores. The major difference is that this updated model contains an additional dimension, service quality. This is added because an IS does not only contain products, but it also provides various services that affect the overall effectiveness of the system. This includes the human interaction component which is needed for the system to be operational, which is missing in the original model (Li, 1997). Certain researchers (Kettinger et al., 1995; Pitt et al., 1995) have tried to apply the SERVQUAL instrument from Parasuraman et al. (1988) in such a way that it fits the IS success model. Based on their research, Delone & McLean (2003) added the dimension to the revised model. The service quality in the context of e-commerce includes the following success metrics: assurance, empathy and responsiveness. Therefore, it measures the complete service that is delivered to the customer. Delone & McLean (2004) describe service quality as the delivered support of the service provider in the whole process. The service provider is the online business in the case of a web store.

7.1 Improving the service quality

7.1.1 Customer service

According to Molla & Licker (2001), the service quality can be enhanced by improving the effectiveness of the online support centre that offers customer service. Customer services deal with the customer base through services that are provided by the website. However, a simple website that enables consumers to create accounts in which they can see their purchased products is not enough anymore currently. Web features already go way beyond that (Bolton et al., 2000; Tan et al., 2002). Because consumers can choose between several other competing web shops, one should outshine in customer services. For instance, Dell has a built-in chat function on their web shop that allows customers to communicate with company experts. Other examples of modern online customer services are customer reviews, electronic bulletin boards, web logs and online circulars. Moreover, companies can attract customers with coupons & rebates or alternative payment methods. Other functions include order tracking, a frequently asked questions page, currency converters, account maintenance, calculators, or search facilities (Molla & Licker, 2001). Furthermore, technology allows online retailers to create a sweepstakes point accumulation system which gives a customer points after every purchase that can be used for discounts. Such services can enhance long term relationships with customers (Bolton et al, 2000 and Tan et al. 2002). In addition, Green & Pearson (2011) describe responsiveness as “The presence of feedback to users and the availability of response from the site managers” and they mention certain ways to increase this. They argue that an e-commerce website should support customers by offering FAQs, feedback mechanisms to questions, problem & error solutions and prevent customers from committing errors.
7.1.2 Multichannel management

Another way to improve the service quality for the customer is making use of a multi-channel strategy. Multi-channel selling, also known as the “brick-and-click” or “click-and-mortar” strategy, refers to the channels that are used to sell the products. Both the online channels and the traditional physical channels are used in a multi-channel enterprise (Steinfield et al., 2002). A properly applied multi-channel approach is one of the most important success factors for retailers (Mahajan et al., 2002). Because consumers can easily return their products at the physical stores, it reduces the risk of the transaction. Moreover, consumers are more likely to buy products from brands they know and trust since physical stores increase the brand building (Weathers et al., 2006). Not only will a multi-channel enterprise be able to serve consumers that prefer shopping online without moving to the physical store, but also consumers that rather want to dispose the products directly in a physical store will be served. This latter group of consumers does not like to wait for their products to be shipped and want them immediately. The multi-channel approach involves serving consumers traditionally and in online & mobile stores (Koncar & Lekovic, 2012). As a consequence, customers will gain the advantage of real-time information and flexible shopping. For instance, products can be bought online and can be delivered at home or picked up at a physical store. Also return packages can be handled by returning to physical stores. Benefits such as improved customer relations, cross-promotion, innovative services, shared information and a more efficient and economic distribution can be achieved (Gulati & Garino, 2000). However, setting up a proper multi-channel firm is a complex process because of the complexity and cannibalization effects in which one channel steals sales of another channel (Ayanso et al., 2010).

7.1.3 Personalisation

Last of all, to improve the quality of the service, Cao et al. (2005) argue that web stores should facilitate personalization. Customer activities can be analysed by using click stream tracking. The data created by this can be used to provide caring, personal needed information and attention to customers. Moreover, the data can be used for personal advertisements which will lead to more re-visits to the website by customers. However, despite all these advantages, collecting data as much as possible will possibly lead to privacy and security issues. These issues are part of the trust dimension which will be discussed in the next section.

