

Web usability in e-commerce

Usability evaluation of four web shops

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ABSTRACT

Online marketplaces face endlessly growing competition and continuously changing web trends. Many strive and manage to create a loyal customer base, while others fail. There are many attributes affecting the success of e-commerce, and especially usability, the ease of use of a website, has been proven to be a crucial factor in succeeding in online business.

The purpose of this thesis was to study and compare the usability of four selected web shops and to generate usability data which can be used to improve their services. The study was also conducted to increase knowledge on how actual representative users react to the flaws in the design of web shops.

In the qualitative multiple case study presented in this thesis, the usability of four e-commerce web sites was evaluated with the help of twelve representative participants. The participants were asked to pilot a web shopping situation by using a pre-defined task list with an observer. Each testing situation was followed by a short interview to reflect on how the participants felt about the website.

The findings revealed the following usability problems: incoherency in the page structure, problems in readability and locatability of relevant content, problems in finding crucial functions, and the functions not working as expected. The results further indicate that the most significant problems affecting the user experience were the flaws in functionality and arrangement of the searching and browsing functions.

Finally, the thesis works as an encouragement and a source of ideas for entrepreneurs who contemplate on how to conduct a usability evaluation that pays off without a lot of money, time, experience or a big group of participants.

Keywords: E-commerce, usability, usability testing, usability problem
representative user, participant

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TIIVISTELMÄ

Tämän päivän verkkokaupat kohtaavat alati kasvavan kilpailun ja jatkuvasti muuttuvat tietoverkostojen trendit. Monet menestyvät ja onnistuvat luomaan vakaan asiakaspohjan, kun taas toiset epäonnistuvat. Useat tekijät vaikuttavat verkkokauppojen menestykseen. Etenkin käytettävyyden, sen miten helppoa sivua on käyttää, on todistettu olevan avaintekijä siihen menestykö verkkokauppa.

Tutkimuksen tarkoitus oli tutkia ja vertailla neljän verkkokaupan käytettävyyttä. Sen lisäksi tarkoitus oli saada aikaan sellaista tietoa käytettävyydestä, jota voidaan hyödyntää verkkokauppojen sivujen kehittämisessä. Lisäksi tutkimus toteutettiin, jotta se lisäisi tietoutta siitä kuinka varsinaiset käyttäjät reagoivat käytettävyysvirheisiin nettikaupoissa.

Laadullisessa monitapaustutkimuksessa arvioitiin neljän verkkokaupan käytettävyyttä kahdentoista osallistujan avustuksella. Osallistujia pyydettiin demonstroimaan todellisuutta vastaava ostostilanne tehden ennalta määritettyjä tehtäviä havainnoitsijan läsnä ollessa. Jokaista testitilannetta seurasi aina lyhyt haastattelu, jonka tarkoitus oli selvittää osallistujien tuntemuksia nettisivuista.

Nettisivuilta löydetyt käytettävyysongelmat olivat: epäloogisuus sivuston rakenteessa, sekä ongelmat tärkeiden ominaisuuksien toimivuudessa, merkityksellisen sisällön löydettävyydessä ja luettavuudessa. Lisäksi tutkimustulokset viittaavat siihen että merkittävimmät käyttäjäkokemukseen vaikuttavat ongelmat johtuivat haku- ja selaustoimintojen epäonnistuneesta asettelusta ja toimimattomuudesta.

Tämä opinnäytetyö toimii myös kannusteena ja ideoiden lähteenä yrittäjille jotka pohtivat sitä miten tehdä käytettävyystestausta kannattavasti ilman suuria määriä rahaa, aikaa, kokemusta tai isoa testiryhmää.

Asiasanat: Elektroninen kaupankäynti, verkkokauppa, käytettävyys, käytettävyystestaus, käytettävyysongelma, edustava käyttäjä, osanottaja

CONTENTS

1	INTRODUCTION	1
1.1	Background	1
1.2	Research questions and objectives	3
1.3	Thesis structure	4
2	RESEARCH FRAMEWORK	5
2.1	E-commerce	5
2.2	Usability	5
2.3	Usability testing	6
3	RESEARCH METHODS	8
3.1	Data source selection methods	8
3.2	Data collection methods	10
4	THE CASE STUDY	12
4.1	Execution	12
4.2	Research data	16
1.1.1	Case company A	17
1.1.2	Case company B	19
4.2.1	Case company C	20
4.2.2	Case company D	21
4.2.3	Post-test probing	22
4.3	Research analysis	23
4.3.1	Arrangement	23
4.3.2	Readability	25
4.3.3	Functionality	26
4.3.4	Found concepts	27
5	CONCLUSION	30
6	DISCUSSION	32
6.1	Contribution	32
6.2	Validity	32
6.3	Coverage and limitations of the research	34
6.4	Suggestions for future work	36
	APPENDICES	39

1 INTRODUCTION

This chapter includes an overview of the research. The background introduces the concept of usability and motivates the selection of the topic. Then, the research problems and objectives are introduced. Finally, the thesis structure is shortly described.

1.1 Background

The number of B2C online marketplaces, where businesses sell customers the constantly growing range of products, increases daily. Leaping into e-commerce has become an inevitable path for businesses, and techniques to make an e-commerce succeed in the crowd of competitors have become necessary in this highly competitive field. While many online stores manage to keep their clients in mind in managing their websites, some fail and are not able to figure out the reasons.

Many studies suggest that usability has a major role in the acceptance and the adaptation of a website amongst users. Users leave if they are not able to find what they were looking for, or if the process of finding the wanted information is too difficult. Matera, Rizzo and Carughi (2008) have noted that users tend to use and return to websites which are well-structured and on which they can easily find the information they need. Study results also indicate that the perceived usability is a crucial factor in generating trust towards e-commerce (Padmali, Kulkarni & Mawatha 2015, 548).

How can it be ensured that a website is easy and pleasant to use? Web usability testing focuses on finding usability flaws in order to improve websites to answer users' needs. The common thought seems to be that usability testing is necessary to any product including e-commerce sites, and it can make or break a business. Insfran and Fernandez (2008) note that the users' experiences determine whether the applications fail or succeed. Because the web applications have become crucial part of the

business the need for the usability evaluation methods has become vital. (Insfran & Fernandez in Rinder & Fiserv. 2016, 13).

Several papers discuss the importance of understanding that every user is unique and does not view the Web the same way the designers do. A professional usability tester Steve Krug (2014, 114) writes that “if you want a great site, you’ve got to test -- Testing reminds you that not everyone thinks the way you do, knows what you know, and uses the Web the way you do.” Additionally, in the 21st century usability professionals have come to a conclusion that there is no average user who can be defined to like or not to like something. According to Steve Krug (2014, 108) “all users are unique, and all web use is basically idiosyncratic.” In his book he discusses that debates over what people like are waste of time and that usability testing moves the discussion to what works and what does not work for most of the people who are likely to use the site.

