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EXPANDING THE E-COMMERCE SYSTEM SUCCESS THEORY: THE IMPACT OF ONLINE VISIBILITY - CASE GOOGLE

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ABSTRACT

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New websites are being created every day and they are all competing for internet users' attention. E-commerce systems - websites selling services or products online - that are not visible or easily found are less likely to be used, subsequently decreasing their chances of success. There are several e-commerce system theories made which attempt to describe the components of how e-commerce system success is created. Nevertheless, hardly any of these theories have named online visibility as a success defining variable.

In this study, the focus is on studying how organic search engine visibility on Google (a form of online visibility) impacts e-commerce system use and success. The study also examines any other possible factors that might explain how a search engine user ends up using a particular e-commerce site from Google. As a result of this, we are able to gain a more detailed picture of the whole phenomenon and discover how e-commerce system owners could increase the use rate of their system and thus, the likelihood of success. The research was undertaken through conducting a literature review explaining key concepts and introducing existing e-commerce system success theories. Empirical research was done by utilizing user tests and interviews. The main findings of the research illustrate that high organic search engine visibility is not the reason for e-commerce system use, but rather use is a result of high visibility. Another finding was that there are more than just a few factors users evaluate when choosing an e-commerce system to use.

Keywords: E-commerce, e-commerce system success, online visibility, organic search engine visibility, Google

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Uusia verkkosivuja luodaan päivittäin ja ne kaikki kisaavat internetin käyttäjien huomiosta. Sähköiset liiketoimintajärjestelmät, joihin voidaan lukea kaikki tuotteita tai palveluita myyvät verkkosivut, jotka eivät ole hyvin näkyvillä tai helposti löydettävissä verkossa, onnistuvat epätodennäköisemmin hankkimaan käyttäjiä ja siten menestymään. Useita sähköisten liiketoimintajärjestelmien menestysteorioita on ajan saatossa tehty, mitkä pyrkivät kuvaamaan niitä komponentteja, joita sähköiset liiketoimintajärjestelmät tarvitsevat menestyäkseen. Näistä teorioista harva on mieltänyt verkkonäkyvyyttä menestystä määrittäväksi tekijäksi.

Tässä tutkielmassa keskitytään tarkastelemaan sitä, millainen vaikutus orgaanisella hakukonelöydettävyydellä on sähköisten liiketoimintajärjestelmien käytölle ja siten menestymiselle. Tutkielmassa tarkastellaan myös muita mahdollisia tekijöitä, jotka pystyvät selittämään miksi hakukoneen käyttäjä päätyy käyttämään jotain tiettyä verkkosivua Googlen kautta. Näin koko ilmiöstä saadaan parempi kokonaiskuva ja siten voidaan löytää keinoja, miten sähköisten liiketoimintajärjestelmien omistajat voisivat kasvattaa verkkosivujensa käyttöastetta ja siten myös onnistumisen todennäköisyyttä. Tutkimus tehtiin suorittamalla kirjallisuuskatsaus, jossa esiteltiin keskeiset konseptit ja aiemmin tehdyt sähköisten liiketoimintajärjestelmien menestysteoriat sekä käyttäjätestien ja haastatteluiden avulla. Tutkielman keskeisin tulos oli se, että hyvä orgaaninen hakukonenäkyvyys ei vaikuta olevan syy sille miksi hakukoneen käyttäjä päätyy käyttämään tiettyä verkkosivua, vaan käyttö on ennemminkin seurausta hyvästä orgaanisesta hakukonenäkyvyydestä. Toinen keskeinen tulos oli, että peruste sille kuinka hakukoneen käyttäjä päätyy käyttämään tiettyä verkkosivua Googlen kautta vaikuttaisi olevan useita selittäviä tekijöitä.

Asiasanat: sähköiset liiketoimintajärjestelmät, sähköisten liiketoimintajärjestelmien menestyminen, verkkonäkyvyys, orgaaninen hakukonenäkyvyys, Google

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1 INTRODUCTION

The Internet has become a part of our daily lives and we are using it more and more to find information to support our purchase decisions. Search engines are often the first place where people start their online information search. Every time someone conducts a search on a search engine, they are offered multiple search results to choose from, but search engine users read only a fraction of those before navigating to some e-commerce system.

The business side to this phenomenon is that e-commerce systems are constantly competing for visibility online due to the fact those that fail to appear on customers' screens are less likely to succeed. E-commerce can be considered to be any website that offers products or services for consumers or other businesses (DeLone & McLean, 2004; Kim, Ferrin, & Rao, 2009; Molla & Licker, 2001; Oliveira, Alhinho, Rita, & Dhillon, 2017).

Online visibility is especially crucial for small or new companies whose brands are not yet well known. Online success is not simply dependent on how many people find and visit an e-commerce site, but little or no visitors at all significantly increases the likelihood of failure. Thousands of new websites are created daily, tightening the competition for visibility in different online channels. Online visibility can be defined as the likelihood of encountering a reference to a company's website online (Drèze & Zufryden, 2004).

E-commerce system success has been studied on many levels and yet very few researchers have considered success to be dependent on how well or easily an e-commerce system can be found online. This really is a current issue because as it was mentioned above, there are numerous new websites created daily which makes it harder to stand out when there are more and more companies to compete with. Especially organic search engine visibility can be said to be important because according to many scientific and marketing research, organic website traffic from search engines covers over half of the average websites' overall traffic (BrightEdge, 2017; Cho & Roy, 2004; Espadas et al., 2008; Gori & Witten, 2005; McKenna, 2014; Safran, 2014). This study is focused on Google's organic search engine visibility since Google is the predominant

search engine that is currently being used (Brophy & Bawden, 2005; Netmarketshare, 2017).

The purpose of this study is to create a better understanding of how e-commerce success is constructed. This is in order to support academic scholarship aimed at understanding e-commerce success, and to validate the importance of online visibility by conducted user tests and interviews. The main research question that is set for this study is:

- How big part of e-commerce system use generated by Google can be explained by organic search engine visibility?

This study was conducted by doing a literature review, user tests and interviews. The selected literature is mostly academic literature in the field of information technology and marketing. There is also some non-academic marketing research included in this study in order to provide more recent information that has not yet been covered in academic publications. The selected literature is found mostly from Google Scholar and from some non-academic marketing research websites. The primary keywords that were used to find references were e-commerce, e-commerce system success, online visibility and organic search engine visibility. User tests were conducted that entailed participants being given cases in which they were to find a website to solve a problem or fulfill a need by using Google. The interest in user tests was to observe how users ended up selecting each search result and what factors were affecting their selections. After each user test there was a short interview. The interview questions were constructed so that they would help examine people's online information seeking and search engine use habits, and also the variables they evaluate when choosing a search result.

The results helped to realize that the studied field is rather large and search engine users' behavior varies vastly, affecting how and which variables they are evaluating when choosing a particular search result. It seems that high organic search engine visibility is not the primary reason for e-commerce system use but rather e-commerce system use is a result of organic search engine visibility.

The motive for this study was to find proof that organic search engine visibility is a significant factor in creating e-commerce system use, and therefore, support for it as being a success enabling factor. The results could help e-commerce system owners in understanding how e-commerce system success is constructed and what the meaning of organic search engine visibility is for success.

The thesis is constructed as follows. In the following chapter e-commerce, e-commerce use and e-commerce system success concepts are introduced firstly by introducing existing e-commerce system success theories. Then online visibility and organic website traffic will be reviewed and their meaning for e-commerce system success. Finally, in the literature review search engine use behavior will be discussed and the research model will be introduced. Chapter three will describe how the research was conducted. In chapter four the results

from user tests and interviews will be presented. Then in chapter five the results will be discussed and finally in chapter six conclusions are made and the essential content of this study will be reviewed.

2 E-COMMERCE SUCCESS

In this chapter e-commerce and e-commerce success concepts will be introduced. The purpose of this chapter is to define the key concepts related to e-commerce, present different e-commerce success theories and discuss about the different success dimensions. When comparing different success theories, we can see that there are several similarities between them but there are also differences. This implicates that there is still no universally accepted e-commerce success theory and new success dimensions should be studied to understand better which factors are affecting success in the current world.

2.1 E-commerce

According to academic literature, e-commerce has various definitions. DeLone and McLean (2004) state that: "E-commerce is defined as the use of the Internet to facilitate, execute, and process business transactions" (p. 31). Molla and Licker (2001) also acknowledged the many faces of e-commerce and its definitions. They pointed out that when defining e-commerce: "it is important to identify four basic dimensions: the nature of the network archetype, the application solutions, the business functions performed or supported, and the parties involved in the electronic relationships" (p. 132). Kim, Ferrin and Rao (2009) simply describe e-commerce as a context where consumers buy products or services online from e-tailers. According to Oliveira et al. (2017) e-commerce can be described as any sales of product or services on internet. Grandon and Pearson (2004) had a similar definition and they considered e-commerce as any process of buying or selling products or services via internet. From these definitions, we can make a generalization and say that e-commerce can be any kind of buying or selling of products or services online. This means that any website that offers products or services for consumers or other businesses can be considered as e-commerce. Ghandour, Deans, Benwell, & Pillai (2008) wrote in their article that websites are a very basic way of doing business online.

2.2 E-commerce success theory

The definition of e-commerce success is difficult to name because each e-commerce entity can have unique goals that they attempt to achieve (Belanger et al., 2006). DeLone and McLean (2004) simply described that e-commerce success can be measured by the website's ability to generate positive revenues in the long term. Molla and Licker (2001) noticed that success is a multidimensional concept and it can be measured at different levels, such as technical, individual, group, organizational, economic, financial, behavioral and perceptual. Ghandour et al. (2008) found that e-commerce success can be defined according to three criteria which are creation, use and consequences of the e-commerce system. E-commerce success can be seen to have two different perspectives to it such as those pertaining to the users and those pertaining to the owners of the e-commerce site. From the user perspective, success can be that of meeting the user's expectations through offering a positive user experience. From the owner's perspective, it can be seen as maintaining customer relationships and maximizing profits by selling products or services online. (Belanger et al., 2006; Schaupp, Fan, & Belanger, 2006.) In this study, e-commerce success will be examined from the organization's point of view.

2.2.1 E-commerce success by DeLone and McLean

E-commerce success theory is led from DeLone and McLean's (1992) Information System (IS) Success theory (Figure 1). The idea behind e-commerce success theory is the attempt to specify the determinants that affect e-commerce success. The original success dimensions DeLone and McLean (1992) appointed were system quality, information quality, use, user satisfaction, individual impact and organizational impact.

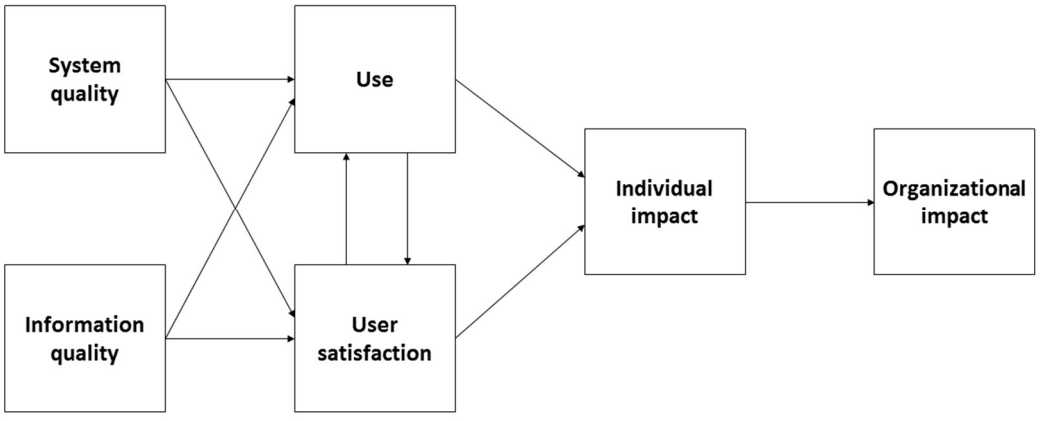

FIGURE 1 DeLone and McLean's original IS success model (1992, 87)

With system quality DeLone and McLean (1992) referred to the measures of the information processing system. The measures with which system quality could be evaluated were gathered from several studies. Many of the found measures were repeated in different articles and so they were included in DeLone and McLean's (1992) study as system quality measures. These measures included factors such as system accessibility, flexibility of the system, response time, system reliability and ease of use.