8 Trust

Numerous of B2C e-commerce studies do associate trust with success. For instance, Corbitt et al. (2003) argue that the influence of trust on online consumer behaviour is vital. Therefore, creating trust is important for success. Also, Salam et al. (2005) mention that “the lack of trust is a critical impediment to the success of e-commerce”. Additionally, Chen et al. (2003) stated in 2003, that nearly 71% of the web consumers reported a lack of trust in online retailers. They argue, for that reason, that in order to realize financial success, it is important for online vendors to enhance the consumers’ trust.

Although some examined studies use trust as a single factor, this factor is also found as a part of the dimensions system use, service quality and consumer beliefs. This makes the factors ambiguous so a clear specification of these factors is needed. Delone & McLean (2003) do not discuss the concept of trust at all. According to Wang (2008), the extended IS success model encapsulates trust in the assurance dimension of service quality. However, Delone & McLean (2003) only give one example of assurance: “IS employees have the knowledge to do their job well”. This example does not say anything about the trust of the customer in the security and privacy of the transaction. Molla & Licker (2001), who initially tried to extend the IS success model, did make a separate dimension for trust. To cite them: “Customers are concerned about the level of security present when providing sensitive information online and will use e-commerce only when they develop a certain level of trust” (Molla & Licker, 2001). This view is shared by many other examined fundamental researches from the previous chapter. Cao et al. (2005) additionally emphasize that customers should trust the e-vendor to not engage in opportunistic behavior. For instance, supplying inaccurate information, unfair prices, privacy violations and making unauthorized use of credit card information and transaction tracking
(Gefen et al., 2003). Yoon & Kim (2009) also support this and argue that trust is an important antecedent for the acceptance of e-commerce.

Even worse, Zhang & Von Dran (2001) do mention in their research study that trust is a concept that should be placed into the ‘exciting features’ category, based on the Kano model. Therefore, the researchers do not think the level of trust should be adequate in the first place, which contradicts all other observed fundamental researches. In particular, Chiu et al. (2014) who argue that trust is a hygiene factor.

Yoon & Kim (2009) define trust as “the willingness to be vulnerable to the actions of another party”. Trust is important for the relationship between the parties dealing with each other during a transaction. The importance increases in online environments as a result of uncertainty due to IT acceptance for e-commerce (Gefen, 2002). Therefore, trust has to be taken into account in order to be a successful web store. However, consumer trust is only important for the initial purchase. Similar to the system quality and service quality, trust will also change into a hygiene factor after the first purchase experience with the online retailer. Nevertheless, creating trust is still crucial for the success of an online store because many consumers will be discouraged to purchase products or services if they do not trust the deal (Brown & Jayakody, 2009).

In B2C e-commerce, trust is measured in a variety of ways. Differences between conceptualizations of trust in e-commerce are discussed and summarized in a table by Gefen et al. (2003) and will be left out of this study since it does not directly touch the scope. Only one conceptualization which is used by many researchers will be discussed. This conceptualization is used by Chen et al. (2003) and they used three dimensions to measure online consumer trust:

- Competence – The extent in which the firm fulfils the communicated promises to the consumer
- Benevolence – The extent in which the firm shows that the consumer’s interests are ahead of its own interests.
- Integrity – The extent in which the firm acts in a consistent, honest and reliable way. (Note that the integrity of the system, as discussed in the system use section, is only about the technical components of this.)

8.1 Cultural differences in online trust

Jarvenpaa & Tractinsky (1999) analysed internet shoppers from three different countries (Australia, Finland and Israel). Although they did find that trust is important to increase the purchase intention, they did not find strong cultural effects regarding the trust in online shopping. Neither did Ko et al. (2004) and Van Slyke et al. (2010). The researchers of the latter one have a possible explanation for this. They suggest that it might be that trust in online shopping is more affected by evaluations of web merchants and technologies than by cultural aspects. However, there are studies that found cultural differences that affected trust in online shopping. Park et al. (2012), who also measured trust based on competence benevolence and integrity, found that online customers in the USA care more about integrity than customers in Korea. They also found that online customers in the USA value trust more in general than customers in Korea. All in all, the relation between trust and culture in the context of e-commerce has resulted in equivocal results although this relation is accepted in general (Greenberg et al., 2008).