Designers of all kind have also started to understand that usability testing does not have to be a big and expensive process like it has been known to be for a long time. The unwillingness to start the testing process is additionally influenced by the lack of representative users to volunteer for a usability study. Due to this dominant mindset of usability testing being time consuming and expensive, many businesses tend to skip it with sad consequences. The existing literature is clearly indicating that spotting and fixing usability flaws has an impact on the competitiveness and profitability of e-commerce. This thesis aims to discuss the most common usability flaws of online stores and the ways in which users react to these flaws.

Selection of the topic

It is hard to think of a subject more relevant in the world of technology than digitalization and the emerging online marketplaces that influence consumers everywhere. Usability studies are becoming more common now, when the importance of human actions in human-computer interaction have been recognized. There are many studies on the different aspects of web usability. Many of them focus especially on its importance,

on the best ways to conduct usability tests and on the effect of usability in factors like acceptance and trust towards e-commerce.

However, especially the actual user data on usability available for everyone in the context of online marketplaces in Finland is nearly non-existent. Studies on the subject focus mainly on investigating the usability of web applications serving one business. The studies are often based on pre-defined heuristics and conducted by the authors themselves. This differs from testing with actual representative users both on the methods and richness of the gained data.

The thesis topic provides timely and valuable information on usability issues found on web shops and the way users react to them. The strengths of the study are the representative user sample and its qualitative nature which provides rich data. Although the results are tied to a particular context, overall the study provides insight into how a usability test could be conducted to be relevant.

1.2 Research questions and objectives

The purpose of the thesis was to answer the following research questions, which are explorative and understanding by nature:

What kinds of usability flaws can be found on online webstores?

To get a deeper understanding of the topic and the phenomenon as a whole, the following sub-question was also answered:

How do users perceive the said usability flaws?

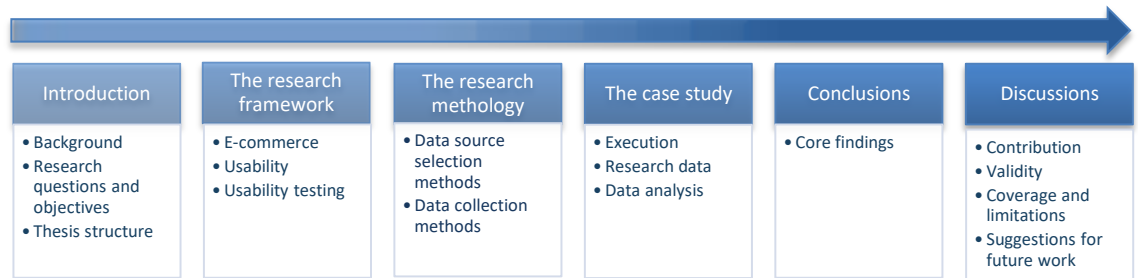
The main objective of this thesis was to implement a valid study on the usability of e-commerce on B2C websites, and through comparison gain a better understanding of the usability flaws common to e-commerce websites. The aim was also to gain in-depth insight into the ways users react to the said usability flaws. It was acknowledged in this study that the existing literature supports the hypothesis of usability's effect on the

success of web services. However, the focus was on providing new information on the basis of the research results.

The results were hoped to be the type of which would help and encourage online marketplaces to test and improve their services. Another objective was to create a usability report for one of the participating companies, which could be further used to improve its e-commerce functions in the future. Due to privacy matters, the report was excluded from the publication of the thesis.

1.3 Thesis structure

The thesis consists of an introduction, a research framework, a case study, conclusions and discussions. The following Figure 1 describes the structure of the thesis:



The first section of the thesis is dedicated to motivating the selection of the topic, and to discussing the goals and objectives of the study. In this part, the background of the thesis is also explained to generate interest towards the topic. The second section of the thesis provides a deeper understanding of the core concepts and contributes to understanding the topic as a whole. The third section discusses the inductive approach to the research. The selection of the qualitative methods in data source selection, data collection and data analysis are further explained. The fourth part explains the research process, the case studies and the gathered data. A significant part of the case study section concerns the analysis of the research data. The fifth section, Conclusions, reviews the core findings and summarizes the results. Finally, the sixth section discusses the limitations, the coverage of the findings and offers suggestions for future work.

2 RESEARCH FRAMEWORK

This chapter is dedicated to the description of the three core concepts: E-commerce, usability and usability testing.

2.1 E-commerce

E-commerce is a shortening of electronic commerce, which means the trading of services and products over an electronic network, such as internet. E-commerce is most often viewed as an online marketplace of any kind, for example webshops, banking and services sold online. It is built on technologies like electronic funds transfer, supply chain management, online transaction processing, internet marketing, inventory management systems and automated data collection systems. The thesis focuses on the e-commerce of online shopping websites. More specifically, the thesis only focuses on the user-computer interaction of the web interfaces, excluding all the other aspects of e-commerce.

2.2 Usability

Throughout the years usability has gotten several definitions, which all to some extent conclude that the user should be able to find information and to interact with the website easily. Krug (2013, 9) defines usability at its simplest as “a person of average (or even below average) ability and experience can figure out how to use the thing to accomplish something without it being more trouble than it’s worth.” Nielsen (2012) describes usability more in depth according to five quality components:

- **Learnability:** How easy is it for users to accomplish basic tasks the first time they encounter the design?
- **Efficiency:** Once users have learned the design, how quickly can they perform tasks?
- **Memorability:** When users return to the design after a period of not using it, how easily can they reestablish proficiency?

- **Errors:** How many errors do users make, how severe are these errors, and how easily can they recover from the errors?
- **Satisfaction:** How pleasant is it to use the design?

2.3 Usability testing

Usability testing in its simplest form means the testing of any product. In the testing situation, the participants are put to use the product and their behaviour is monitored with as little help and interruption as possible. Usually the observers watch, listen and take notes. The aim is to see how different participants perceive the product and how it should be used. The goal is to identify the usability problems, to determine the satisfaction of the participants and to collect data. Usability testing is often thought to reveal behavioural patterns of certain groups of people, but in fact monitoring the usability testing participants often reveals that no user is the same. The goal is to find a solution which would please most of the users in the best way possible, instead of focusing into a certain category that does not exist in web-users.

The methods of usability testing vary, but the main concept is to create a realistic situation where a participant performs a list of tasks regarding the tested product with an observer.

Hallway testing is known as a quick, easy and a cheap way of usability testing, where passersby are requested to try the product on the go. This helps the designers to identify the biggest problems of the product and act on it in the early stage of the product development.