Information quality was referring to measures with which information system output could be measured (DeLone & McLean, 1992). Some researchers were more interested in studying the quality of information that information systems produce instead of the quality of the system itself. Like with system quality, DeLone and McLean (1992) analyzed several articles in order to find those common measures that could be used to measure information quality. Examples of the measures they found were accuracy, currency, reliability, relevance and timeliness.

Use refers to the use of information that is produced by the system. DeLone and McLean (1992) reported that use is one of the most frequently documented information system success categories. Examples of the listed measures were use versus nonuse of data, use in decision making, frequency of use, motivation to use the data and extent of use.

User satisfaction is defined by DeLone and McLean (1992) as:" recipient response to the use of the output of an information system" (p. 68). When use of an information system is necessary, interactions and other outcomes of use becomes more interesting in terms of measuring success. DeLone and McLean (1992) emphasized that the issue with this specific success dimension is that whose satisfaction should be measured. The measures they found from previous studies were very similar considering overall satisfaction, user satisfaction, decision-making satisfaction, information satisfaction and management satisfaction.

Individual impact can be measured as the effect of produced information on the behavior of the one who receives the information. This success dimension is seen very challenging to measure since "impact" is rather multidimensional concept. (DeLone & McLean, 1992.) However, many common measures where listed by DeLone and McLean (1992) to measure individual impact such as time taken to complete a task, decision-making efficiency, decision quality, user productivity and user confidence.

The last success category in the model is organizational impact. DeLone and McLean (1992) defined it as the effect of information produced by the system on the whole organization's performance. The listed measures with which organizational impact could be measured included profit performance, return on assets, stock price, market share, cost reductions and overall cost-effectiveness of information system.

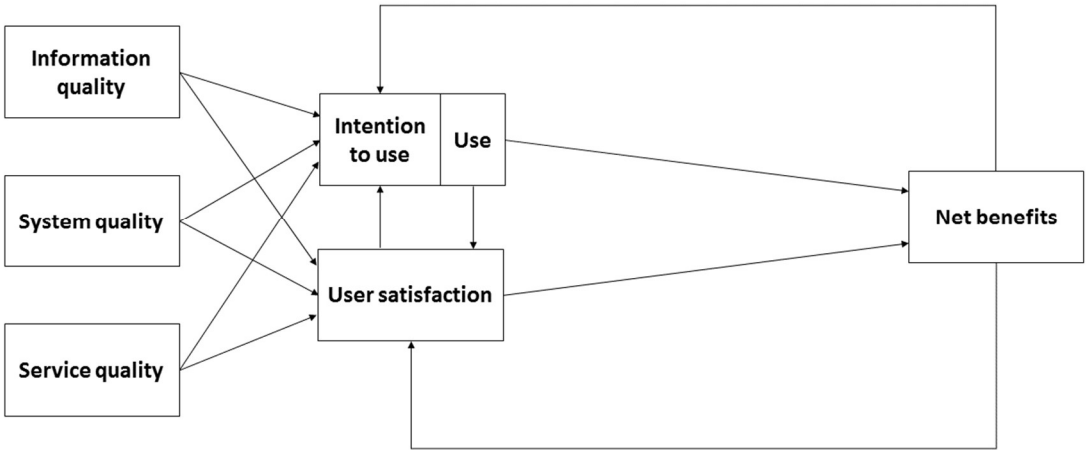

FIGURE 2 Delone and Mclean's updated IS success model (2003, 24)

After ten years of creating the first IS success theory, DeLone and McLean (2003) decided to update their IS success model (Figure 2). They noticed that the old model had been tested by many researchers who made some new empirical and theoretical contributions. Based on these findings DeLone and McLean (2003) refined their success model. Three major changes were that: 1) service quality was considered alongside information and system quality to ascertain IS success; 2) intention to use was included as an alternative to system use in a non-mandatory system use context; and 3) individual impacts and organizational impacts were parsed under more determined net benefits concept. From this updated study, DeLone and McLean (2004) proposed their e-commerce success theory model which has the same constructs as their updated IS success model. They argued that the same success dimensions can be applied to the e-commerce environment because the same dimensions exist also in that context.

DeLone and McLean (2004) noticed that in the e-commerce context, the primary system users are usually customers or suppliers instead of internal users. This makes it essential to choose success metrics that are more suitable for the given context. Therefore, they decided to extend the updated IS success model to measure e-commerce success as a replacement for the older model.

DeLone and McLean (2004) pointed out that already tested measures should be developed and expanded with new modifications, and new measures should be considered if necessary to improve the e-commerce success measuring. This statement gives an image that their model is not perfect and new perspectives are needed to measure e-commerce success more precisely as the e-commerce environment evolves. We are still missing a universal model to measure e-commerce success because researchers are still arguing about the right success dimensions and metrics.

2.2.2 E-commerce success by Molla and Licker

Molla and Licker (2001) were some of the first to come up with the idea to extend the original DeLone and McLean's (1992) IS success model to measure also e-commerce success (Figure 3). The success dimensions they used were e-commerce system quality, content quality, use, trust, support and service and finally customer e-commerce satisfaction. All these dimensions were very similar to the original IS success dimensions. Even though some researchers have replaced use with some other dimension, Molla and Licker (2001) argued that use is necessary for success in e-commerce context because it is voluntarily and customers can simply refuse to buy. They mentioned use to be very important especially for startup ventures who first need to build awareness in order to attract customers to use their website.

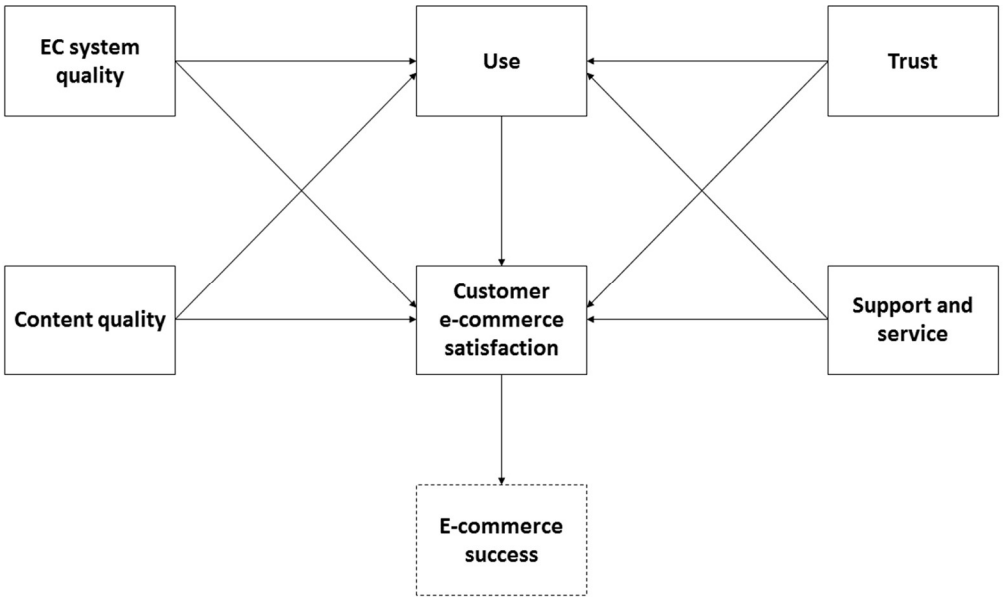

FIGURE 3 Molla and Licker's e-commerce success model (2001, 136)

One of the major differences compared to DeLone and McLean's (1992) original model is that they changed user satisfaction to customer e-commerce satisfaction. They hypothesized that this would solve the problem related to the impact of user satisfaction on organizational performance. This is due to the fact that customer satisfaction is strongly linked to increased customer loyalty, decrease of failure-related costs and more efficient new customer acquisition. Trust and support were also added to the model as new dimensions to explain better the relationship between use and customer e-commerce satisfaction in the context where system users are not members of an organization who are forced to use the system.

2.2.3 E-commerce success by Wang

Wang (2008) argued that Molla and Licker's (2001) variables, trust and support and service, belong under the service quality construct and should not be considered as new success metrics. The success dimensions that Wang (2008) used were information quality, system quality, service quality, perceived value, user satisfaction, intention to reuse and other net benefits (Figure 4). He proposed that perceived value, user satisfaction and intention to reuse are all different forms of net benefits. These could then influence other net benefits, like net profit or market share depending on the level the net benefits are measured. Other net benefits can be measured on four levels: individual, group, organizational and industry, similarly to what DeLone and McLean (2004) have proposed. Wang (2008) mentioned that the constructed model consists of belief, attitude and behavior variables, and therefore, is in line with the technology acceptance model (TAM) by Davis (1989) and Davis, Bagozzi and Warshaw (1989). TAM can be seen to focus on expectations of net benefits from future use whereas e-commerce success model is more focused on realized benefits that are related to use. The success model is argued to be in line also with quality-value-satisfaction-loyalty chain proposed by marketing research literature.

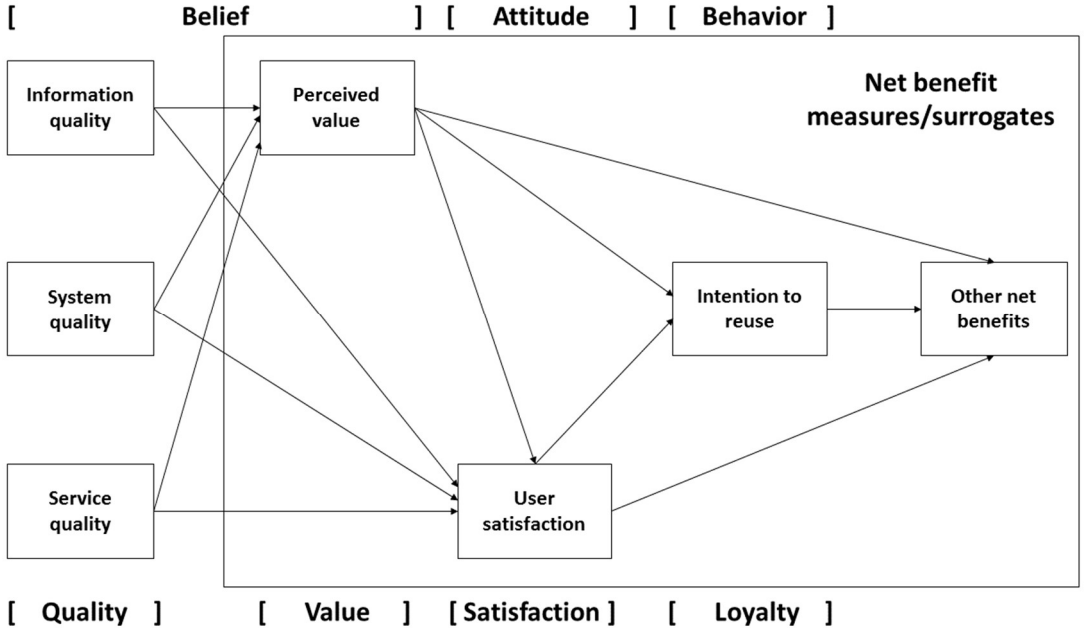

FIGURE 4 Wang's re-specified e-commerce success model (2008, 545)

Wang (2008) also criticized DeLone and McLean's (2004) model's fit to measure e-commerce success. First, the net benefit measure in the model is said to be too wide to conceptually define. DeLone and McLean (2004) themselves addressed that the construct of net benefits raises three questions: "What qualifies as a "benefit"? for whom? and at what level of analysis?" (p. 32). Second, it is claimed that DeLone and McLean's (2004) e-commerce success theory is not inline with marketing and consumer behavior literature. Therefore, a more interdisciplinary view is needed to form a universally applicable e-commerce suc-

cess theory. And finally, DeLone and McLean's (2004) model was not empirically validated in the e-commerce context.