8.2 Increasing consumer trust

There are various ways to increase the trust of a consumer in e-commerce. Pavlou (2001) argued in his article that trust in online business can be enhanced by techniques such as digital signatures, encryptions, authorizations and best business practices. Through these mechanisms customers will feel more confident toward a favourable outcome of the online transactions. In addition, Chen & Dibb (2010) argue that trust is significantly and positively influenced by usability, security & privacy assurances and product information. Therefore, enhancing the information quality and system quality as described in this research, will increase the trust of consumers. Also, security and privacy
assurances can be provided by a company. For instance, a firm could provide a privacy statement in which they explain what data is gathered from visitors of the website and for what purposes. Moreover, a firm can explain the transaction mechanism in which they convince customers why it is secure. Also, certifications of trusted third parties can be shown to enhance the trust. Furthermore, web stores can offer services that increase the trust of the consumer. Hwang & Lee (2012) suggest making use of real-time communication technologies such as chat rooms. They do also argue that information from other customers and mass media can be used. Moreover, they gave an example of a “shop with a friend function” which is in development by the Lands-end’s web store to enhance the human interaction during online shopping. This function allows two or more online customers to show each other their virtual shopping cards and chat about their chosen products. Another research study by Gefen et al. (2003) advice online retailers to enhance trust by ensuring the following four points:

- They will not engage in opportunist behaviour.
- The mechanisms built into the website are safe.
- The interface is easy to use
- The interface is perceived as situational normal (The web store is perceived to be normal compared to similar sites)

When a firm wants to enhance the level of consumer trust, it should also take into account the cultures which they are dealing with. Park et al. (2012) argue that global online retailers in particular should use different strategies to increase the trust level. They advise to make use of trust building policies that deal with shipping or payment affairs for more collectivistic countries. The high uncertainty avoidance countries, the online retailers should make use of trust building policies that reduce the perceived risk.

9 Shopping benefits

When a consumer shops online, intrinsic and extrinsic value can be obtained. These values result in customer or user satisfaction. Delone & McLean (2003) addressed one dimension of their extended IS success model to the satisfaction of the user. The following description is used for this dimension: “User satisfaction” remains an important means of measuring our customers’ opinions of our e-commerce system and should cover the entire customer experience cycle from information retrieval through purchase, payment, receipt, and service.” They measure this based on repeat purchases, repeat visits and user surveys. User satisfaction is affected by all other success factors: information quality, system quality, service quality and trust. However, this model does not focus on the benefits customers can obtain besides through these factors. Therefore, this research proposes the shopping benefits success factor which covers the topic from a broader perspective. Within this success factor benefits can be classified as either hedonic value or utilitarian value. According to Chiu et al. (2014), hedonic value can be obtained by multisensory, fantastic and emotive aspects from the shopping experience, which are the affective aspects. On the other hand, utilitarian value is value created by the cognitive benefits such as saving money. The authors mention that utilitarian benefits are corresponding with extrinsic value, and hedonic benefits are similar to intrinsic value. Their view is supported by Ahn et al. (2007) who argue that customers’ motives for visiting the websites are not just extrinsic rewards to buy their products, but they also satisfy from intrinsic rewards such as personal and emotional value created through shopping. Chiu et al. (2014) investigated the most common categories of utilitarian benefits in the B2C e-commerce which are:

- Product offerings – wide variety of products or services can be easily compared online
- Product information – this is a part of the information quality and already explained in that section.
- Monetary savings – Products or services can be cheaper online
- Convenience – time and effort can be saved by ordering online; more accessibility of the store

Based on several studies, hedonic value turned out to be of less importance than utilitarian value; however, it should not be ignored by online sellers (Chiu et al., 2014; To et al., 2007; and Arnold &
Reynolds, 2003). Hedonic shopping motivators as identified by Arnold & Reynolds (2003) and confirmed to be significant for online stores are (Chiu et al. 2014):

- Adventure – the enjoyment obtained because of being in an online shopping environment
- Social – sharing shopping experience online via social media such as Facebook
- Gratification – shopping for stress relief
- Idea – shopping to keep up with the latest products, fashions and trends.
- Role – the enjoyment obtained to shop for others
- Value – intrinsic value obtained because of discounts and bargains online.