Remote usability testing happens with the testers, observers and participants in different locations. It involves several different tools and conferencing methods to create a one-on-one situation between the participant and observer.

Expert testing brings usability experts of different together to evaluate the usability of a product.

Well-known techniques to gather data are think aloud protocol, where participants are encouraged to think aloud about all of their thoughts, and eye tracking where motion and gaze of the eye are tracked mechanically to see where the participants are focusing on the website.

3 RESEARCH METHODS

The thesis approach is inductive, and the conclusions were drawn on the basis of the study findings. The thesis includes a theoretical part, which covers usability and e-commerce as concepts. However, the main focus is on the empiric part which consists of qualitative study methods and their outcome. The qualitative approach was chosen, because the aim was to create a better understanding of e-commerce webshops' usability flaws and to add to the current knowledge on the phenomenon. The approach was also chosen, because its methods measure the best the uniqueness of participant behaviour and the findings. Feelings, opinions and satisfaction can't be efficiently measured by numbers, which motivated the selection of the approach.

3.1 Data source selection methods

Pick of the participants

The qualitative method purposive sampling was used to determine the group of participants. The idea of purposive sampling is that participants are selected on preselected criteria relevant to the research and to the research question. The sampling sizes vary according to the recourses and time available. Typically, the pick of participants stops when new information no longer appears and the results start to repeat each other. (Northeastern University College of Computer and Information Science, 2006.)

In total twelve participants were chosen, three for each webshop. All four webshops could have been tested with the same three participants, but then one test situation would have been very time consuming and an exhausting experience for the participant. Three has been seen as a good amount of participants in the context of web usability testing, because typically the results have become repetitive after 3 to 5 users (Krug, 2014.) On the other hand, the twelve participants were seen as an absolute

maximum amount of participants in consideration of the time limit and the qualitative nature of the thesis.

In the study all participants had to possess the most basic computing skills, and additionally belong to the group of users who use webshops. It has been noted that usability means that anybody with any skillset can use the site efficiently. However, in order to eliminate bias caused by the participant being completely unfamiliar with webshopping, the requirement of previous experience was set. It has been noted that the level of expertise and factors like age may affect the way users are able to navigate on the site. Although the study was based on the usability's definition of "anyone with any skillset", variety in the participants was thought to produce richer results. Therefore, participants were chosen from different age groups, with different levels of expertise in computing. Expertise was evaluated during the pre-test interviews, when the participants were for example asked what their profession is, how many hours per week they browse web sites and use e-mail, and what their favorite pages are. The first twelve invited participants clearly displayed variety in the previously mentioned features, and were thought to suit the purposes of the study.

The pick of the participants happened through social media from the contacts of the author of the thesis. It was important to find web users who would not be too familiar with the author, but who would be willing to attend a testing situation without any strings attached. Trying to approach complete strangers could not be rationalized, as strangers seldom reply to requests to attend a testing situation without benefitting from it. (Krug. 2014) In order not to corrupt the results none of the users were offered anything for their efforts, and were not close contacts of the moderator.

Pick of the e-commerce

The thesis author looked through various e-commerce websites. The intention was to create variety in the tested webshops, so that the comparison of their usability features would result in richer understanding

of different types of e-commerce sites. Therefore, the four chosen webshops each focused on different product categories, were different in the dimension of the operations and in their familiarity to the audience. Four cases were thought to ensure the richness and usefulness of the data, while keeping the study moderate enough to be executed within the time limit. All chosen webshops were available in Finnish language, as the study was executed with the help of Finnish participants.

3.2 Data collection methods

Direct observation

Direct observation is the most common method of usability testing. Instead of the observer immersing oneself into the studied phenomenon as one of the participants, in the direct observation the observer takes a more detached stand to the subject. In the testing situation the observer watches rather than taking part, and tries not to influence the participant as much as possible not to bias the observation results. Technology is often used to videotape or record the sample situation. (Trochmin, 2006.) The method was chosen, because it serves the best the purpose of spotting usability flaws in a testing scenario. The observer is able to witness user behavior and difficulties on spot, which provides valuable information on the topic.

Unstructured interviewing

In usability studies a short in-depth interview typically follows the testing situation, sometimes described as probing due to its exploratory nature (Krug, 2014.) The interviews are often unstructured, and although they focus on the core concepts, the form and flow of the questions varies according to what happened in the testing situation in question. The interviewer is free to choose the direction of the discussion spontaneously, and it enables exploring the topic in-depth and gaining rich data on the studied phenomenon. (Trochmin, 2006.) Observation alone does not necessarily reveal usability flaws or their causes, which is why the

interviewing was used to confirm and question what happened in the testing situation.

Case studies

Case study is an intensive method used to produce new in-depth information on a certain subject. It is typically conducted using a combination of methods, such as observation and interviews. (Trochim, 2006.) The case study method enables conducting new information on the topic, which was the main objective of this study. Studying existing literature alone could not be rationalized, as it does not provide much new to the topic.

4 THE CASE STUDY

The research was a multiple case study of four e-commerce web sites. It was executed by monitoring in total twelve participants, three on each website, using already existing web-services. The participants were observed, interviewed and listened throughout the monitoring process. Steve Krug, usability professional sees this kind of quick, random and observational testing a good way to conduct a useful result (Steve Krug, 2014.) The results were then compared to each other and to other existing studies.

4.1 Execution

The study process started when the objectives, methods and approaches of the study had been identified. The main objective was to spot usability flaws and their effects on the way users perceive the e-commerce.

The tasks

A lot of weight was put on the planning and wording of the test tasks and scenarios, in order for them to as a whole pilot a realistic online shopping experience. First, the most important actions a user should be able to do on an online marketplace were thought of. It was concluded, that the user should be able to:

1. Find the information on the company's policies including its delivery and return practices.
2. Browse and find products and their details effortlessly.
3. Find, view and modify the cart, add products to it and proceed to pay.
4. Register and view personal information and orders.
5. Navigate from page to another successfully.

The test tasks were then formed to be scenarios, which offered context the participant could relate to while performing the tasks. As an example: "The

Christmas is coming and you want to buy presents to your family. Your mother has been dreaming of a Michael Kors-watch in rose gold, so you want to preview the customer reviews on it and purchase it.” The test scenarios were customized for each website, but they all still followed the same structure and style. The aim was to keep the tasks between websites as coherent as possible, so the results could be efficiently compared in the analysis. The usability of the actual payment process and registration were only evaluated up to filling the forms of the first page without proceeding forward.

To protect the privacy of the case companies, detailed testing scenarios are not revealed in the thesis. Instead, a test scenario that generalizes the four customized scenarios was created. It demonstrates the readers of the thesis how the usability was measured. Additionally, it contributes to keeping the process transparent and open for critical evaluation. The generalized scenario can be found at the end of this thesis from the appendices as Appendix 2.