2.2.4 E-commerce success by Ghandour and colleagues

Ahmad Ghandour, Kenneth Deans, George Benwell and Paul Pillai (2008), state that e-commerce success from the organization's point of view can be measured "by the website's ability to attract qualified customers who will aid the firm to achieve its stated goal" (p. 322). Later in their paper they clarified that by "attracting" customers they meant guiding new visitors to organization's e-commerce site that happens off-site. Furthermore, they provided a model (Figure 5) to demonstrate the criteria for success where each variable is necessary but not alone sufficient to explain the changes in e-commerce success. The model proposes that first the system needs to be created and then someone needs to use it, which can lead to some consequences.

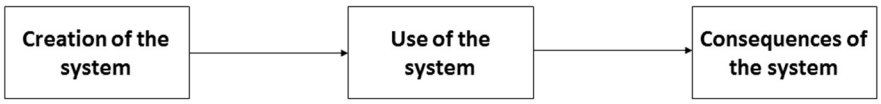

FIGURE 5 Three criteria for e-commerce success (Ghandour et al., 2008, 322)

The selected success dimensions in their research (Figure 6), were somewhat different to previous e-commerce success models. Ghandour et al. (2008) argued that traditional e-commerce success models were more from customer's point of view, and therefore, some changes are needed to be done in order to make it more relevant to the organization's perspective. The chosen metrics in their model are informational website success, transactional website success, customer service website success, promotional website success, website design success, e-commerce website use, organizational benefits and managerial satisfaction. In short, their model proposes that when the website is well designed and executed, the acknowledged quality will generate traffic flow to the site, which will benefit the organization and satisfy its managers. In other words, both customer interaction with the website and generated benefits for the company combined determine whether or not managers are satisfied. When managers are content they are increasingly willing to invest more resources to develop their site which then can bring even more organizational benefits.

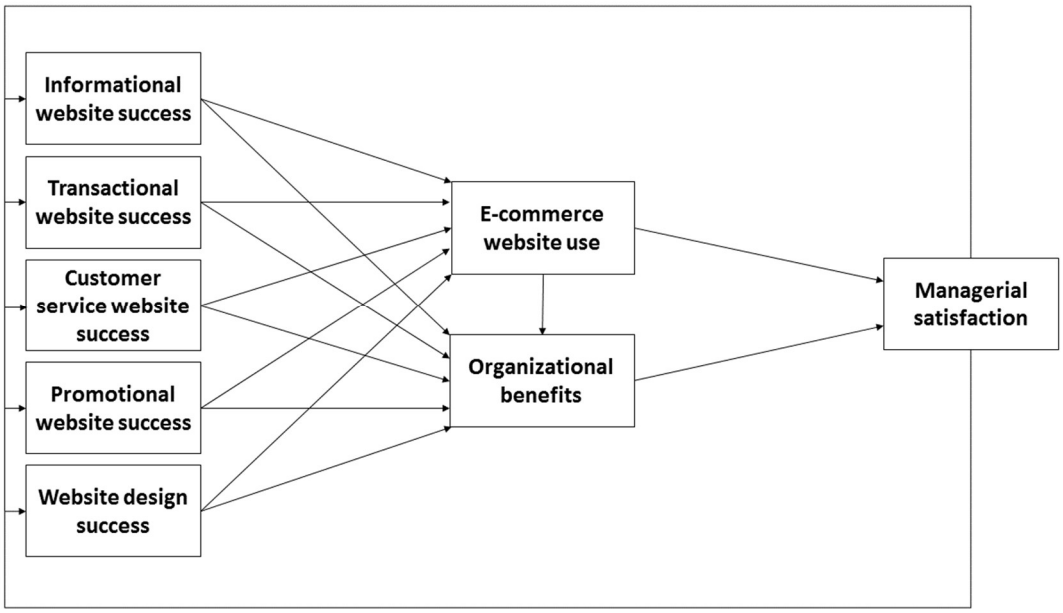

FIGURE 6 E-commerce website success measure constructs (Ghandour et al., 2008, 327)

Ghandour et al. (2008) stated that more research is needed in relation to e-commerce success that is in line with the most acknowledged studies by Molla and Licker (2001) and DeLone and McLean (2004). They also mentioned that their model still needed empirical research to be validated.

2.3 E-commerce use

Use in e-commerce success theory is described as: "everything from a visit to a Web site and navigation within the site to information retrieval and execution of a transaction" (DeLone & McLean, 2004). In other words, anyone who visits an e-commerce site is using it, for example, as a means of information retrieval, making purchases or even entertainment. Therefore, we can say that generated website traffic is the entry point for use. With this said, the traffic a site gains consists of people actually using the site, which subsequently means that they can be classified as users.

In the e-commerce context, use is often voluntary (DeLone & McLean, 2004; Ghandour et al., 2008; Molla & Licker, 2001; Wang, 2008). This emphasizes the importance of use from a success point of view when users must have a good reason to voluntarily visit an e-commerce site.

Use is maybe the most argued success dimension of the theory and it is claimed that use is more a behavior than a success measure (Seddon, 1997; Wang, 2008). Even though Molla and Licker (2001) were concerned that there is little research about what contributes to use, they still included it in their model. They argued that because e-commerce use is highly voluntarily, users can decide not to use it and refuse to buy. DeLone and McLean (2004) said that both

nature and amount of usage are important success indicators. Ghandour et al. (2008) highlighted that use is a necessary success dimension from the organization's perspective in order to receive visiting customers, but that alone cannot explain success. According to Liu and Arnett's (2000) findings, use is a major success factor for e-commerce sites since use is required to make online purchases. Seddon (1997) mentioned that use can be considered as a success metric in a voluntary environment, which can be seen to be the case with e-commerce, as mentioned above.

According to the discussion above, it can be said that from the organization's point of view, use is a necessary dimension for e-commerce success. If there is no one to interact with the site to make transactions and orders or retrieve provided information, the site cannot succeed at any level.

3 Online visibility

In this chapter, the concepts related to online visibility are presented. The main concepts include online visibility, search engine and organic search result. The idea is to create a common understanding of the concepts and also to justify why online visibility is essential for e-commerce sites today and why website traffic generated by organic search results is the most important channel of getting internet users to use the site. The used research model is also introduced in the end of this chapter.

3.1 Online visibility definition

According to Dréze and Zufryden (2004), a website's visibility can be defined as: "the extent to which a user is likely to come across a reference to a company's Web site in his or her online or offline environment" (p.22). The authors clearly distinguished the two different environments, online and offline, where website can gain visibility. Online environments they listed were advertising, search engines, other websites, news reports, chat rooms and emails (Figure 7). Dréze and Zufryden (2004) argued that different forms of online visibility have different impact on website traffic. The key finding that Dréze and Zufryden (2004) made was that the greater the website's visibility, the bigger the amount of traffic will be. Their findings also support the claim that online visibility is more strongly related to traffic generation than advertising spending or awareness of the website. For e-commerce sites, this means that when the site has good online visibility, it is more likely to attract visitors, which naturally helps it to achieve its other success goals. Nevertheless, a site can be very visible, but it does not always mean it will receive substantial traffic if people do not find the site relevant to them (Ghandour et al., 2008).

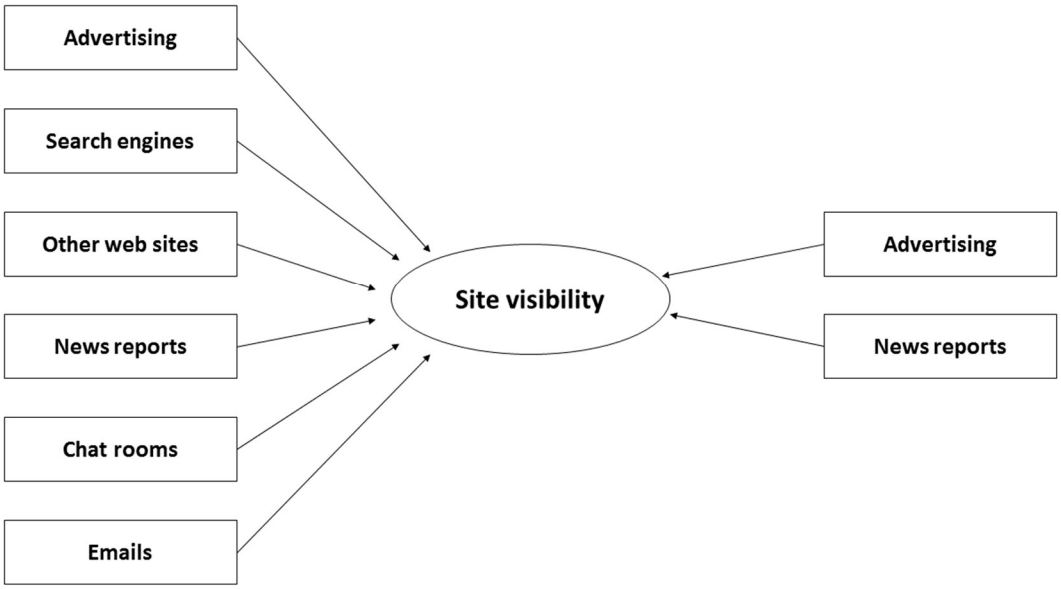

FIGURE 7 Determinants of online visibility (Dréze & Zufryden, 2004, 22)

Espadas, Calero and Piattini (2008) narrowed the visibility channels to consider only search engines and referral sites but the definition for visibility itself was missing in their article. In his book *Website Visibility*, Weideman (2009) only talked about a website's visibility for search engines which does not take into account the other forms of website visibility online. From a widely used website analytic tool, Google Analytics (2017), we can examine that common ways people find and navigate to websites are search engines, social media, referral sites, different forms of paid traffic, direct traffic and emails. These are somewhat the same than what Dréze and Zufryden listed except chatrooms can be seen to have evolved into social media channels.

In this study, the online visibility definition from Dréze and Fufryden (2004) will be used because it is the most referred definitions for online visibility in the academic literature. Their definition is also made in a sufficient general level, so it considers all possible online channels where a website can have visibility.