9.1 Playfulness

Other researchers have also observed the effects of hedonic value based on different dimensions. A dimension that is used by many researchers is playfulness. Liu & Arnett (2000) used a dimension called playfulness which is about the enjoyment and attractiveness to shop in the online store. This factor is conceptually similar to the attractiveness factor of Cao et al. (2005) which measures if a webpage is fun to read and subjectively pleasing. Moreover, the shopping benefits factor of Chiu et al. (2014) does include playfulness. They argue that it is a form of intrinsic experiential value which is one of the antecedents of repeat purchase. In addition, according to Ahn et al. (2007) the playfulness of a web is influenced by the quality of the online system, information and service. They measured playfulness based on three dimensions adopted from Moon & Kim (2001) who extended the TAM:

- Concentration (the extent to which a user perceived that his or her attention was focused)
- Curiosity (the extent to which the user was inquisitive about the interaction),
- Enjoyment (the extent to which the user found the interaction fun or interesting).

Moon & Kim (2001) added the perceived playfulness to the TAM model in order to apply this model to the context of the internet. This concept is used to measure intrinsic salient beliefs of individuals that motivate them to use the technology. Since TAM was initially proposed, most research addressing this theory focused on extrinsic motivation. However, Davis et al. (1992) also investigated the importance of intrinsic motivation and therefore proposed “perceived enjoyment”. Moon & Kim (2001) continued to build on this TAM extension of Davis et al. (1992) and proposed the concept of perceived playfulness instead of perceived enjoyment. They argue that their concept improved the original one by reflecting a more comprehensive set of intrinsic motivation states. For instance, activity absorption, curiosity and arousal were not covered by perceived enjoyment. In general, the proposed TAM extension of Moon & Kim (2001) is a useful instrument for measuring both hedonic and utilitarian motives in internet environments such as B2C e-commerce. The perceived usefulness deals with extrinsic motives, whereas perceived playfulness addresses intrinsic motives.

9.2 Increasing the shopping benefits

Equal to other researchers discussed in this section, Monsuwé et al. (2004) also found empirical evidence that value created by enjoyment is important for online consumers besides the utilitarian value. Therefore, they suggest that online retailers should also use their advertisements to emphasize hedonic value that can be obtained in their web store. Too less attention is paid to this issue. In addition, Childers et al. (2002) suggest that online retailers should make use of media features to increase the enjoyment of the virtual environment. For instance, images, videos, music, sound games, animation, and colour can make it more enjoyable to shop online. This could even be valued by consumers in goal oriented environments such as online grocery shopping. Furthermore, To et al.
(2007) advise online retailers to develop interactive designs to improve their hedonic value. They also argue that hedonic value can cause impulsive shopping, which is another argument why managers have to pay attention to it. Moreover, they advise online retailers to consider developing bargaining mechanisms because this can increase both the utilitarian (monetary) savings and the hedonic value (value). Developing such technologies definitely needs more attention because it offers potential competitive advantages.

More important than hedonic value, is utilitarian value. This is argued by multiple researchers (Chiu et al., 2014 & To et al., 2007) and contradicts websites in general were playfulness has more influence on the use behaviour (Moon & Kim, 2001). Chiu et al. (2014) argue that convenience is the most important benefit of online shopping. Therefore, online retailers should provide proper and useful product information, a wide selection of products, low prices in a web store which is easy to use. This view is supported by To et al. (2007), y Monsuwé et al. (2004), and Luo et al. (2012). Moreover, the authors of the latter one emphasize that the product information, which is a part of the information quality success factor, and the service quality should be improved to create value. They suggest making use of virtual shopping experiences technology to improve the product information.

