

Maximizing car insurance online sales by developing superior webshop

Paula Pylväs



Author Paula Pylväs	
Degree programme Information Systems Management, Master's Degree	
Report/thesis title Maximize car insurance online sales by developing superior webshop	Number of pages and appendix pages 65 + Appendix
<p>The purpose of this thesis work was to investigate what kind of webshop and what kind of improvements would increase customer satisfaction and maximize car insurance online sales by volume and by value. Main measure for this is the conversion rate, percentage of the potential buyers entering the site who actually make a purchase.</p> <p>This thesis considered online purchase theories, insurance online studies and mobile commerce studies. Through data collection I have tested the theories and propose my own synthesis of factors affecting consumer online insurance purchase decision.</p> <p>Main findings of this thesis are that different customer journeys in different contexts in the buying process should be supported and main factors affecting purchase decision should be considered in each step of the customers purchasing process.</p> <p>Main factors affecting the purchase decision are</p> <ul style="list-style-type: none"> • Cost • Attractiveness • Simplicity • Informativeness • Trust • Social influence • Context of use • Personal assistance • Age • Gender • Skills <p>Painpoints of the webshop in this case were found to be related to cost, trust, Informativeness and simplicity.</p> <p>Conversion rate could be improved by improving sales funnel optimization, building trust and improving Informativeness and support. Agile methodology would help to gain small improvements in short cycles.</p>	
Keywords Car insurance online sales, webshop, online purchase decision, improve conversion rate	

Table of contents

1	Introduction.....	1
1.1	Background.....	3
1.2	Purpose.....	3
1.3	Objectives.....	4
1.4	Research questions.....	4
1.4.1	What are the reasons for low conversion rate?	4
1.4.2	What action is needed to improve conversion rate?.....	5
1.4.3	How the improvements would be implemented?.....	5
1.5	Scope.....	5
1.5.1	In scope	5
1.5.2	Out of scope	5
1.6	Case overview	6
1.7	Terminology.....	7
2	Review of related work.....	10
2.1	Related theories	10
2.1.1	Online purchase behavior	11
2.1.2	Insurance online	13
2.1.3	Technology acceptance and use	14
2.1.4	Mobile purchase	15
3	Online insurance purchase behavior	16
3.1	Customer journeys vs. sales funnel optimization	16
3.2	Factors affecting online behavior and purchase decision.....	18
3.2.1	Cost	19
3.2.2	Attractiveness.....	19
3.2.3	Simplicity	19
3.2.4	Informativeness	20
3.2.5	Trust.....	20
3.2.6	Social influence	21
3.2.7	Context of use.....	21
3.2.8	Personal assistance	22
3.2.9	Gender and Age	22
3.2.10	Skills	22
3.3	Insurance online purchase - Affecting factors by customer journey phases	23
4	Research methodology	25
4.1	Action research case study.....	25
4.2	Data collection.....	25
4.2.1	Internal expert interviews.....	26
4.2.2	End customer interviews.....	28
4.2.3	Data collection from existing online services.....	29
4.2.4	Studies on webshop usability.....	29

5	Developing a webshop.....	31
5.1	Development results.....	32
5.1.1	Releases.....	32
5.1.2	Snapshots & process of new webshop.....	33
5.2	Opportunities of agile development methodology.....	38
5.3	Development challenges and experiences	39
6	Findings from data collection.....	41
6.1	Internal expert interviews - Simplicity.....	41
6.2	Customer interviews - trust	42
6.3	Direct customer feedback - cost and informativeness.....	43
6.4	Statistics - trust	44
6.5	Usability tests - Informativeness	45
7	Analysis.....	47
7.1	Analysis process	47
7.2	Reasons for low conversion rate.....	48
7.2.1	Overall painpoints.....	48
7.2.2	Usability painpoints.....	49
7.2.3	Technical painpoints.....	50
7.3	Suggested actions to improve conversions rate	52
7.3.1	Sales funnel optimization	52
7.3.2	Building trust.....	54
7.3.3	Informativeness and support.....	55
7.3.4	Context of use.....	56
7.3.5	Summary of improvements.....	57
7.4	How the improvements could be implemented and much would it cost	57
8	Conclusions.....	58
8.1	Conclusion of results	58
8.2	Generalization.....	58
8.3	Personal evaluation	60
9	Discussion and further development	62
10	Reference list	63
11	Appendix 1: Company confidential report.....	66

1 Introduction

Consumer attitudes and behavior towards online shopping has changed immensely during the past decade. According to PwC (2013) worldwide study on retail, of European shoppers only 3% have never made an online purchase and almost 40% have already made a purchase with a tablet or mobile phone. Figure 1. illustrates consumer shopping frequency in different channels.

How often do you buy products using the following shopping channels?