3.2 Google's organic search results

Search engines are the most common ways of finding information online (Cho & Roy, 2004; Espadas et al., 2008; Gori & Witten, 2005). More recent non-academic marketing research also support this claim and according to several sources (BrightEdge, 2017; McKenna, 2014; Safran, 2014) organic search results are responsible for over half of the average sites' overall website traffic. Organic search results are gathered by matching the user's search query and comparing it to any piece of content search engine's crawl bots can read from the World

Wide Web. (Visser & Weideman, 2011.) Crawl bots list organic search results on search result pages as hyperlinks to websites that crawl bots considered relevant to the search query made by search engine user. Organic search results differ from search ads in a way that they are organically gathered by search engine's crawl bots. Search ads then again are not gathered by crawl bots, but the website owners have paid for the search engine visibility to offer search engine users hyperlinks to their websites.

There are several factors that affect how search engines rank their search results. The exact search rank algorithms are unknown to prevent commercial exploitation, but it is known that a website's content, its relevance to a searcher's query and external links from other sites affect the order in which the results are listed (Agichtein, Brill, & Dumais, 2006; Weideman, 2009).

The challenge for e-commerce and other websites is that with increasing competition and many other sites offering the same kind of content it is more difficult to appear before competitors in search engines (Espadas et al., 2008; Evans, 2007). Jansen and Spink (2006) found that 73 percent of search engine users do not read the search results beyond the first result page. Ghandour et al. (2008) stated that the closer to the top of search result a website manages to appear, the more traffic is generated, which should lead to more sales. According to more current non-academic research, the findings show that the first ten organic results on search engines' result pages receive 89.15 percent of all the visitors. On top of that, the first organic search result receives almost double the number of clicks than the second result. (Advanced Web Ranking, 2017.) This is a clear sign of competitive advantage for e-commerce sites that have a good organic search engine visibility. It is natural that if people do not quickly find the information they are searching for they give up and they do not visit further search result pages (Cho & Roy, 2004).

The common way to improve a website's ranking in search engines is done by search engine optimization (SEO) practices. The goal of SEO is to appear as high as possible in the search result with the given page or domain. (Evans, 2007; Killoran, 2013; Xing & Lin, 2006; Zilincan, 2015.) This study is limited to examining only the impact of online visibility to e-commerce success and therefore the solutions to improve visibility will not be discussed.

There are several search engines being used to drive organic traffic to sites. Nevertheless, there is one that is superior to others when comparing use rates. Brophy and Bawden (2005) made a comparison between search engines by using academic resources and found that Google is the predominant search engine. According to more recent knowledge, Netmarketshare.com showed that Google's global search engine market share on July 2017 was 79.45 percent. This makes Google by far the most used search engine with Bing coming second with 7.13 percent share. (Netmarketshare, 2017.)

3.3 Search engine use behavior

Consumers' search engine behavior has been little studied in the context of what affects their behavior and search result selections. There are many studies proving that the high position in search result page increases the amount of visitors a website receives (Advanced Web Ranking, 2017; Drèze & Zufryden, 2004; Ghandour et al., 2008; Jansen & Spink, 2006), but these studies do not explain why people choose search results that appear high in the result page. Could it be that search engines just manage to present the most relevant search results on the top part of the search results, or do people just select them for the sake that the top results are believed to be better than all the rest? Agichtein et al. (2006) claimed that searchers often click search results that are above the actual relevant results because they have learned that on average the top results are the most relevant.

According to Teevan, Alvarado, Ackerman and Karger (2004) people usually know what they are searching for when they are using search engines. This might not always be the case. People might have a very specific problem or a need to which they are trying to find a solution by using a search engine. Still this does not mean that they always know what the solution is to solve the problem or fill the need. Another scenario is that people know what they are searching for, but they do not know from which website they can or should get what they are searching for.

Weideman (2009) mentioned in his book that many searchers are unable to perform accurate search queries and many times they just use very generic search terms. He also stated that when searchers are unable to perform accurate searches it may result in less relevant search results. The relevance of a search result is mainly evaluated by the searcher which then again affects whether the search result will be selected or not (Weideman, 2009). Agichtein et al. (2006) found that by improving search results' relevance it is possible to improve the actual search performance.

Park and Kim (2003) found that consumers' abilities to recognize websites has an impact on their selection in the online shopping context. They presented this concept as site awareness. With this being said, we can assume that sites and their perceived brands could have an impact on people's search result selections. There is also proof of this in off-line environments where brand perception can influence people's intentions to purchase products or services of the given brand. A particular brand can be perceived to have the desired features, quality or other performance benefits. (Lee, Kim, Pelton, Knight, & Forney, 2008.) In a situation where consumers do not acknowledge a particular brand from the past, they may use the brand name to form their own perceptions of the brand's value and quality that can affect their purchase intentions (Dodds, Monroe, & Grewal, 1991).

3.4 Online visibility's and website traffic's relation to e-commerce success

Bilgihan, Kandampully and Zhang (2016) stated that: "The success of e-commerce for any service company depends on the ease with which customers can find their Web site online; this is particularly important for small businesses" (p. 106). Small businesses especially have the problem that only a few people are aware of them. That is why the site must be easily found and visible in different online channels, so people can become aware of the e-commerce's existence in the first place.

When the site is highly visible online, it is more likely to get more traffic (Drèze & Zufryden, 2004) and therefore to succeed. Nikolaeva (2005) said that: "Website traffic is a necessary condition for success in Internet retailing" (p. 113). Ghandour et al. (2008) stated that traffic is a valid success metric because without it no revenues can be generated. Espadas et al. (2008) mentioned in their article that the number of visitors a website receives is the key factor behind success. Those companies, whose websites are not visible, will lose customers. Benbunan-Fich and Fich (2004) pointed out that website's overall traffic can be a misleading metric because there can be several users who visit the same site multiple times. Instead, measuring the number of unique site visitors, as Espadas et al. (2008) proposed, would be more accurate statistical approach which could tell how many people altogether have been interacting with the site. Some researchers have claimed that gathering clickstream data is the predominant way of assessing e-commerce success (Belanger et al., 2006; Schaupp et al., 2006).

Alpar and Porembski (2001) claimed that website traffic can be considered as an intermediate goal, yet it is essential in order to achieve higher level goals. Their claim is justified in the sense that site traffic itself does not guarantee success, but with zero traffic there is no one to consume the services or content of the e-commerce. However, the meaning of website traffic to success has become more important and the competition of gaining visitors has also become harder since Alpar and Porembski wrote their article in 2001. This is because of new websites that are being created daily, which highlights the meaning of online visibility for e-commerce to succeed. According to Internetlivestats.com, there are almost two billion websites on the World Wide Web today. In 2001, the number was little less than thirty million and when made proportional to the amount of internet users, there were 17 users per website, while during the year 2015 the number had decreased to 3.7 users per site. (Internet Live Stats, 2017.)

Many e-commerce success researchers talk about navigation (DeLone & McLean, 2004; Fang & Salvendy, 2003; Kim et al., 2009; Molla & Licker, 2001; Petre, Minocha, & Roberts, 2006) and its impact on success, but they are all referring to navigation that happens on-site. They are not saying anything about the easiness of navigating to an e-commerce site from external sites or search engines and how that can affect success.

Han and Noh (1999) pointed out that if visitors are not given permission to access the information of an e-commerce site it could weaken the possible success. This is yet different than when visitors have access, but they just cannot find the site. DeLone and McLean (2004) talked about country-level access to e-commerce sites. This refers to restrictions when entering some sites from certain locations, for example. This is not referring to whether the site is easily found online, because without any country-level limitations when the site itself is accessible, it can be difficult to find it from other online channels due to poor visibility.

Ghandour et al. (2008) seem to be the only ones who have considered visibility's impact on e-commerce success. They made a statement that the main organizational use of a website should be focused on enhancing the visibility of the site to existing and potential customers. Even though they showed evidence that online visibility can affect e-commerce's success they did not provide empirical validation for their findings.

3.5 Research model

Based on previous discussions and findings, this study proposes a research model for e-commerce success, which suggests that online visibility of an e-commerce site is a success defining variable. Online visibility is a prerequisite for e-commerce success because if users cannot find their way to the site, it cannot succeed.

This study is limited to examine only organic search in Google as online visibility channel that drives site traffic. Search engines are the most common way of finding information online (Cho & Roy, 2004; Espadas et al., 2008; Gori & Witten, 2005) and navigating to sites, and therefore it can be argued that it is the most important form of online visibility.

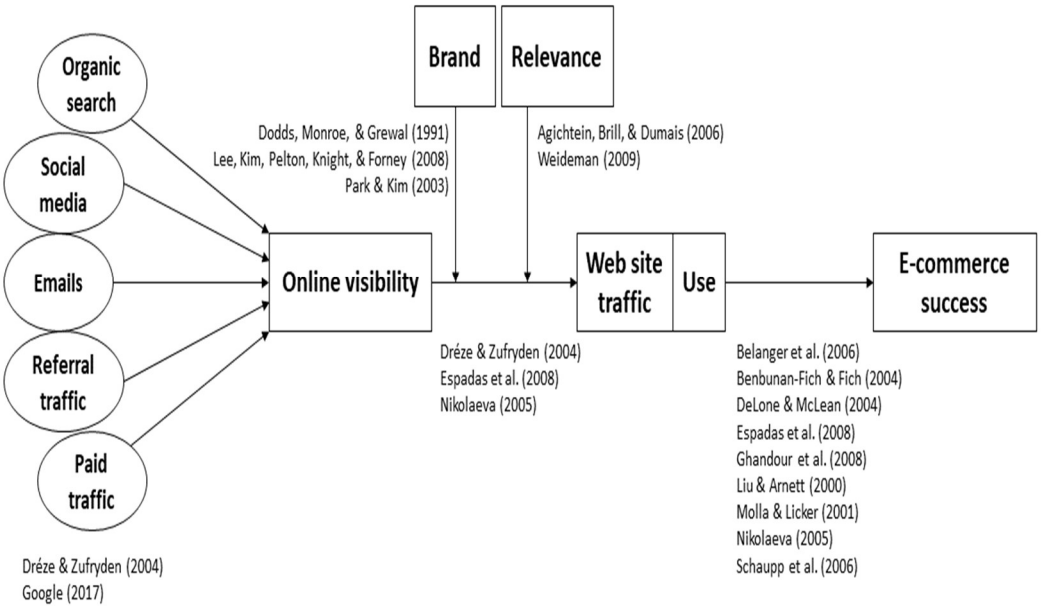

FIGURE 8 Research model

In this study the overall success and its metrics will not be examined because success is a multidimensional term and can mean different things for different organizations. Moreover, this model aims to explain what enables e-commerce success regardless of the organization and its definition for success.

The main interest of this study will be examining the relationship of online visibility, more precisely Google's search engine visibility, and how it affects website traffic, hence website use. Many studies indicate that good online visibility results in driving traffic from search engines to websites. Yet, is online visibility the ultimate reason for people ending up in utilizing a particular e-commerce site. In this model, relevance and brand of search results are proposed to be moderating factors that can affect searchers' selections. There is evidence that the relevance of search results affects which one a searcher will choose in the end. Also, the users' ability to recognize sites and brands have an impact on their search engine use behavior. Even the perceived brand image can affect consumers' selections.

4 EMPIRICAL RESEARCH

In this chapter the aim of the study, research methods and execution procedure will be presented. Empirical research was done by conducting user tests and interviews which will be reviewed in more detail in their own sections below. Finally, there will be descriptions of how the data was processed and analyzed, and how the validity and reliability of the data will be assessed.

4.1 Aim of the study

From the literature and research framework above, it can be seen that online visibility has an impact on e-commerce system use and therefore its success. What is unknown regards how well online visibility alone explains the amount of use that an e-commerce system receives. From this setting, arises the main research question for this study:

- How big part of e-commerce system use generated by Google can be explained by organic search engine visibility?