The test situation

The twelve participants participated in the test situation in their own homes, and if available, with their own computers. If a computer was not available, participants performed tasks using a laptop and mouse offered by the moderator. The selection of the testing location was justified by the fact that online shopping is typically done at home. The participants did not have to see extra effort on traveling, and were in their comfort zone instead of unfamiliar surroundings. It was thought to help neutralize the effects on the results caused for example by nervousness. Each testing situation started with the moderator explaining the following things to the participant suggested by the usability professional Steve Krug (2010):

- Moderator introducing oneself
- Explaining what the testing situation is about and what the results are used for
- Making clear that the site is tested, not the participant

- Requesting the participant to think out loud as much as possible
- Expressing that the participant may ask questions, but that all might not be able to be answered right then
- Emphasizing that participating is voluntary and breaks can be kept if the participant feels like it
- Asking the participant to sign a consent form.

The moderator introduced herself and explained that users were asked to use the site so that information could be gathered for the author's thesis on how the websites work and so that the sites could be improved. It was emphasized that they could not do anything wrong, that they were not tested, but the site was. They were encouraged to speak out loud about all of their thoughts, and it was expressed that it would help the study a lot. They were told that they could ask questions whenever, but because it was more beneficial to see how people do without help, their questions might not be answered right away, and would be at latest addressed when the tasks would be done. Additionally, it was ensured they understood that participation was completely voluntary and that their identity would not be revealed to anyone. Finally, the participants were asked if they would be fine with the session being recorded, that only the author would listen to it and use it as a help to remember what happened during the session.

Before starting, the participants were asked to sign a consent form, which was used to confirm that they were aware of what they were asked to do and would agree to the session being recorded. The consent form can be found at the end of this thesis from the Appendices as Appendix 1. The research continued with a short pre-interview, which was used to evaluate the participants' proficiency in computing and using web services. They were for example asked, what their profession is, what type of web sites they usually browse, and how much time they use for browsing web sites and email at home and work per day. The pre-interview can be found at the end of this thesis from Appendices as Appendix 3.

Then the moderator opened the website that was tested, and asked the participant to take a look at the page and then describe what they think

about it and what they think can be done there. Next, the participant was offered a printed task list, and explained that the moderator will also read aloud each task before it will be done. The participant was also requested to do the tasks first without using the search box, in order to get a better understanding of the overall usability. At the end using the search box was also allowed in order to evaluate its usability. The moderator stood behind the participant to observe, so that the attention would not be drawn to the feeling of being observed. The moderator interrupted the participant as little as possible, only sometimes asking questions like “What are you thinking?” and “How do you feel?” to encourage thinking aloud. If the participants got frustrated or could not execute the task, they were offered just enough help so that the testing could proceed. In case of questions the participants were encouraged to think what they would normally do in the situation. Once the tasks were done, the moderator asked questions on the basis of what happened during the testing situation like “You seemed to be frustrated while looking for the contact information, why was that?”, “While looking for the first product you said that you feel confused, why was that?” The participants were also asked about how they felt using the web shop and would they use the site in the future. Finally, the participants were asked if there were any questions and thanked for the participation.

Changes in the testing process

In the beginning of the process, when each site had been tested with one participant, it seemed like the tasks had to be modified and more attention had to be paid to the questions asked after the test situation. After recapping what went through in the first four test situations with the help of notes and audio recordings, it was clear that the tasks did not evaluate all the functions needed and did not replicate enough the real shopping experience in their order and form. Tasks like “Purchase a camera” were changed to be more like “Think of a product you would want to get as a Christmas gift, search for it, review the details important to you and add it to the shopping cart.” The task order was also re-evaluated on the basis of how the author herself would proceed in an online shopping situation.

Additionally, more information was searched on how post-interview questions should be formed for the best results. Questions like “How did you like it?” were changed to questions tailored for each participant, such as “You said that the product page frustrated you, why was that?” The modifications were seen critical in order to gain richer and more valuable data on the topic.

4.2 Research data

The research data consists of four written test scenarios, twelve consent forms, and twelve audio recordings (40 minutes each) with their written up versions, written interviews and the field observation notes. All data was in Finnish, and was translated to English for this thesis by the author. The case studies were conducted in October 2016, and included the following four companies:

Case company A: Retails products of various manufacturers. The focus is on technology, but the product selection is similar to department stores and includes variety of everyday items. The services are available only for Finnish audience, and due to the big selection of products the structure of the web-shop is quite complex. Company has also brick and mortar shops.

Case company B: Is a large clothes retailer operating in Scandinavia. Its services are well-known amongst Finnish and Nordic audiences. Web shop applications are quite complex due to the big selection of the products. The company has only e-commerce operations.

Case company C: A mobile operator that focuses on phone and computer related products, including data and media subscriptions for phones and media centres. The structure of the web shop is relatively simple. The company has also brick and mortar shops.

Case company D: Retails books, with the focus on Finnish school books. The e-commerce applications are rather small and not as familiar to bigger audiences in comparison with the other case companies. The company

has also brick and mortar shops. Commissioning party of the thesis, identity kept private.

The following case data excludes the data irrelevant to the research questions, and focuses on the usability problems that were faced during the test situations. The quotes are also representative examples of what was found, and do not present fully all the gained data.

1.1.1 Case company A

Participants were first asked to browse products. When being asked to find a pre-defined product using the defined search, two of the three participants could not spot the defined search function right away. Before finding it, they questioned whether there was that option at all.

“My eyes focused first to the advertisement, which I guess was what they wanted, but then I missed the search button. It is a bit uncomfortable to have to try and find it when there is a lot of stuff around it and the button itself is so small.” –Male 22

However, it needs to be taken into consideration that when a participant was allowed to use the search box, the defined search also opened up to the page with the results. Two out of three participants pointed out that normally they would always use search box to find a specific product.

When participants could search for a product of their interest freely, one of the participants clicked on a product that turned out to be no longer in the shop's selection. It was still visible like any other product, and only after opening it to the product page the participant was able to find out it is was longer available.

“I want this Asus Senbook Pro, it looks nice. No longer in the selection? Then why do you still have it in your web shop? I don't understand.” -Female 18

While browsing the products through the side navigation, the participant clicked on “Phones” and scrolled the page to view the products only to see that there were previews only for six products.

“Really? Is this all they have? I clicked on phones, why can’t I see all of them?” -Female 18

The participant kept clicking the category “Phones” without anything changing. Then she tried to click the “Brands” above the products and only after choosing a certain brand, she could view all of the phones in that category.