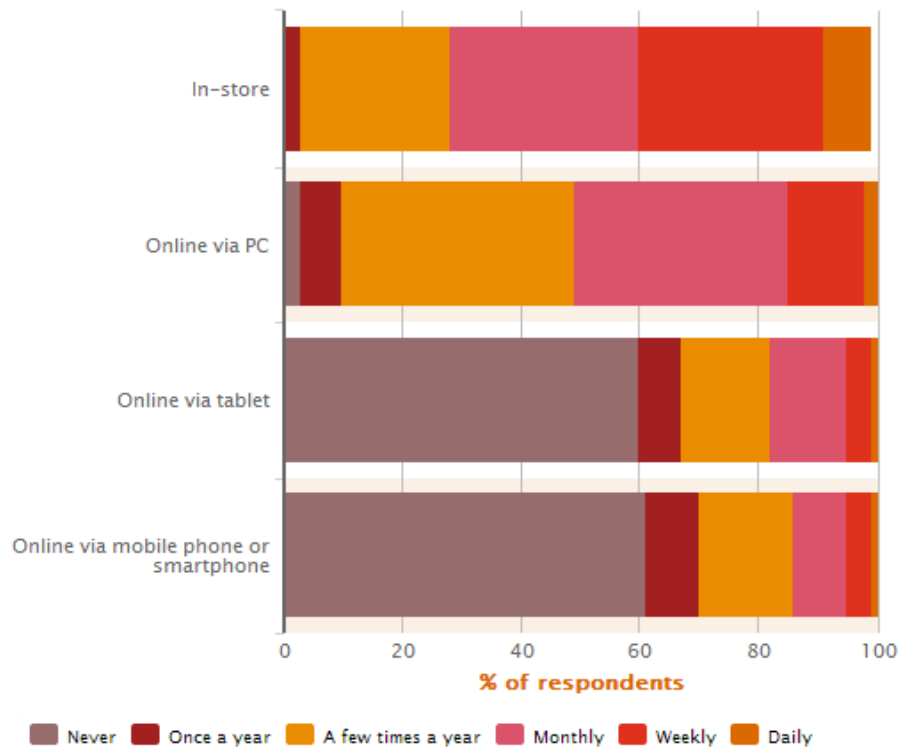
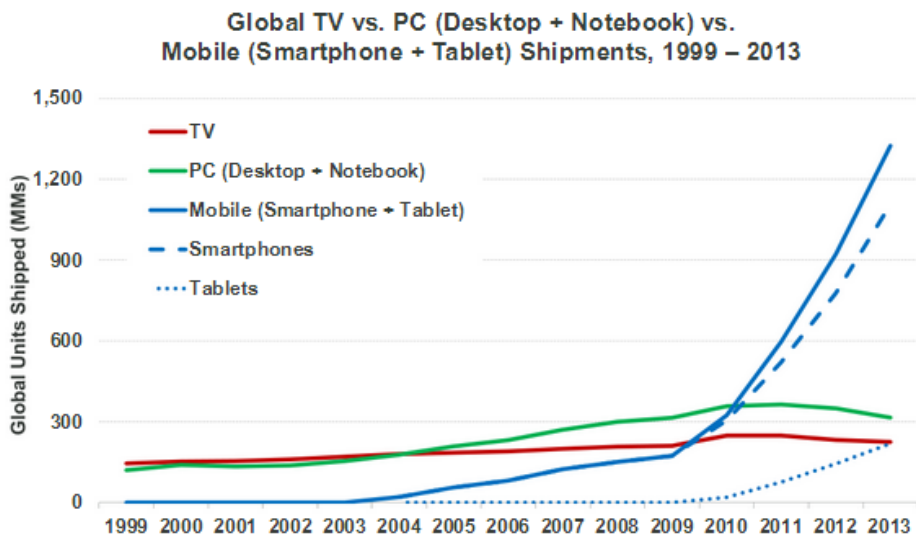


Figure 1. Shopping frequency in different channels by PwC (2013)

According to Tilastokeskus, 49% of 16-74 years old consumers in Finland have purchased or ordered something online in the past 3 months. According to TNS Gallup (2013) online shopping in Finland has grown 18% from 2010 and predicts the growth to continue.

Insurance online shopping fails to reach similar growth as retail. According to 2013 Auto Insurance Shopping Report by ComScore, the online purchases of car insurances in the U.S. have not grown 2012-2013. However, 67% of the purchasers had at least obtained a quote online and were open to the idea of purchasing online.

Mobile and tablet use has grown exponentially since 2010. According to Niemi (2010) mobile use was still done by early adopters in 2010 and to increase the number of mobile and tablet purchases, the usability of mobile use should be improved. The "First Lady of the Internet", Mary Meeker, has studied the growth of mobile and tablet use (Figure 2.) and predicts the use to grow.