10 Discussion and conclusions

The main goal of this literature study is to determine the critical success factors for B2C e-commerce. For this purpose, the three sub research questions as defined earlier will be answered separately in this section.

The first research question deals with the definition of success in the context of a web store. This research study found that success should be based on loyalty and satisfactions of the customer. These can be measured by initial a repeat purchase intentions. Because success is viewed from the perspective of the online retailer, the customer is already assumed to be satisfied at the moment of an initial purchase. This means that it does not have to be true that the customer rates the purchase as successfully afterwards, however, he was satisfied enough about the pre-sale conditions to buy the product or service and therefore the transaction can be seen as successful for the online retailer. By this view, both goal-oriented and experiential shoppers as defined by Soutaris & Balabanis (2007) can be measured. All proceeding purchase intentions are called repeat purchase intentions. These can be used to measure customer loyalty.

Fundamental theories to construct a success factor model for a web store are questioned in the second research question. Numerous of studies which are analysed for this literature review make use of both Delone & McLean’s IS success model from 1992 and the extended version from 2003. The extended version is most important because that one is created to deal with e-commerce. The main difference between the initial one and the updated version is the service quality dimension. This dimension is based on the SERVQUAL instrument which was developed by Parasuraman et al. (1988). Since not all 22-items of the original instrument are applicable to e-commerce certain researchers investigated which should be left out (Kettinger et al., 1995; Pitt et al.; 1995). Also the TAM which was developed by Venkatesh & Davis (2000) is used by many observed success measurements studies in the B2C e-commerce literature. For instance, the playfulness of a web store can be measured by the extended TAM of Moon & Kim (2001) to measure intrinsic motivations to shop online. Extrinsic benefits to shop online can be measured with the perceived usefulness construct of TAM. The ease of use construct of TAM, on the other hand, is useful to measure the quality of the system. Also, Herzberg two factor theory and the Kano model were used by certain researchers to classify web store factors. Zhang & Von Dran (2001), who used the Kano model, argue that many aspects of the system quality in the e-commerce are perceived to be exciting features and offer therefore opportunities for competitive advantages. However, their research study is conducted more than 10 years ago which makes these opportunities doubtful currently. Furthermore, Herzberg’s two factor theory is used by several researchers to classify web store features. For instance, Chiu et al. (2014) used this to explain differences in purchase intentions for trust and system quality. Both success factors turned out to be motivation factors at the time of the initial purchase intention and changing into hygiene factors after the customer has experienced the whole purchase cycle ones. Therefore, if a customer has positive experience with the whole purchase process including the after sale stage, he or she will not feel satisfied by that for future purchases. However, it will dissatisfy the customer if these factors deteriorate.
The third research question is about which critical success factors should be measured and how online retailers can improve them. Five critical success factors are identified based on fundamental success factor models in the e-commerce literature. These factors are summarized in Table 2. The table explains how each factor is measured and shows which literature is used to support the validity of the factor. Furthermore, the relevance of each factor for success in B2C e-commerce is discussed in the table. This relevance explains how the factors influence success and how performance towards success can be improved. The information quality and the system quality turned out to be affecting several other critical success factors. For this reason, these factors are the antecedents of performance in the other CSF’s. This is partially supported by the proposed online store success model of Yoon & Kim (2009). However, they also argue that the information quality directly affects the customer loyalty. This current research study proposes that this relationship is mediated by the shopping benefit success factor which consists of utilitarian and hedonic value based on Chiu et al. (2014). Furthermore, the service quality and shopping benefits are important in e-commerce to satisfy customers and therefore make them loyal. These dimensions are affecting customer loyalty and satisfaction directly. Last of all, the level of trust should be perceived adequate by the customer. Not only are customers concerned about their privacy, but also do they demand a fair deal online.