“But I chose from there the category laptops, and Apple as the brand, and I don’t think a media player is a laptop. Works so well, now they offer me a laser mouse too, not good at all.” -Female 18

Instead of showing only laptops as selected, related by-products were also shown. There were also a few problems with misunderstanding the content. For example, when one participant was looking for information on returns policy, links “Returns” and “Browsing history” in the product page revealed the percent of that certain product returned to the shop and the last sale and arriving dates of that product.

“These buttons didn’t really tell me much. These things don’t break too often, so I don’t really see why there is this kind of information here.” -Male 22

Meanwhile, the other two participants didn’t pay any attention to the two previously mentioned links or any other content besides the product box and purchase buttons. The company advertised the possibility to pay products with an instalment plan. On the product page, when the participant clicked on the instalment price link “with Instalment plan 96,00 €/kk (24 kk)” under the price of the product, a list of payments in different monthly instalments were shown.

“Yeah, I can see how much it costs with each instalment plan, but how do I purchase the product with the instalment plan? Where can I find that?” -Female 25

Two of the three participants eventually concluded that they would maybe have the instalment plan option in the shopping cart while proceeding to pay. Additionally, while looking for the contact information, all three participants first clicked on “Company information” on the top of the page,

and only later found the “Contact information” link on the bottom of the page.

“Here it says Company details. Is that the same thing as Contact details? Let me see. Nope, it is not.”-Female 25

Regardless of the issues, all three participants expressed in the post-test interviews that overall the site was good to use, and they might use it in the future. The positives that were mentioned included the visually clear side menu, functionalities within the defined search and the shopping cart that was visible at all times.

1.1.2 Case company B

While discussing the usability flaws of the site, it needs to be taken into consideration that the company operates purely online, and targets global audiences, unlike the other three case companies. Throughout the three usability testing sessions, barely any flaws were spotted. Participants had positive comments on the easiness of the browsing and the structure of the content. The flaws that were indeed found were according to the participants unpleasant but not serious.

One of the participants wanted to browse category “Shoes”, and chose a sub-category “Flats” and tried to further choose “Loafers” which seemed to have 29 products in it. The page was directed back to the main category shoes without showing any kind of error message. Participant tried to repeat the same route, and the same thing kept happening. Four out of the six sub-categories had the same result.

“I don’t understand. I chose Flats. Then I chose Loafers. I got nothing at all and it just takes me back to the shoes. I don’t understand, it even says that there are 29 products, and yet nothing is shown to me.”-Female 23

When one of the participants was about to freely browse products, she moved around the navigation for a short while thinking where products could be browsed.

“If I just wanted to check jackets, where here could I find those. Let’s see. Oh here? “Order”? Yeah they are here, has there happened some kind of translation mistake here?”-Female 30

When the participant was about to put a product to the shopping cart, there was only one size left. The page had already preselected the size because there was only one option left, and when the participant clicked on it and then tried to add it to the cart, there was a notice “You need to choose size first.”

“Let’s choose that. Add to the cart. What. But I chose the size already. Okay I’ll re-click it. Now it’s in the cart.”-Female 30

4.2.1 Case company C

While freely browsing products, the participant picked “Phones” from the upper menu, and then tried to scroll to see the whole side menu. The brands list seemed to be cut in the middle not showing everything.

“There’s something not visible here. I had to scroll all the way down the whole product list to see the rest?” –Female 29

In the product view when the participant had not modified the search bar in any way, the product box only had the option to choose the colour, but a pre-set instalment plan price could not be changed for example to the full price. Later when proceeding to pay, the cart had the option to change the paying option.

“What if I would want to buy this like all at once? Like from the normal shop, just buy it and take it with me. How do I get that option here? Or is the only option for this product to buy it with an instalment plan?”-Male 49

One of the participants wanted to search Samsung products by writing “Samsung” to the search box and pressing enter. Nothing happened, and the participant tried to click the magnifying glass icon on the search box which did not respond to clicking either. Instead, a long list of related products and sites appeared under the search box.

“I pressed enter. Why is it still like this? Do I really have to scroll this whole list of suggestions and choose one? But I wanted to see all Samsung products.”-Female 23

When the possibility to modify the shopping cart was tested, only the option of deleting the products was available. There was not a possibility to change amounts, styles, or payment options.

“But like if I was still thinking in between colours, on this iPhone I like the rose gold and silver both. I can’t change it here anymore. Usually I can always make changes in my cart when I use other pages.”-Female 23

All three participants had difficulties in finding information delivery and returns policies. Eventually, the delivery information appeared while proceeding to pay in the cart, and the returns policies were found through Customer service > terms of contract > cancelling the deal and returning products.

“I really can’t find it. Could it be in the Customer service? There’s a chat there, I could ask from there.”-Female 23

4.2.2 Case company D

In the case, the web shop was entered through the company’s main page. After clicking the “Web Shop” link, the user was directed to a page which explained the web shop functions. Two of three participants expressed that they thought they would be already in the web shop after the click.

“I thought I would already be in the web shop. And now do I need to click something again?”-Female 18

Similarly, while looking for the delivery and return policies, the user clicked on “Payment and delivery options” and was directed back to the company page and out of the web shop. The user had to click the button “Go to the web shop” again to get back.

Throughout the testing situation all three participants expressed that they were overwhelmed because the font size was small and there was a lot of text on most pages. Similarly, while asking the participants if they had

noticed a few important notices related to the products on the page, two of the three participants said that they never noticed them.

“I think this text is so messy, like so small. If you can think it like that, as an older person, I think the text should be clear and organized well so it’s easy to read. I would not have the power to read this trough.”-Female 59

When participants added products to the cart, all three tried to search for the cart in the upper right corner. All eventually found the cart on the left side of the page on top of the registration and product categories, and right away said that they expected for it to be up in the right corner.

“Where is the shopping cart? Do I have to go back to find it? Usually it is here on the upper right corner. Why isn’t it here, it’s always here. Oh, it’s there! It’s in the wrong place! Confusing that it is here, was it even here when I was on the previous page?”-Female 59

While looking at the products in the shopping cart, one of the participants tried to click on the products in the cart to view them but nothing happened.

“What. Why can’t I click on the product to view it? Usually always when clicking here I can go back to look at the product, here I can’t. Wait a second, I can only delete it but not view it. It is a must for me to get to see what my choice was again.”-59

4.2.3 Post-test probing

After the tasks nearly all users pointed out that regardless of some difficulties they would still possibly use the pages in the future.