The idea for this study is to build a better understanding of this whole phenomenon and in order to do that the study will try to answer the following sub-questions:

- How big part of e-commerce system use generated by Google can be explained by the selected website's brand?
- How big part of e-commerce system use generated by Google can be explained by experienced relevance of a search result compared to the search query?
- How much impact does the perception of search result position have on users in regards to a search result page in relation to their search result selection?

- Which online channels do people use for information seeking?
- What other possible factors might people evaluate when selecting a search result?

4.2 Research methods and execution

The following sections will introduce how the empirical research was carried out in practice by conducting user tests and structured interviews. Arguments for selecting these given research methods will be presented as well. There were 12 participants recruited altogether for the study. All participants were university students. This is due to the fact that the essential interest of this study was not to study how different groups of people or their backgrounds might affect search result selections, but rather, how various factors in organic search results impact the way people decide to engage with the websites. Future research should examine in more detail, for example, how gender, age or income could possibly affect search result selection.

4.2.1 User tests

User tests were selected for this research because it was considered the best way to impersonate real life Google searches that people might do themselves. This way we could follow and examine the decision-making process search engine users go through when they are reviewing search results and find out how they end up choosing a particular search result.

User tests were constructed so that the participants were given ten problems and requirements they needed to solve by finding solutions via Google. They were given specific search queries that they needed to use on Google and then select a search result which they thought would be the best one to solve their problem or need. Participants had to use only the given search term so that the search results were almost the same for everyone.

Search engines are doing their best to offer the best matching search results first for users, but still users go through a decision-making process to determine which search result to pick. It can be possible also that users make new search queries if they do not find any relevant search results with the first search. There is also a possibility that users give up or they find the information they need from the search result and do not end to visit any website. In this study users were told to choose some search result, so they could not have decided to give up a search or make a new search query. Participants were allowed to browse the result pages as far as they needed to find a relevant search result.

Even though the purpose was to study organic search engine visibility the users were not prohibited the possibility to click search ads as well. This way the decision-making process would be more realistic and there would not be

too many limitations that guide users' selection. Also, this allowed for the examination of users' selections between organic search results and ads, so we could see which one is more efficient to drive e-commerce site use.

Each time a participant ended up selecting a search result, he was asked to answer the following four questions on a questionnaire form where the first three (questions 1, 2 and 3) were measured by utilizing Likert- scale and the last one (question 4) entailed the participants to provide a qualitative answer:

1. How much does the position of a search result on the search result page affect the selection?
2. How much does the brand affect selection?
3. How much does the search result's answer to the used search query affect the selection?
4. Did something else affect your selection and if yes then what?

This made it possible to gather both quantitative and qualitative data about participants' decision-making process when selecting a search result. By measuring these variables and comparing their user given values, we could better see the impact on the users' search result selections. Also, the selected search results' positions on search result pages were documented.

The thinking aloud method was used in user tests in order to verbalize users' decision-making processes and that way make findings about those factors that might affect their search result selections. The main idea of the thinking aloud method is that while completing given tasks, participants are told to speak their thoughts aloud throughout the task execution (Crutcher, 1994; Ericsson & Simon, 1998; Holzinger, 2005; Payne, 1994). Thinking aloud method has been recognized as an essential method for studying people's thinking (Crutcher, 1994; Ericsson & Simon, 1998; Payne, 1994) and it is the most common method for testing system usability (Holzinger, 2005). Using the thinking aloud method has been proven not to alter participants' natural actions or choices when they are instructed properly (Ericsson & Simon, 1998) which makes it a suitable method for this study. To successfully utilize the thinking aloud method, users were given instructions recommended by Ericsson and Simon (1998) to focus on given tasks while thinking aloud to verbalize their own thoughts instead of reasoning them. By using the thinking aloud method instead of interviewing participants after each search result selection allowed them to proceed independently without which accelerated the test procedure.

Tests were held in a private office in order to create circumstances where there would be as little interruptions as possible, to maintain the focus on completing the tasks. Users' actions and speeches were recorded by using software that recorded everything that happened on the computer screen. This way it was possible to review and analyze user tests later. Each test was followed by an interview which will be discussed in the next chapter.

Participants were asked to write an informed consent where they gave their permission to use the collected data in this study and they were told that they had the option to quit the user test at any time if they felt so. Participants

were also told that the data would be handled, analyzed and published anonymously and the only people who have the access to the data are my supervisor and me.

4.2.2 Interviews

Structured interviews were selected for this study to qualitatively find out the factors that could affect people's search result selection. By combining the data gathered from interviews with user test data we can better understand the decision-making process of a search engine user, and therefore, validate the overall results.

All seven interview questions were constructed so that they helped examine people's online information seeking and search engine use habits, and also variables they evaluate when choosing a search result. The findings and arguments of the literature review were used when planning the questions for the interview.

One question participants needed to answer was measured in Likert- scale to find out how important they considered search engine visibility in general over their usual search result selection process. This way we could compare the values they documented during user tests with the ones they told during interviews and see if there were any differences.

4.3 Data processing

All the videos recorded during user testing were transcribed and analyzed. This made it possible to document all the positions of each selected search result and review users' decision-making processes to make further notes.

All user test data was transcribed into spreadsheets to visualize the data better. There where separate spreadsheets for all 120 search result selections, selections without search ad selections and selections by each participant. This made it easier to conduct statistical analysis from the data. IBM SPSS software was used to process the data for statistical analysis. The qualitative data gathered during user tests was documented in same spreadsheets.

Interview answers were written down during each interview. This data was further refined for a spreadsheet where similarities in answers could be documented.

4.4 Data analysis

Based on earlier and new findings mentioned in the literature review, the hypotheses in this study were:

- H1: A high organic search result position has a greater impact on a user's search result selection than any other measured variable.
- H2: Over 50 percent of all organic search result selections are done within the first three search results of the first search engine result page.
- H3: Over 90 percent of all organic search result selections are done on the first search engine result page.
- H4: The share of selected organic search results is more than 96 percent of all search result selections.

To support H1 a regression analysis was made of all three measured independent variables: 1) search result position's impact on selection, 2) brand's impact on selection, and 3) relevance's impact on selection. With regression analysis it is possible to explain the values of a dependent variable with the values of independent variables and therefore see if there is any correlation and whether that is statistically significant (Field, 2009, 198). So, in this case we can see if the selected organic search result position (dependent variable) can be explained with the independent variables listed above. For supporting H1, the interest is to compare regression coefficients, b-values in other words, of independent variables and see if the organic search result's position's impact on selection has b-value that is the most significantly different from zero. When b-value is 0 there is no linear relationship between the variables and then again when b-value is significantly different from zero the better it can explain dependent variable (Field, 2009, 204). It is also essential to analyze whether the used model's regression coefficients are statistically significant ($p < .05$), so we can reject the null hypothesis. Adjusted R square will be analyzed to see how well the whole model can explain and predict selected search result positions. Adjusted R square is used to explain how big part of the variation in dependent variable independent variables can explain. When there is more than one independent variable it is recommended to use adjusted R square instead of normal R square. (Field, 2009, 221.) If H1 is supported and the relationship is found to be statistically significant, it means that high organic search result position can be considered a significant variable in explaining e-commerce system use from Google.

To find support for H2 a frequency distribution of selected search result positions was made. By creating a frequency chart, we can graphically demonstrate selected search result position frequencies. If H2 is supported, it means that e-commerce sites that manage to rank in the top three positions on the first search engine result page on Google do have a significant advantage of driving more e-commerce system use and therefore they are more likely to succeed.

H3 was formed to test and support the results of Jansen and Spink's (2006) and Advanced Web Rankings (2017). Support for H3 can be seen by examining how many organic search result selections were chosen on Google's first result page. If H3 is supported, it means that e-commerce sites that do not manage to appear on Google's first result page with relevant searches have a significant disadvantage in driving e-commerce system use, and therefore, they are less likely to succeed.

To support H4 it was needed to go through the transcription and ascertain the percentage of search result selections that were organic search results and how many were search ads. The hypothesis is based on Irvine's (2018) recent blog post where the average search ad click-through rates were studied by industry. The main finding was that the average click-through rate for search ads across all industries was 3.17 percent. Irvine is working for well-known online marketing company Wordstream which is specialized in search ads. If H4 is supported, it proves that search ads' portion of search result selections is relatively small and therefore organic search engine visibility can be considered more significant in driving e-commerce site use.

Interview data was gathered and analyzed to support hypotheses formatting. By examining participants' online information seeking and search engine use habits we were able to study the importance of search engines and Google for e-commerce system use. Interview questions were selected so that they could also better explain the results from user tests and therefore support hypotheses as well.

According to Eskola and Suoranta (1998), there are three different approaches to interview data analysis. The first option is to transcribe the data and then move straight to analysis using the researcher's own intuition. The second approach is to transcribe the data and then code it, and after that move on to analyzing it. The last option is to transcribe and code the data at the same time and then move to the analysis. In this study the interview data was first transcribed and then coded according to the similarities found in the answers. In the data analysis the idea was to find common and new factors to explain the phenomenon better.

4.5 Research validity and reliability

To prove that the results of this study can be trusted, reliability and validity of the research needed to be assessed. The validity of the used variables in user tests needed some further validation to ensure the trustworthiness of gained results. Three variables were measured quantitatively: 1) search result position's impact on selection, 2) brand's impact on selection and 3) relevance's impact on selection. The first variable's effect was measured simply by participant's subjective perspective. The second variable measured the overall effect of a brand over search result selection. This variable especially needed some further validation and it could be divided into separate variables according to whether the awareness of a brand or simply the perception of an unknown brand has an impact on a person's search result selection. The third variable, relevance, refers to how closely the search engine results appear to match the searcher's query as measured by the searcher (Weideman, 2009). In other words, relevance is also measured by a person's subjective opinion. Interview questions are also constructed to create validity for the user test results.

The reliability of results can be assessed by comparing them to other studies. There are many studies that indicate that high search engine visibility leads to more e-commerce system use. The only result in which reliability needs further evidence is as to whether or not a high organic search result position has a greater impact on the user's search result selection than any other possible variable. This requires examining and including more variables than was selected for this study to prove whether or not a high organic search result position is the variable that has the largest impact on a person's search result selection.

5 RESULTS

In this chapter the results of the user tests and interviews will be presented to see whether they support the assessed hypotheses. The results were created by using research and analyzing methods described earlier.

5.1 User tests

Firstly, the quantitative data of user tests will be presented to support the hypotheses. After that the collected qualitative data from user tests will be presented to show what notes where observed about users' decision-making process.

5.1.1 Regression analysis

Twelve people participated in the user tests, altogether providing 120 searches that were analyzed. After each selection, users were asked to evaluate the variables that affected their selection. The variables were: 1) search result position's impact on selection, 2) the brand's impact on selection and 3) relevance's impact on selection. Besides these variables, users had an open field where they could assess another possible variable that may have affected the selection. These results will be presented later.

From 120 search result selections, 93 were organic results which were the interest of this study. All these 93 selections and the values of each three variables users evaluated were transcribed into a spreadsheet where the regression analysis could be made by using IBM's SPSS software.

TABLE 1 Regression analysis model summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,203[a]	,041	,009	2,713	,041	1,276	3	89	,288	1,996

a. Predictors: (Constant), Relevance's impact on selection, Position's impact on selection, Brand's impact on selection

b. Dependent Variable: Position of selected search result

Firstly, we begin by observing the regression analysis model summary (Table 1) to see how well the model fits the population. Here, it can be seen that R, the correlation coefficient between the observed and predicted values of the dependent variable, is rather small. This indicates that there is little or no linear relationship between the dependent variable and the independent variables. Next the model's fit to the population can be evaluated by examining the adjusted R square. In other words, the adjusted R square tells us how big a portion of the variation in the selected search result position is explained by the model. So, the used model can account for 0.9 percent of the variation in selected search result positions.