10.1 Implications for theory

This research study has summarized and synthesized several critical success factor models for B2C e-commerce. Different ways to measure success in the context of e-commerce do exist from which an overview is provided in Table 1. Many studies have proposed success factors models but there several differences. Although numerous of research studies have been done that deal with B2C e-commerce, none of them has conducted a literature review to summarize and synthesize their findings. This study proposes five critical success factors that should cover all aspects of the observed success factor models. Furthermore, different ways of measuring success caused by these factors are discussed as well as ways to improve them. Furthermore, previous research has applied theoretical models which can be applied to the B2C e-commerce. These models are also identified in this current research. Last of all, this research study does summarize several B2C e-commerce topics that researches should investigate in future research.

10.2 Implications for practice

Online retailers should measure consumer satisfaction and loyalty based on initial and repeat purchase intentions. The five critical success factors that are proposed in this research do all affect these purchase intentions directly or indirectly. The improvements that should be considered will now be discussed per critical success factor. First, to improve the information quality, online retailers should provide advanced search tools and product comparing mechanisms. Also, the information on the website should be updated timely and the visual appearance should be adequate. Second, to improve the system quality, a proper security should be implemented. Integrity, confidentiality, authentication and non-repudiation should be ensured by the system. In addition, the website should be easy to navigate and it should suit the average hardware of the customer segment. Third, to increase the level of trust, online retailers should ensure that the quality of information, service and system is adequate. Without these aspects functioning properly, customers will be discouraged to buy products or services at a web store. Web stores should ensure customers not to engage in opportunist behaviour and that their system is secure. Without this, customers will be afraid to use their credit cards or other financial information as argued by Chen & Dibb (2010). Also, the online retailer should investigate cultural aspects of their customer segment. According to Park et al. (2012) different strategies should be used to deal with collectivistic and individualistic countries. Last of all, to increase the shopping benefits, online retailers should ensure convenience, useful product information, a wide selection of products, a system that is easy to use and low prices. All of this will increase the utilitarian value of the customer. Moreover, the hedonic value of customers can be increased by adding images, videos, music, sound games and animations which make online shopping more enjoyable. All of these advices should are definitely applicable to online retailers in the Netherlands such as Zalando and Wehkamp.
Table 2 – Critical Success Factors and sources