“Other than that the site was quite clear and I could use it for price comparison and if the price would happen to be cheaper here, like they advertise, I would order from here. It is nice that you can order without registering to the site.”-Male 22

“I mean, the information on delivery was a little bit difficult to find, but this site seems trustable and works overall well, so I could purchase from here.”-Female 23

4.3 Research analysis

In this chapter the data was organized, and the meaning and cause of the results were analysed. In order to analyse the data, the problems were categorized into groups that describe the nature of the found usability problem. The aim of the research problem was to discover what kind of usability issues exist in the webshops. Therefore, the categories were created to reflect the type of the problem. The following categories were initially derived from the data:

- Arrangement: How features and content have been arranged on the site?
- Locatability: How easy is it to find content?
- Readability: How easy is it to understand content?
- Functionality: How functions work?

While analysing the data, the categories Arrangement and Locatability were clearly closely connected. Therefore, the two were combined by making the Locatability a term used on certain cases within the Arrangement category. Before the data could be analysed, the problems were derived from the data in a way that described the core of the problem. There were problems in:

- Being aware of the prevailing location within the shop
- Finding relevant content
- Finding crucial functions
- Understanding the content
- The functions not working as expected

The problems are discussed next in more detail under their assigned categories.

4.3.1 Arrangement

There were problems with being aware of the prevailing location within the shop, finding relevant information and finding crucial functions. Problems

caused by how functions and content were arranged on the site were found on three out of the four evaluated webshops. Amongst all tasks, the participants spent the most time on trying to find requested content on case A, case C and case D sites.

Although in two cases, case A and case D, the page itself was found relatively fast considering the problems in finding the correct link at the first try, the content was arranged in a way that did not support locating specific information. It was presented in long lists, which forced the participant to read and scroll through all of the information on the page. On case C the pages were structured in a way, where the same main menu was visible both on the company's main page and the web shop. It seemed to affect the participant's ability to connect the information links to the web shop. Additionally, on case C and case D sites, the participants clicked an information link within the web shop, and ended up outside of it to a sub-page of the main page. They had to navigate back to the web shop, which added up to the participants' workload.

In case C and case A there were also difficulties in spotting the defined search functions. In case C this happened because the functions were divided into two different locations and in some pages categories weren't completely visible. In case A the grey-coloured small defined search button was located next to the product categories and a big advertisement, and for that reason was missed by participants.

Out of the four case companies, only case D had issues with the location and presentation of the shopping cart. It was not visible at all times, and the participants could not spot the cart right away, when it was not located in the upper right corner like the standard often tends to be.

Case C and case D both have in common that the range of the products is relatively small, but the practises regarding products and their purchasing have to be further explained to the customer. It results in a lot of information to organize, which in these cases has not been completely successful. Case A has a much larger selection of product categories and

content in the web shop overall. For that reason arranging the content is also a difficult task, which most likely resulted in the different information sources being scattered around the page incoherently.

The most severe issues seemed to be in finding relevant information and in one of the cases the location of the shopping cart. All participants experienced difficulties to some extent on the previously mentioned web shops while trying to find information. The issues are relevant especially to those who are about to purchase something, and not to all visitors. In the context of the whole online shopping experience, having to search for the information did not seem to significantly affect the whole online shopping experience. However, the issue with the arrangement of the shopping cart seemed quite major. All three participants had difficulties in spotting it, and after they did all expressed that they hope it would be still visible somewhere at all times.

4.3.2 Readability

The problems were in understanding the content. In three out of the four evaluated webshops, there were small problems with the readability of the content. In the two cases it was caused by the choice of words. In case B the products were found from behind a link "Order". In case A there was a misunderstanding between "Company information" and "Contact information", and the participants understood that the links "Returns" and "Product history" in the product page meant something completely else than what was presented. In the webshop of case D, all of the participants had difficulties in reading the content because of the small font size and heavy presentation of the text.

The word choices seemed to be connected to the expectations the companies have for their clients. The webshop of case B is directed to younger females, and has styled the content all around to suit that focus group. Because only one participant had the issue and did not feel strongly about it, it is safe to say that the problem is not generalized to bigger audiences. In case A the misconnection of the two links was

possibly related to how they were located on the page. Although it resulted in a few additional clicks, the problem did not seem significant in the shopping experience as a whole. In the webshop of case D it has not just possibly been considered that the users might have difficulties with reading the content the way it is. Out of all readability issues it seemed to be the most severe, already due to the fact that this certain company's business operations have to be introduced to the new clients before they can successfully use the webshop. If the content is hard to read, users are more likely to skip it and then face more difficulties while using the webshop.

4.3.3 Functionality

All four webshops had some kind of issues with their functionality, which often led to not finding relevant content. Case A, case C and case B had a defined search option. In case A, only a few products of the category were visible in the search result page and there was not an option to make all products matching the result visible. Additionally, even after selecting a certain category other related products were shown. Because the many search functions were overall inconsistent and scattered around the page, the user's workload increased noticeably. The defined search of case C was in some categories not completely visible, and could only be made visible by scrolling the whole page down. In case B the problem also occurred in one category. The sub-categories seemed to have products in them, but when they were clicked the page just returned to the main category without an error message.

The functionality of the textual search box was also evaluated. In the search box of case C typing a product name and pressing enter did not result in anything. A certain product had to be chosen from the list of suggestions, which included all possibilities within the whole company's website, and not just the web shop. The goal of searching all products of a certain brand could not be done. Quite the opposite, the search box on the site of case D did not offer any suggestions when the name of the product

was written, and if the name was not written exactly like it was named in the web shop, nothing was found. Instead, a text box advised how the user could write the name of product better, which again added to the user's workload.

The two webshops, case A and case D, had issues with the functionality of elements that seemed like buttons or links, but which did not lead anywhere. In case A that element was an instalment plan price under the full price of the product. In the webshop of case D, when a product was moved to the shopping cart, a button notification "Product has been added to the cart" appeared but did not react to clicking.

In the webshops of case C and case D, there were problems with viewing and modifying products in the shopping cart. In case C, the product could only be deleted, but pricing plan, amount and colour could not be modified. In case D, the products were only shown in a textual form and could not be viewed by clicking them.

Attention must be paid to the fact, that although the previously explained problems were defined in detail, they were not necessarily significant or experienced by all participants. Additionally, the four tested webshops all illustrated different types of businesses in different stages of the development of their operations. It affects the amount of findings for each webshop and each problem category, which is why the results in common cannot be generalized to concern all evaluated shops. To reflect the meaningfulness of the problems, it is important to think of them in the context they appeared in.

4.3.4 Found concepts

The results indicate that the seriousness of the usability issues is affected by the context where the problems occur. In comparison between big and small webshops, the errors in usability appeared to have a stronger impact on the participants who were using the smaller webshops with more restricted product selection. In the test situations it seemed to be because

of the fact that in the bigger shops if one function was not working, there was another similar one to take its place. In the smaller webshops if a function was not easy to use there was not any other option but to find the content using it.