From the analysis of variance (ANOVA) report (Table 2) obtained during the regression analysis, we can see whether the model, overall, is significantly effective in predicting the dependent variable. Here, from the used model we can see that the associated significance value, or p-value, of F-ratio is not significant (p = .288) and therefore, the model cannot effectively predict the variance in the selected search results.

TABLE 2 Regression analysis' analysis of variance (ANOVA) report

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28,163	3	9,388	1,276	,288[b]
	Residual	655,020	89	7,360		
	Total	683,183	92			

a. Dependent Variable: Position of selected search result

b. Predictors: (Constant), Relevance's impact on selection, Position's impact on selection, Brand's impact on selection

Next, the coefficients of independent variables were analyzed (Table 3). When comparing the results of the t-test to see which independent variable's b-value is the furthest from zero, we can see that position's impact on the selection has a b-value (b = -0.432) further from zero than the two other used independent variables. Yet, the p-value of the position's impact on selection is not significant (p

= .068) and the same applies for brand's impact on selection (p = .714) and relevance's impact on selection (p = .704).

TABLE 3 Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5,043	1,621		3,111	,003
	Position's impact on selection	-,432	,234	-,193	-1,844	,068
	Brand's impact on selection	-,079	,216	-,043	-,367	,714
	Relevance's impact on selection	-,100	,262	-,045	-,381	,704

From the scatterplot graph (Figure 9) we can see that not many values are aligning with the regression line. This refers that there is no strong linear relationship between organic search result position and the three independent variables.

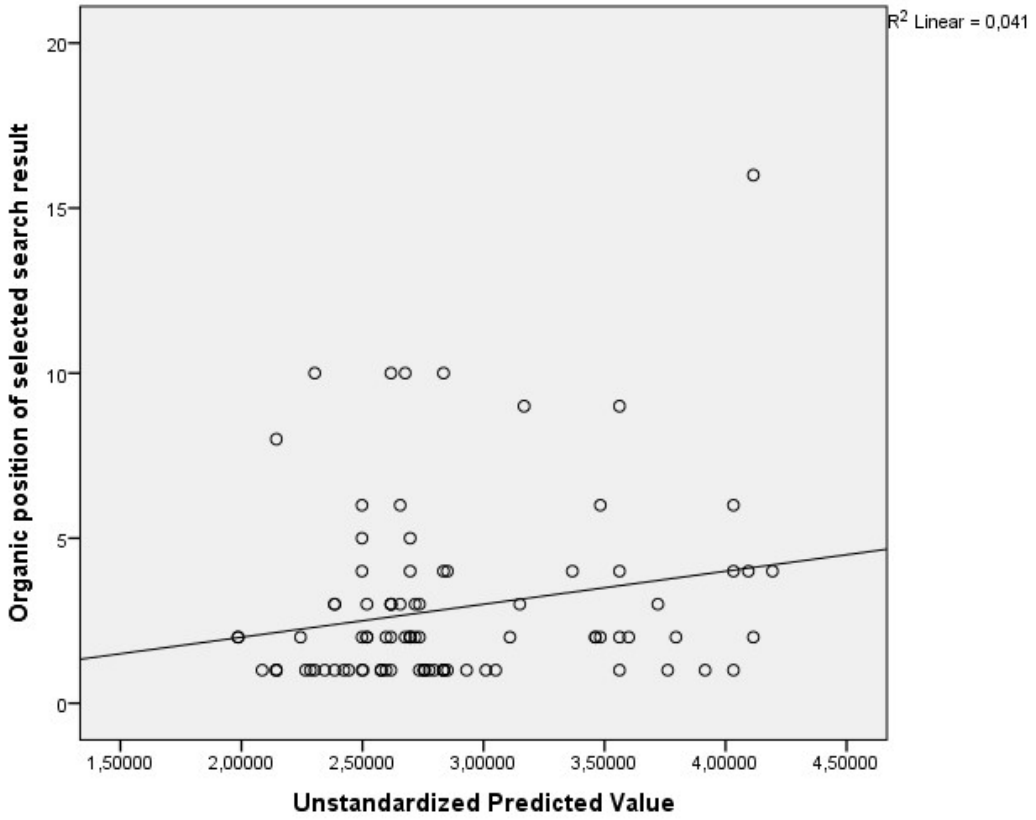

FIGURE 9 Scatterplot and regression line

The regression line is also rather horizontal meaning that the variables are not strongly related. The used unstandardized predicted value was derived from

the regression analysis' unstandardized coefficients' b-values in order to be able to form a scatterplot graph. This way it is easier to visually analyze the relationship of the variables.

5.1.2 Frequency distribution

Frequency distribution (Table 4) shows us the frequency of each selected organic search result's position. By observing the results, we can see that organic search results that were in the first position were selected most often. Also, a significant result is that first and second organic search results gained over 50 percent of all the clicks.

TABLE 4 Frequency distribution of selected organic search results

Organic positions of selected search results

		Frequency	Percent	Cumulative Percent
Position	1	37	39,8	39,8
	2	22	23,7	63,4
	3	11	11,8	75,3
	4	9	9,7	84,9
	5	2	2,2	87,1
	6	4	4,3	91,4
	8	1	1,1	92,5
	9	2	2,2	94,6
	10	4	4,3	98,9
	16	1	1,1	100,0
	Total	93	100,0	

Another notable observation is that only one out of 93 of the selected organic search results were selected beyond the first result page. So, the percentage of selected organic search results that were not on the first result page was 1.1. Four users out of twelve visited the second search result page, but only one out of 93 organic search results were selected from there. No one visited search result pages beyond the second page.

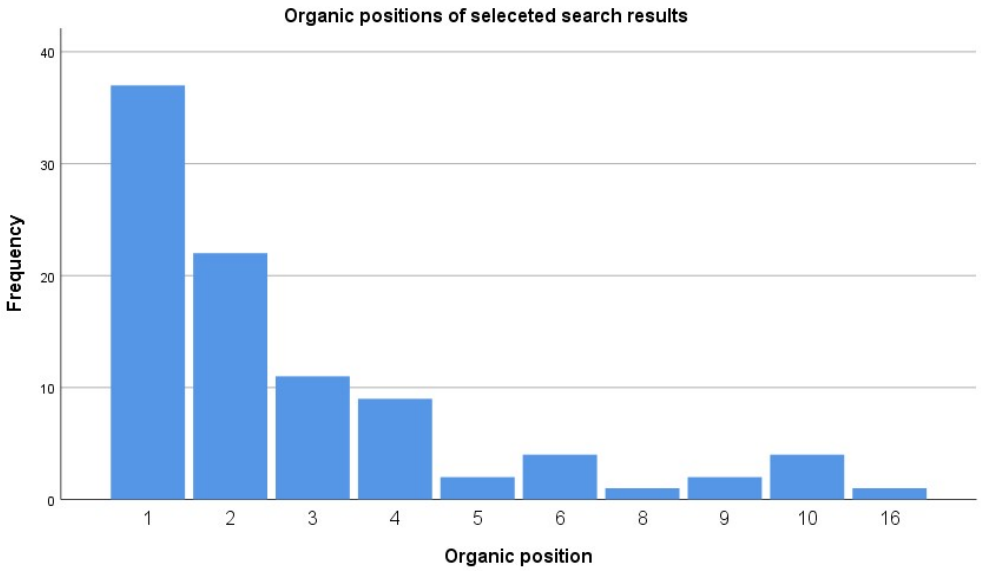

FIGURE 10 Frequency distribution of selected organic search results

As we can see from the frequency distribution table and what was mentioned earlier, 93 selected search results out of 120 were organic search results. This means that 27 selected search results were search ads resulting in percentage of 22.50.

5.1.3 Analysis of variance

Selected research model which was used for regression analysis to predict the dependent variable did not give us a result that was anyway significant. This raises the question as to whether or not there could be some other factors upon which the variable values may be dependent. From the research settings it was possible to analyze by using analysis of variance, whether a participant or a task they were asked to do could explain variances in the variable values.

To do this analysis, all variables: position of selected search result, position's impact on selection, brand's impact on selection and relevance's impact on selection, were analyzed by using participants and tasks as explanatory variables. In this analysis all the 120 search result selections were used since it was not relevant for analyzing position's impact, brand's impact and relevance's impact on selection whether or not selected search results were organic or ads.

TABLE 5 Analysis of variance of position of selected search result

Tests of Between-Subjects Effects

Dependent Variable: Position of selected search result

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	118,367[a]	20	5,918	,754	,756
Intercept	650,580	1	650,580	82,933	,000
Task	37,318	9	4,146	,529	,849
Participant	62,369	11	5,670	,723	,713
Error	564,816	72	7,845		
Total	1444,000	93			
Corrected Total	683,183	92			

a. R Squared = ,173 (Adjusted R Squared = -,056)

When explaining positions of selected search results with participants and tasks, selected search ads were marked as missing values since that variable only had values for organic search result selections. From Table 5 we can see that neither task ($p = .849$) or participant ($p = .713$) can significantly explain the variance in selected search results' position.

TABLE 6 Analysis of variance of position's impact on selection

Tests of Between-Subjects Effects

Dependent Variable: Position's impact on selection

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	115,000[a]	20	5,750	10,281	,000
Intercept	1657,633	1	1657,633	2963,980	,000
Task	3,033	9	,337	,603	,792
Participant	111,967	11	10,179	18,200	,000
Error	55,367	99	,559		
Total	1828,000	120			
Corrected Total	170,367	119			

a. R Squared = ,675 (Adjusted R Squared = ,609)

Then again when explaining the position's impact on selection (Table 6), we can see that participant ($p < .05$) is significant in explaining variance in dependent variable.

TABLE 7 Analysis of variance of brand's impact on selection

Tests of Between-Subjects Effects

Dependent Variable: Brand's impact on selection

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	93,400[a]	20	4,670	2,799	,000
Intercept	1380,408	1	1380,408	827,284	,000
Task	59,508	9	6,612	3,963	,000
Participant	33,892	11	3,081	1,846	,056
Error	165,192	99	1,669		
Total	1639,000	120			
Corrected Total	258,592	119			

a. R Squared = ,361 (Adjusted R Squared = ,232)

When explaining brand's impact on position with task and participant (Table 7), we can see that task ($p < .05$) is significant and participant is almost significant ($p = .56$) in predicting dependent variable.

TABLE 8 Analysis of variance of relevance's impact on selection

Tests of Between-Subjects Effects

Dependent Variable: Relevance's impact on selection

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	85,033[a]	20	4,252	4,136	,000
Intercept	1555,200	1	1555,200	1512,920	,000
Task	30,633	9	3,404	3,311	,001
Participant	54,400	11	4,945	4,811	,000
Error	101,767	99	1,028		
Total	1742,000	120			
Corrected Total	186,800	119			

a. R Squared = ,455 (Adjusted R Squared = ,345)

Finally, when analyzing relevance's impact on selection we can see from table 8 that both task ($p < .05$) and participant ($p < .05$) are both significant in explaining variance in dependent variable values.

5.1.4 Qualitative data

During user tests, two kinds of qualitative data were gathered. First, users were able to explain to themselves if there was some other factor that affected their selection beside the variables they had to use to explain their selections. These factors mainly had a positive influence on selection. Second, user tests were

conducted by using the thinking aloud method where observations were made to detect any underlying factors that could affect users' search result selections. From users' speeches there was a clear distinction between factors that had positive and negative influence on search result selection. First the user given factors will be presented and then the observations of thinking aloud method.