<table>
<thead>
<tr>
<th>Factor (classification *)</th>
<th>Explanation</th>
<th>Literature</th>
<th>Relevance to web store success</th>
<th>Limitations/direction for future research*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Quality</td>
<td>Deals with the content. The content of the web store should be complete, relevant, easy to understand, personalized and secure.</td>
<td>Delone &amp; McLean (1992), Jarvenpaa &amp; Todd (1996), Liu &amp; Arnett (2000), Koufaris (2002), Delone &amp; McLean (2003), Chen et al. (2004), Cao et al. (2005)</td>
<td>Researchers argue that information has to be relevant, easy to understand, complete, personalized and secure since it has significant effects on the shopping benefits and trust. It can be improved by search tools, comparing mechanisms, timely updates and visual appearance.</td>
<td>More research is needed to investigate social commerce strategies (Huang &amp; BenyouCEF, 2013)</td>
</tr>
<tr>
<td>System Quality</td>
<td>Contains the technical aspects from the system that are valuable for the consumer in e-commerce. For instance: usability, adaptability, reliability, availability and response time.</td>
<td>Delone &amp; McLean (1992), Liu &amp; Arnett (2000), Clyde (2000), Delone &amp; McLean (2003), Chen et al. (2004), Cao et al. (2005)</td>
<td>System quality significantly affects shopping benefits, information quality, service quality and trust. System quality can be improved by applying proper security of data, navigability, search tools, and taking hardware capabilities into account.</td>
<td>Little is known about the relationships of demographic variables on website usability (Green &amp; Pearson, 2009)</td>
</tr>
<tr>
<td>Service Quality</td>
<td>Captures the complete service that is delivered to a customer. This dimension is very important in an e-commerce setting because the users are customers instead of employees or visitors. Dissatisfaction regarding the overall service will result in decreasing sales and customers.</td>
<td>Parasuraman et al. (1988), Kettinger et al. (1995), Pitt et al. (1995), Zenthamil et al. (1996), Li (1997), Gulati &amp; Garino (2000), Liu &amp; Arnett (2000), Bolton et al. (2000), Molla &amp; Licker (2001), Zhang &amp; Von Dran (2001), Mahajan et al. (2002), Tan et al. (2002)</td>
<td>Assurance, empathy and responsiveness do all significantly impact the consumer satisfaction and loyalty. Service quality can be improved by applying proper customer service, personalization and multichannel management (for several companies).</td>
<td>Only few studies have considered the effects of multichannel strategies (Ayanso et al., 2010)</td>
</tr>
<tr>
<td>Trust</td>
<td>Is important for the relationship between the parties dealing with each other during a transaction. The importance increases in online environments as a result of uncertainty due to IT acceptance for e-commerce.</td>
<td>Jarvenpaa &amp; Tractinsky (1999), Liu &amp; Arnett (2000), Pavlou (2001), Zhang &amp; Von Dran (2001), Molla &amp; Licker (2001), Gafin (2002), Chen et al. (2003), Corbitt et al. (2003), Gefen et al. (2003), Delone &amp; McLean (2003), Chen et al. (2003), Ko et al. (2004)</td>
<td>The literature suggests that consumers are very concerned about the trust. In particular, security and privacy issues are important. Trust significantly influences initial purchase intentions and can be improved by the quality of the information, system and service.</td>
<td>Little is known about the effect of cultural factors on e-commerce (Van Slyke et al., 2010)</td>
</tr>
<tr>
<td>Shopping Benefits</td>
<td>Is about the value for the customer. It can be split up into: utilitarian and hedonic benefits. The utilitarian benefits can be obtained by cognitive benefits, whereas the utilitarian benefits include affective benefits.</td>
<td>Davis et al. (1992), Liu &amp; Arnett (2000), Moon &amp; Kim (2001), Zhang &amp; Von Dran (2001), Childers et al. (2002), Arnold &amp; Reynolds (2003), Delone &amp; McLean (2003)</td>
<td>Researchers argue that both hedonic and utilitarian value have significant effects on the customer satisfaction and repeat purchase intention. These values can be improved by the quality of information, system and service.</td>
<td>Only few studies have considered the effects of different product or market segments on utilitarian and hedonic shopping motivations (To et al., 2007).</td>
</tr>
</tbody>
</table>

* This classification is made by using the KANO model and interpreting data from Chiu et al. (2014)

** Direction for future research are based on recent research
10.3 Direction for future research

The most important directions for future research are listed per dimension in table 2. These directions are based on the literature which is investigated by this study. Only directions for future researches from the most recent papers are taken into account. For the information quality, Huang & Benyoucef (2013) suggest that more research is needed to develop strategies that integrate e-commerce and social media. These strategies are called social commerce strategies. Further, Green & Pearson (2009) stated that little is known about the effects which demographic aspects of customers can have on website usability. For instance, age will probably have a significant effect on website usability since not everyone is grown up with internet technology. Another interesting topic is the multichannel strategies. Ayanso et al. (2010) argue that a very decent multichannel strategy is probably most important for success in B2C e-commerce. Fourth, Van Slyke et al. (2010) suggest that effects of culture on e-commerce should be investigated since this is hardly done yet. Fifth, the effects of different market or products segments on utilitarian and hedonic value should be addressed by future research (To et al., 2007). Moreover, empirical research is needed to classify the CSF’s based on the Kano model. Although it seems that the model is very applicable to B2C e-commerce, research considering this such as Zhang & Von Dran (2001) is slightly out dated and should be investigated for the current time. Last of all, future research should investigate the relationships between the proposed success factors in this model. This could not be done since this is a literature research.

10.4 Limitations of the study

This study has several limitations. First of all, the relationships between the proposed critical success factors could not be validated empirically since this study is a literature review. Although results from other researcher is used to argue their possible influences, some used sources are slightly dated and should be examined again to confirm these conclusions for the current time. Another limitation is that due to the lack of time not all relevant research studies could be analysed to answer the research question. Although numerous studies were used, it could be that some important information is still missing yet. Third, not all research papers which were found by the used literature databases could be analysed. Some of them were not accessible for students of Tilburg University and therefore not taken into account.
11 References