An interesting finding was that there was a significant difference in the usability between the three sites operating domestically through multiple channels, and the one that operates purely online with the focus on international market. The usability evaluation revealed that the company's web shop had barely any usability flaws. The few issues that arose did not seem to affect the overall experience of the participants. All the participants navigated on the page fluently and even expressed personal interest towards the page. It may be interpreted, that in order for a business operating purely online to be successful amongst the international competition, all functions of the web shop must be carefully considered with special focus on the users. The results also suggest that the domestic e-commerce could benefit from trying to follow the example of web design set by international operators.

Out of the categorized usability problems, arrangement of functions and functionality seemed to have the biggest effect on usability. This seems to be related to the fact that people use online shops precisely on browsing, searching and purchasing products, and these three are mainly executed by using functional features. When browsing or finding a product did not happen efficiently, nearly all participants showed signs of frustration. However, after conducting all twelve test situations the effect of the flaws overall did not seem remarkable. There were not any major difficulties in the execution of the tasks, and all participants expressed in the post-test probing that even the sites with most usability flaws were overall fine to use. While interpreting what the responses may mean in reality, it needs to be considered that in the test situation the participants had to use only that one certain site and finish tasks regardless of how much time or effort it took. In reality, there are many competitors and small things may affect the user's preference between the options.

The results in what problems were found in the evaluation cannot be generalized to web shops overall. However, the usability problem categories derived from the data may describe the types of universally existing usability issues.

5 CONCLUSION

The thesis aimed to answer the following research questions:

What kinds of usability flaws can be found on online webstores? and

How do users perceive the said usability flaws?

The usability evaluation of the four webshops revealed the following usability problems: incoherency in page structure, problems in finding and understanding relevant content, problems in finding crucial functions and the functions not working as expected. It was further defined that they were problems in functionality, readability and the arrangement of the content. The results indicate that the most significant problems to the participants were in the combination of arrangement and functionality of the searching and browsing functions. It was interpreted that the functionality of those functions is especially crucial, because it supports the core actions users perform in webshops.

The results suggest that the seriousness of each problem is tied to the context it appears in. Similar problems, like the malfunctioning of the search box on a website, were seen to be more severe on smaller webshops with the focus on group of products and specific target audience. Another interesting finding was that there was a significant difference in usability between the three sites operating domestically through multiple channels and the one that operates purely online with the focus on international market. For that reason, it could be concluded that the domestic e-commerce companies would benefit from trying to learn from the example set by international operators.

However, the observations of the participants and the post-test interviews indicate that overall the problems were not critical enough to prevent participants from executing tasks but instead were seen as a hindrance in achieving a pleasant shopping experience. In most cases, most of the participants expressed that overall the sites were okay to use, and that they could maybe use the services in the future. It is important to notice

here that none of the participants expressed enthusiasm towards the three domestic pages, whereas all participants evaluating the international operator got immersed into actually using the webshop. Usability flaws overall might not be a major setback for users, but each business needs to consider whether it wants to take the risk of users preferring a site that works better for them.

Additionally, this thesis demonstrated that in order to gain relevant knowledge on the problems, usability testing does not necessarily require a lot of time, money, expertise or a big number of participants. Each site was evaluated with three representative participants, which was enough to reveal the most significant problems in those webshops and how the participants reacted to them. This thesis also presents the used method and the actual test process, which can be used as a help in conducting a usability evaluation of any kind of a webshop.

6 DISCUSSION

6.1 Contribution

There is relatively any freely accessible information on what the actual usability issues have been found to be specifically in e-commerce, which is why the results of this study cannot be further discussed in the light of other findings. Because of that, the validity of the results is discussed in more depth below. Although the results of this study cannot be generalized to e-commerce as a whole or even to a specific group, they provide insight into what kind of issues can be found and with what methods. This study also works as an encouragement for entrepreneurs who hesitate to start usability testing because of prejudices against the process.

6.2 Validity

Various researchers have proposed that qualitative research should have its own criteria that reflects better the assumptions involved in it, in comparison with the criteria that originates from quantitative studies. Alternative criteria suggested for judging the qualitative research includes credibility, transferability, dependability and confirmability of the results. (Trochim, 2006).

Credibility means that the results are believable from the perspective of the participant, since the aim is to understand the phenomena through the participant's eyes (Trochim, 2006.) In this study, the final conclusions could not be confirmed with the participants because the estimation of credibility was not originally included in the research plan, and the time therefore ran out prematurely. However, after each test situation had finished, the moderator discussed what had been observed during the test to confirm the rightfulness of the observations. It should to some extent improve the credibility of the data, even if it cannot be fully extended to the concepts.

Transferability refers to the extent to which results can be transferred to other contexts. The researcher can describe the research context and the assumptions made as specifically as possible, which then in qualitative studies makes the person transferring the results to other context responsible for judging how reasonable the transfer is. (Trochim, 2006). It has been expressed throughout the thesis that the test situations were conducted for the four websites and the found usability issues were strictly related to those contexts. The results are not generalizable to e-commerce as a whole but give an insight into what kind of issues may exist.

The reliability usually found from quantitative studies can be evaluated in this study only to some extent. It is based on the assumption that the same results should be able to be observed or found twice. In this case, the transparency of the research methods makes conducting a similar research again possible, possibly finding similar results regarding usability problems. However, it can never be assured that the participants would have the same difficulties, or that the observer would observe the same things. Therefore, the term dependability is the more accurate term here. It emphasizes that the researcher is responsible for reporting the changes in the context and how they affected the way the study was approached. (Trochim, 2006). In this case, the limitations of the study and the possibility of variation in each test situation was noted throughout the thesis.

Finally, confirmability describes how well research data supports findings when being examined by other researchers. Certain criteria is used to confirm that there is no bias caused by the subjective interpretation of the data made by the researcher. This aspect will be more thoroughly inspected, when the evaluator of this thesis evaluates it. However, in this thesis there is a possibility that the researcher's experience as a whole during the test situations has affected the interpretation of the concepts. It could have happened to the extent that the same concepts cannot fully be derived from the presented data by another person.

Overall the validity of the results of the observations is relatively good, as the observations were confirmed on the participants after each test

situation. It has been acknowledged that the results cannot be generalized to e-commerce but that the research settings could possibly be transferred to other contexts to yield similar results. The validity of the interpretations of the data seem to be the most vulnerable to criticism, because like in all qualitative studies it is likely to be affected by the researcher's subjectivity.