When observing the frequency of factors, the user listed as affecting their selections, some factors can be seen that appeared more often than others. The one that users listed the most was the low price of the product or service. Earlier positive brand experiences were considered to be a factor that led to e-commerce use in eight cases. Also, a clear need for more information was a factor that was listed four times to influence search result selection. This affected the users' decision-making process and therefore the type of pages users selected which were blogs, reviews and informative product or service pages introducing the offering. One factor that can be seen to negatively affect the selection was that in two cases users did not want to select a search ad which led them to exclude these results. On the other hand, in one case a user specifically selected an organic search result because there was a search ad of the same website present on the search result page. This might be related to search ads trustworthiness when there is also an organic result present of the same site which can be considered to increase the trustworthiness of the site if it is not familiar. Trustworthiness itself was also a factor that was considered to be influential in two cases that led users to use a particular e-commerce site. In many cases websites where one could compare products or services from different companies were present and in two cases users listed that this had an impact on their search result selection. Having a shipping option available was considered in terms of ease in gaining a product which in two cases was listed as an affecting factor. In two cases where users were not familiar with the brand, a positive brand image that was reflected from the search result content was considered as a reason to choose those. Also, a close geographical location of the service provider was thought twice to be a factor to choose those e-commerce sites. Other factors that were listed only once can be seen from table 8.

TABLE 9 User listed factors affecting search result selection

User listed factors affecting search result selection	**Frequency**
Low price	12
Earlier positive brand experiences	8
Need for more information	4
Did not want to select an ad	2
Wanted to compare options	2
Shipping option was available	2
Geographical location	2
Positive brand image of unknown brand	2

Trustworthiness	2
Direct link to specific product page	2
List of different options	1
Existing regular customer relationship	1
Opening hours	1
Quality, material	1
Familiarity of the brand	1
Entertaining search result content	1
Personal opinion of the brand	1
Good review in the search result	1
Both organic and ad search result were presented on the first result page	1
Second hand	1
Fast shipping	1

By utilizing the thinking aloud method it was possible to examine factors that users did not list themselves but mentioned while verbalizing their decision-making processes. We can see some similarities between the factors users listed themselves and those that they mentioned but did not write. Positive brand image of an unknown brand was mentioned in seven cases during search result selection when it was not listed by users. Brand familiarity was also mentioned four times when choosing a search result. The possibility to compare products or services on comparison sites was said to have an influence on users' selections in three cases. In one case a user listed that having both an organic and ad search result on the first page affected his selection but in three other cases users also mentioned this having an impact over their search result selection. Other similar factors that were also listed by users were: good reviews in search results, need for more information, low price, trustworthiness, shipping option available and geographical location. Three factors that did not come up in the users' listings were emotional reasons, large collection and domesticity (product was made in Finland).

TABLE 10 Observed factors having a positive influence on search result selection

Observed factors having a positive influence on search result selection	**Frequency**
Positive brand image of an unknown brand	7
Familiarity of the brand	4
Wanted to compare options	3
Both organic and ad search result were presented on the first result page	3
Good review in the search result	2
Need for more information	2
Low price	2
Trustworthiness	1

Shipping option was available	1
Geographical location	1
Emotional reasons	1
Large collection	1
Domesticity (made in Finland)	1

During user tests there were also some factors observed to have a negative influence on search result selection that led in excluding some search results. The factor that was present the most was geographical location. There were some search results that appeared under users' eyes that were located far from them and therefore users mentioned that they are not considering those options. In two cases unknown brands reflected a negative brand image which is why they were excluded from potential search results. Other factors that were considered to have a negative influence on selection were suspiciousness, negative brand experiences, insufficient meta description and high price.

TABLE 11 Observed factors having a negative influence on search result selection

Observed factors having a negative influence on search result selection	**Frequency**
Distant geographical location	3
Negative brand image of an unknown brand	2
Suspiciousness	1
Negative brand experiences	1
Insufficient information in meta description	1
High price	1

Another notable observation during user tests was that seven participants out of twelve explicitly mentioned that they are usually ignoring or avoiding search result ads. Nevertheless, four out of these seven participants ended up clicking a search ad at some point during given ten cases. Then again two participants explicitly mentioned that they have a habit of reading through search ads carefully.

5.2 Interviews

Participants were asked which online channels they are using for information seeking. Twelve out of twelve participants answered that they are using Google for this purpose. One participant also mentioned using Wikipedia and some other smaller data bases. There was a separate question about the search engine that interviewees' use the most and the answer from all twelve was Google.

When asking whether participants have a habit of reading search results beyond the first result page, all twelve answered that they do that very rarely.

Nine out of twelve said that if they are searching for something very specific, then they might read search results further than just the first page. During user tests four out of twelve participants visited the second search result page.

To find support for the importance of search engines as an information seeking channel, interviewees were asked if they use search engines to navigate to a company's site in a situation where they can name the company, or whether or not they use a search engine to navigate there. Ten out of twelve said that they use search engines to navigate to a company's e-commerce site even though they could name the company. Possible reasons for this are discussed in discussion section.

Similarly to during the user tests, after each search result selection, in the interviews participants were asked via Likert-scale to evaluate how important they considered the search result's position in the search results to be when selecting a search result. The mean for the answers was 3,92 percent. This was somewhat different than the mean from user tests for selected organic results that was 3,58 percent. Related to this same topic, interviewees where asked whether they considered some other variable more important over their search result selection than the search result's position in search results. None of the participants said that the search result's position in search results would be the most important factor. Three interviewees said that the trustworthiness of an e-commerce site is the most important selection affecting factor. Then again three other interviewees said that relevance of search result is the most important factor. The quality of information in search result and the spelling was said to be the most important factor by three participants. The rest three participants could not name a single factor they would consider the most important.

In the interviews, participants were asked once again to list some other possible factors they might evaluate when choosing a search result. The listed factors were somewhat the same as were listed during the user tests by users or according to what was observed. The factors were URL-address a search result points to, brand and its familiarity, meta-description content, spelling, relevance, intuition, references, trustworthiness, price and geographical location.

6 DISCUSSION

From the results we can note that the used model for regression analysis and its variables were not able to explain well the selected search result positions. The required sample size for a reliable regression model depends on the size of the effect being detected (Field, 2009). In this case when studying search engine use behavior, a much larger sample size would have been needed to describe the phenomenon better. The used model could only explain 0.9 percent of the variation in selected organic search result positions, and therefore, no further generalizations can be made from the regression model. This means that H1 (a high organic search result position has a greater impact on a user's search result selection than any other measured variable) cannot be supported even though the b-value for position's impact on search result selection was greater than the other used independent variables. In other words the results could not provide a reliable answer to the main research question of the study. Neither can the results reliably answer how big part of e-commerce system use generated by Google can be explained by the selected website's brand or by experienced relevance of a search result compared to the search query.

The results supported H2 (over 50 percent of all organic search result selections are done within the first three search results of the first search engine result page) since the percentage for selections of the top three search results on the first search engine result page was 75.3. Even the percentage for selections of just the top two search results was over 50 percent, more precisely 63.4 percent. This means that e-commerce sites that manage to rank in the top three positions on the first result page on Google have a significant advantage of driving more use and therefore they are more likely to succeed.

Over 90 percent of all organic search result selections were done on the first search engine result page, 98.8 percent to be more specific. This means that H3 (over 90 percent of all organic search result selections are done on the first search engine result page) is fully supported by this study and e-commerce sites that do not manage to appear in Google's first result page have a significant disadvantage in driving e-commerce system use.

H4 (the share of selected organic search results is more than 96 percent of all search result selections) was not supported since the share of organic search results was only 77.5 percent of all selected search results. The share of selected search ads is significantly greater than what is found in earlier non-academic marketing literate. During user tests it seemed that participants were more eager to click search ads when they could recognize the brand that was being advertised. Also, few participants checked if there were also organic results from those brands which search ads were presented if the brands itself were not familiar from before. This is something that should be studied more closely in the future. A study with bigger sample size should be conducted to make better generalizations about the significance of organic search results and search ads as e-commerce system use driving channels.

When analyzing whether participants themselves or selected tasks they were given would have an impact on variable values, we can see that participants were considered significant in explaining the variance in position's and relevance's impact on selection. Then again, the given task seemed to have a significant impact on brand's and relevance's impact on selection. From these results we can make conclusions that at least in some cases users and their characteristics and opinions can affect how much a certain variable will affect their search result selection. On the other hand, the type of search a user is conducting can also affect how great impact a particular variable has over their search result selection. A wider research with bigger sample size and more variables is needed to better clarify how much and in which kind of situations searchers' characteristics and the type of search that is being done affect the evaluation of different variables that affect the search result selection.

From the user listed search result selection affecting factors we can see that there can be multiple different things searchers are evaluating when choosing a search results. The three factors that were listed most often were low price, earlier positive brand experiences and need for more information. Here we can see that the selected variable brand's impact on selection is not unequivocal and it should be divided into several different variables that would consider different dimensions of brands and how they can affect search result selections. Presented low price in a search result was listed twelve times to have an impact on selection. The selected participants were all university students which might explain why low price was considered so important since in general university students in Finland do not have big incomes. A research with bigger sample size and participants from different people groups should be conducted in order to better validate the search result selection affecting factors. Nevertheless, the results gave some new insight related to the sub question of the study and new factors were found that search engine users evaluate when choosing a search result.

The factors observed by using thinking aloud methods were somewhat the same as was listed by users themselves. Four factors that were observed most often were positive brand image of an unknown brand, familiarity of the brand, possibility to compare options and both organic and ad search result

were presented on the first result page. Again, a finding that shows how brand can be considered to have multiple dimensions that affect users' selections. One interesting aspect to study further would be how brand image of previously unknown brands is constructed in search engines. This could reveal factors that companies should pay attention when designing their search result content. Another interesting find in couple of cases was the desire to compare products or services on comparing sites. The amount of these comparing sites where visitors can compare prices and features of given products is increasing. The business model of these e-commerce sites is based on clicks they can generate for other e-commerce sites. As future research it would be interesting to study the importance of these comparison sites in driving e-commerce system use for other sites.

Besides factors that positively affected the selection, there were also factors that had a negative influence over the selection and therefore this led to exclude these search results. The factor that appeared the most was distant geographical location. Especially when it comes to services, people use to prefer the ones that are closest to them or are at least in the same city. In user test there were cases where a search result appeared that was referring to a service provider that was located to another city which led to exclude them. Also, some people just like to prefer local service providers over others to offer their support. In two user test cases a negative brand image of an unknown brand was the factor that led to exclude some search results. Brand's impact on selected search result is a variable that should be validated better in future studies and consider dividing it into separate variables relating to different dimensions of brand's concept.

Data gathered from interviews gives some support for few hypotheses and also help to explain the phenomenon as a whole better. All the interviewees said that they use Google as main online information seeking channel. This answers to the sub questions of the study and explain the main online channel for information seeking. Also, ten out of twelve participants said they use Google even if they could name the company which site they are about to visit. Explanation for this was that some said they do not always remember the ending of the site's URL address. Few interviewees said that they have Google as browser's home page which causes them to navigate to other sites by using it. Some participants said they are using Google Chrome internet browser which explains why they navigate to other sites from Google since by typing anything except URL addresses to the address bar take users to Google's search engine. All this indicates the importance of Google as a channel from where people end up using a particular e-commerce system.

All twelve participants also said that they do not use to browse search results beyond the first search engine result page often. Nevertheless, nine out of twelve said that they might browse search results further if they are searching for something very specific. One interviewee gave an example that if he has a problem he is trying to solve by finding the solution from Google, then he might browse search results further. Despite the fact what all twelve partici-

pants said, four of them visited the second search result page during their user tests. Still only one organic result and one search ad were selected from the second result page. Interviewees responds support H3 and the importance of high search engine visibility in generating e-commerce system use in a sense that those e-commerce sites that manage to appear on the first result page are more likely to gain more use and therefore to succeed.

Interviewees were asked during the interviews how much they consider that the search result's position in search results affect their search result selection in general. They were asked to use the same Likert-scale that was used during user test. The mean for answers from interviews was 3.92 while in user tests the mean was slightly smaller for selected organic search results, being 3,58. One thing that could possibly explain the difference in answers is that maybe search engine users do not consciously think that search result position is affecting their selection. This assumption can be seen to have some support since no one said they considered search result position as the most important factor when choosing a search result. The factors that were mentioned to be the most important ones were trustworthiness of an e-commerce site, relevance of a search result and quality of information and spelling of a search result's meta-description. There were also several other factors mentioned that participants are evaluating when selecting a search result that were not covered in the selected variables. Since the used regression analysis could explain only 0,9 percent of the variance in selected organic search results, we can conclude that a research model with more variables is needed to better explain how searchers choose particular search results.

In the earlier e-commerce success literature only Ghandour et al. (2008) considered visibility's impact on e-commerce success. The fact that all the interviewees mentioned using Google as their primary online channel for information seeking and that top organic search results drive e-commerce use the most implicate that online visibility should be considered when measuring e-commerce success. The online channel for information seeking might change over time but at this moment it seems that Google's organic search engine visibility is the most important form of online visibility in the means of creating e-commerce use.

6.1 Implications

The main implication that should be made according to the findings of this study is that e-commerce system owners should pay attention to their search engine visibility and especially Google visibility. People are using Google a lot to navigate to different e-commerce sites and those sites that do not manage to appear on the first search engine result page are in danger of losing many users. Good practice for e-commerce system owners would be to conduct an audit where they examine their current state of search engine visibility and if necessary make a plan of the actions how to improve it. Another measure that e-

commerce system owners should do is to find out how their users are navigating to the site. It is possible for some e-commerce systems, that for example, social media is more efficient in driving system use than search engines. This is why it is important for each e-commerce system to examine the channels that work the best for them to increase the amount of use and therefore the success rate.

Another observation that e-commerce system owners should pay attention to is how their search results look like. According to the data, when evaluating search results, users pay attention to search results' quality of information, spelling, trustworthiness and brand image. Therefore, e-commerce system owners should go through their e-commerce site's meta-data for each individual page and edit them so that they better serve users and attract them to use the system.

6.1 Limitations

This research and its findings are limited to consider only organic search engine visibility in Google as a form of online visibility that drives e-commerce system use. Therefore, any other form of online visibility, or any kind of offline visibility are left out of this study. The findings cannot be generalized blindly to cover other search engines beside Google because other search engines might have features or other technical factors that might affect how searchers evaluate search results.

The results are limited in the sense that they might not apply in all fields of business. Trends can heavily control the demand in search engines for some businesses which can affect how difficult the competition in search engines is for the top most search result positions. Also, for some businesses visibility on other online channels might be more important than on search engines. For some fields of business high search engine visibility might not be the key to success or maybe not even the amount of use as long as the rate of use is not zero. It can be possible for some e-commerce systems that are selling high cost products or services that they just need a couple of users every now and then who make purchases to make the system successful. In this case, high search engine visibility and large number of users might not be that relevant for success.

Related to what was mentioned earlier, this study is also limited in a sense that we cannot say for sure that high search engine visibility improves the success rate for every e-commerce site. Success can be defined in numerous ways and it can mean different thing for different e-commerce sites where search engine visibility might not play any role in enabling success.

The importance of search engine visibility might be more relevant in cases where users do not search for a certain e-commerce site to solve their problem or need. When searching for a particular site, the likelihood for a user to select another site he was already planned to visit might be very low.

This research was conducted by having university students as participants in user tests and interviews. The interest of this study was not to examine how different groups of people act in search engines but rather see what kind of factors are present when evaluating different search results. Most likely these results might not apply for every people group and a larger research is needed to study how different demographic factors might affect search engine use behavior. When listing factors that affected users to select a particular search result, low price was presented in twelve cases. This might be related to students' income level which is why it would be interesting to see if price is a significant variable when selecting a search result for people who have higher income.

In the future it would be good to study how searchers evaluate search results when a product is well defined. Conducted user test cases included one case where the product was well defined, and it seemed that users where more likely to compare prices between different search results.

7 CONCLUSION

In this study organic search engine visibility on Google was studied in relation to e-commerce use and success. Research was done by conducting a literature review, user tests and interviews. The used literature was mostly academic but also non-academic marketing literature was used to better cover the topic where academic literature failed to cover some areas of the given topic. The most significant result was that it seemed like high organic search engine visibility is not the primary reason for e-commerce system use but rather e-commerce system use a result of high search engine visibility. It might be that people are counting on Google to offer them the most relevant search results first so that they do not need to browse search result pages beyond the first result page. Or maybe searchers do not like to see any extra effort, for one reason or another, in browsing search results any further and rather do a new search with another search query.

E-commerce can be defined as any website that offers products or services for consumers or other businesses. Still e-commerce system success can mean very different things for different systems depending on goals that are set for them. To truly study how organic search engine visibility can affect success, a case study should be conducted where success is defined by certain goals and metrics and see how search engine visibility affects them.

E-commerce system success has been studied and defined by many researchers, all of them having disagreements over the set of success defining variables. While use has been argued not to be a success defining variable in information system success theory, it is argued to be an essential part in e-commerce system success theory since in that context use is often voluntary. Anything between a simple website visit to information retrieval, making purchases or even entertainment can be considered as e-commerce system use.

Only few researchers have considered online visibility's impact on e-commerce system success and even they have not empirically validated their success theory. E-commerce sites are constantly competing on different online channels for visibility and the fact is that especially if new users do not come across a particular site on any online channel, it is difficult to get anyone to use

it. There are many researchers who claim that the volume of an e-commerce site's web traffic can be thought as a simple metric with which success can be defined. I do not believe that myself but rather website traffic and the e-commerce system use caused by traffic is what enables success. If there is no one to use an e-commerce site it is very difficult for it to succeed.

According to recent marketing literature, related academic literature and interviews of this study it seems that Google can be considered to be a significant channel for information seeking online. Therefore, e-commerce system owners should acknowledge Google as a very potential channel where they can get more users for their site and thus increase the likelihood of success.

Search engine use behavior has not been studied much in academic context so that we could explain well which factors influence a user to select a particular search result. From earlier findings we can recognize some variables that can be seen to affect user's search result selection which are visibility, in this case search result's position on search result pages, brand and relevance of search result. Data gathered from user tests and interviews proves that there can be seen many other variables that searchers are evaluating when choosing a search result.

User tests did not give us much data from where large generalizations could be made. A much larger sample size would be needed to better validate the results. However, one observation that should be taken from this study is that it is possible that a searcher himself or the nature of the search that is being made can affect how a search result is selected in the end. Analysis of variance showed some significant results in explaining the variance in dependent variable values when having participants and tasks as independent variables. Also, it seemed that search results on first result page and especially those which are in the top two positions are more likely to get visitors to use the site. This, however, does not explain itself why participants ended up choosing them. In interviews no one said they consider high organic search result visibility as the most important factor when selecting a search result.

The results of this study are limited to consider only online visibility in the form of organic search engine visibility on Google in relation to e-commerce use and success. It is also possible that for some fields of business, high organic search engine visibility on Google is not that relevant for e-commerce success. Success itself is a concept that is difficult to define and therefore more research is needed to examine what type of success can be affected by organic search engine visibility on Google. This research was done by having students as participants, so the results cannot be generalized to consider other people groups.

The future research should examine the phenomenon with bigger sample size to have more reliable results. Also, the included independent variables should be selected so that they together could explain better how search engine users select search results. Selected variables should be validated better before including them to the research model. Future research could also examine how different people groups search engine behavior differs in a sense which factors they consider significant for search result selection. Another point of interest

would be to study how different types of searches affect factor evaluation for example if the searched product is well defined.

The results of this study should be implicated by e-commerce system owners to better recognize and modify those factors with which they can improve the use rate of their system and therefore increase the likelihood of success. While these results might not apply for every kind of business, e-commerce system owners should implement and test these findings to see if they can help them to achieve success they have defined for their system. This study could encourage e-commerce system owners to seek and study how they can achieve success more efficiently and what their success defining variables.

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APPENDIX 1 USER TEST

1. Acupuncture

"You have been wanting to try acupuncture for a long time, but you have never managed to book a time for that. Finally, you decide to go to Google and search for a local business that offers acupuncture."

Used keyword: akupunktio Jyväskylä

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

2. Wedding photographer

"The big day is closing on because you are getting married soon but you have not managed to find the right wedding photographer yet. You end up searching for the right photographer on Google."

Used keyword: hääkuvaaja

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

3. Hot tub

"You have been dreaming of your own hot tub in the backyard and finally you have decided to buy one. You end up searching the right hot tub on Google."

Used keyword: palju

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

4. Composter

"You have decided to find yourself a composter, so you can ecologically recycle household waste. You end up searching the right composter for you on Google."

Used keyword: kompostori

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

5. Outdoor sauna

"You have just bought a house for you which unfortunately does not have a sauna. The solution you came up with is that you are going to buy a outdoor sauna for your large backyard. You end up searching the right outdoor sauna on Google."

Used keyword: pihasauna

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

6. Convertible sofa

"You often have visitors and you are upset because you have not had a possibility to accommodate your friends. The solution you came up with is that you are going to buy a convertible sofa. Finally, you end up searching for the right convertible sofa on Google."

Used keyword: vuodesohva

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

7. Washing machine

"Your previous washing machine broke down, so you need to buy a new one. You end up searching for the right washing machine on Google."

Used keyword: pyykinpesukone

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

8. Rollerblades

"Summer is here, and you have decided to start roller skating. You end up searching for the right rollerblades on Google."

Used keyword: rullaluistimet

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

9. Koiramäen Suomen historia

"You have decided to buy your godchild Mauri Kunnas' book Koiramäen Suomen historia. You end up searching the book on Google."

Used keyword: Koiramäen Suomen historia kirja

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

10. Suitcase

"You are going travelling but you need a new suitcase for the trip. You end up searching the right suitcase on Google."

Used keyword: matkalaukku

How much the position of search result in the search result page affected your selection?

1	2	3	4	5
Not at all				A lot

How much the brand affected your selection?

1	2	3	4	5
Not at all				A lot

How much the search result's answer to the used search query affected your selection?

1	2	3	4	5
Not at all				A lot

Did something else affect your selection?

Yes	No

If yes then what:

_____

APPENDIX 2 INTERVIEW FORM

1. Which online channels are you using for information seeking?
2. Which search engine are using the most?
3. Do you normally read search results beyond the first search result page?
4. Do you use search engines to navigate to a company's site in a situation where you can name the company, or do you use a search engine to navigate there?
5. How much in a scale from 1 to 5 (where 1 is not at all and 5 is a lot) you consider that the search result's position in search results affect your search result selection?
6. Which factors are you evaluating when you are selecting a search result?
7. Which factor you consider the most important when choosing a search result?