6.3 Coverage and limitations of the research

The participants were Finnish and the evaluated online marketplaces were in Finnish language. The thesis did not discuss the controversial subject of cultural influence on usability requirements, which may affect the applicability of the results in a global context. Accessibility, which is one of the aspects of usability, was not evaluated. Therefore, the results do not indicate how a disabled person would evaluate the usability of the tested websites. Additionally, the research did not evaluate the usability on the pre-defined usability heuristics, but leaned on to the simplest definition of usability: Anyone with any skillset (Krug, 2014).

It is important to understand, that all qualitative studies have various limitations, which are tightly connected to the used methods. The methods used in this study, (observations, interviews and data handling) are all greatly affected by the researchers abilities, decisions and personal attitudes towards the subject.

Usability testing always has its limitations regardless of the used methods. In this study, the selection of studied e-commerce websites and the participants were picked by the researcher, by using methods that were seen to best suit the purpose. However, there is no certainty that the chosen participants were the best fit to participate the test situation, or that the chosen type of e-commerce yields best research results.

Additionally, in this case, the usability test tasks were created completely by the researcher, who had not conducted a usability study before.

Usability evaluation tasks are always customized for the tested service and, for that reason, the applicability and the trustworthiness of the results

may depend on how successful the created tasks and the testing situation were in replicating a realistic online shopping scenario. The results may also vary according to the complexity of each evaluated system and the difficultness of the customized tasks. (Riihiaho 2015, 127.)

Regardless of the efforts to make the test situation as natural as possible, the staged test conditions always have an impact on how participants act during the test situation. The moderator presence has been shown to affect the way the participants feel about the tested system. The participants who have had a moderator present in the testing situation have tended to give more positive feedback on the evaluated system than those who were not accompanied by a moderator. Negative feelings have been thought to be moderated by the fact that the participants get to express their thoughts to another person while evaluating the application. (Riihiaho 2015, 124.) Another affecting factor has been found to be the participant's willingness to please (Barnum in Riihiaho 2015, 123).

Observation has the limitation that it is strongly related to the moderator's abilities to note and assess the participant's actions in the context of usability. Careless observation could result in some of the flaws going unnoticed, or at worst in misinterpretation of the actions of the participant. Riihiaho (2015, 124) found in her study that thinking aloud alone does not make the moderator necessarily more certain about the cause of the issue or offer solutions to the problems.

Interpretation and the analysis of the data of the results are fully up to the researcher, which affects the trustworthiness of the found concepts. The researcher also chooses what parts of the data are valuable and relevant to the specific topic. In the process selecting the data which is focused on, there is always a risk of something relevant being left out of the analysed data. All the discussed limitations have been taken into consideration while interpreting the research results.

6.4 Suggestions for future work

Usability is a topic that grows to be more important all the time, when the importance of user in computer-human interaction gets acknowledged more. There are many aspects to it that are yet to be studied, but the data gathered in this research awoke a few especially interesting topics to be studied.

Why the Finnish e-commerce websites are unable to match the level of international operators in their web functions? The research found that there was a significant difference between the international and domestic companies, but did not discuss its cause. This subject would be especially important to the domestic e-commerce operators, so they could reach better results and strengthen their position in the Finnish marketplace.

Another relevant topic would be studying what are the actual reasons for user preference between webshops. Although this research gave light into how users react to the usability problems, it did not study the aspect of the user more in depth. The suggestion seems especially relevant, when there is a growing need to understand why the users do what they do in order to serve them and the business purposes better.

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APPENDICES

Appendix 1: Consent form

Appendix 2: Generalized task scenario

Appendix 3: Pre-interview

(Appendix 1, consent form)

Suostumuslomake

Kiitos, kun otat osaa käytettävyystudkimukseeni.

Nauhoitan keskustelumme jotta voin myöhemmin tuloksia tutkiessani palata siihen mitä tapahtui. Kerättyjä tietoja käytetään ainoastaan nettisivujen parantamista, sekä opinnäytetyön toteuttamista varten. Henkilöllisyyttäsi ei paljasteta missään muodossa.

Ole hyvä ja lue seuraava alla esitetty väittämä ja allekirjoita sille tarkoitettuun kohtaan.

Ymmärrän että käytettävyystudkimustilanteeni nauhoitetaan.

Annan henkilölle Sini Pokki luvan käyttää tätä nauhoitetta tutkittujen nettisivujen palveluiden kehittämiseen, sekä opinnäytetyön kirjoittamiseen.

Allekirjoitus: _____

Nimenselvennys: _____

Päiväys: _____

(Appendix 2, generalized task scenario)

Tehtävät (esimerkki)

Pyydän sinua näin aluksi olemaan käyttämättä hakukenttää selaillessasi nettisivuja. Niin saamme parhaiten tietoa sivujen yleisestä käytettävyydestä.

- Joulukuuh lähestyy, ja haluat hankkia ystäville ja perheenjäsenille lahjoja. Pohdi tuotteita, jonka voisit haluta ostaa läheisellesi näiltä sivuilta, ja lisää ne ostoskoriin.
- Kuulit juuri äidiltäsi, että isäsi on toivonut joululahjaksi (valikoiman tuote X). Haluat kuitenkin ensin vertailla samankaltaisia heti saatavilla olevia tuotteita, ja sitten vasta valita niistä parhaan ostoskoriin.
- (Tästä eteenpäin saat käyttää kaikkia hakuominaisuuksia)
- Tiedät, että äitisi on jo kauan halunnut (valikoiman tuote X), joten etsit sen ja katsot onko se kovin kallis.
- Ostosten tekemisen kesken tajuat, että sinulla on vain 100 euroa rahaa käytettävissä, ja seuraava palkkasi saapuukin vasta seuraavassa kuussa, joten tarkistat ostoskorista tuotteiden loppusumman.
- Nettisivut mainostavat osamaksusuunnitelmaa, joten haluat tarkistaa auttaisiko se sinua hankkimaan kaikki haluamasi tuotteet heti.
- Lopulta päätät vain karsia tuotteita ostoskorista niin että sata euroa riittää, ja etsit sitten tietoa toimitus- ja palautusehdoista varmistaaksesi että joululahjat saa palautettua tarvittaessa.
- Palaat ostoskoriin edetäksesi kassalle, ja tarkastelet maksulomaketta.

(Appendix 3, pre-interview)

Esihaastattelu

1. Aluksi haluaisin kysyä, että mitä teet ammatiksesi?
2. Kuinka monta tuntia suurin piirtein käytät internetiä viikossa koulussa ja kotona yhteensä?
3. Kuinka paljon siitä ajasta noin suunnilleen käytät prosentteina sähköpostin selailuun?
4. Minkä tyyppisiä sivuja katselet yleensä kun käytät nettiä?
5. Käytätkö paljon verkkokauppoja?
6. Viimeiseksi haluaisin kysyä onko sinulla mitään lempinettisivuja?