@KPCB

Sources: TV unit shipments per NPD DisplaySearch (2004-2013 data) and Philips (1999-2003 data); PC (notebook + desktop) and smartphone + tablet unit shipments per Morgan Stanley Research.

95

Figure 2. Global growth of shipped tablets and smartphones in Mary Meekers presentation (2014)

Mobile online shopping is a growing trend while mobile and tablet use is becoming more common. According to MoPowered 30% of mobile shoppers abandon a transaction if the experience is not optimized for mobile. Amazon states that every 100ms in loading time decreases the sales by 1%. This describes well the exponentially growing demand for superior customer experience for mobile also. According to the same study 57% of customers

will leave the site if they need to wait 3 seconds. Consumers also expect the mobile purchase to be simpler than purchase with a desktop.

1.1 Background

My topic for this thesis work is Maximize car insurance online sales by developing superior webshop. Together with a team, we have implemented a new car insurance webshop which result was not as good as expected, the conversion rate (see Chapter 1.7 for terminology explanations) compared to the old webshop has not improved. In this study I investigate how the new webshop could further be improved and how those improvements would have an effect on the business goals.

I have chosen this topic to touch one of the most interesting challenges to overcome in the exponential growth of mobile and tablet usage - how to capitalize the growing interest to buy online and support the need for sense of security. I have chosen a limited and practical scope for the study and hope to generalize the results to cover also other aspects of finance industry online buying.

1.2 Purpose

The purpose of this thesis work is to study what kind of online sales features or a webshop would increase customer satisfaction and maximize car insurance online sales by volume and by value. From business perspective the aim of this is to identify and develop improvements to car webshop to

- Increase nr of online sales
- Increase € of online sales
- Improve customer satisfaction

The main measure for this is the conversion rate - the percentage of users entering the site who actually make a purchase.

1.3 Objectives

The objectives of this thesis work are

- Identify reasons why conversion is lower in the new webshop
- Identify improvement actions
- Estimate development effort and potential benefit
- Implement and measure results if so decided

1.4 Research questions

I have chosen three research questions I believe will cover the scope of the study and finding answers will fulfill the objectives of the work. The purpose of the thesis is also to improve the customer satisfaction, which will be improved when conversion rate is improved but also could be improved by other means. Those means (for example customer service, online content and informativeness, claims handling) I will cover only to the extent where they are part of or relevant to car insurance online sales.

1.4.1 What are the reasons for low conversion rate?

The most important research question is formulated to identify the underlying reasons for low conversion rate in the renewed webshop. I analyze old and new webshop, their advantages and disadvantages. I use the chosen theories and data collected to identify the causes for lower conversion rate than anticipated.

1.4.2 What action is needed to improve conversion rate?

With the help of second research question I found out answers how the root causes for low conversion rate can be fixed. I used the results from the first research question, the theoretical synthesis and the data collected to propose these improvements.

1.4.3 How the improvements would be implemented?

The third research question will list answers from the previous question and will help prioritizing meaningful improvements by estimating the effort of the implementation and expected effect. I will explain how the implementation could be done, what would be the cost and how the improvement could be measured.

1.5 Scope

In this chapter I describe what has been decided to be the core of the thesis and what is included. I have also specified some certain, but important factors, being out of scope of this study.

1.5.1 In scope

We decided to limit the scope of the thesis to a very practical need for short term answers from the business perspective. The core of the thesis is to improve the conversion rate of the newly developed car insurance webshop. I hope to generalize the results somewhat to widen the perspective of interest.

1.5.2 Out of scope

Overall decision making of insurance purchase is out of scope of this study, it has been studied by others and I have used those results to apply in online purchase. How to do digi-

tal marketing and attract customers to the website is out of scope of this study even though it would also improve conversion rate to find relevant target groups to visit the sites.

1.6 Case overview

This thesis is done for an insurance company providing property and casualty (P&C) insurances to consumer customers.

The old insurance webshop, which was seen as outdated and was the starting point of new webshop development, offers the possibility to buy all types of insurances online. It was developed in early 2000's and does not support mobile use. It has five purchasing steps, each requiring interaction from the consumer, and has been perceived somewhat complex. It also has somewhat old-fashioned user interface not supporting the image of company being a forerunner in the insurance online sales according to current customer expectation.

The goals for the webshop renewal were to provide support to most common mobile devices and tablets, to simplify the purchase process as it was expected to improve the conversion rate and renew the UI to better answer the growing demand of superior customer experience.

The new car insurance webshop was developed together with a partner who helped to create the concept for the new webshop and started the implementation with a prototype. Application was built internally and the partner provided support during the implementation since a new technology was selected and there was no internal competence in the UI development with the selected technology. Overview of the project phases are presented in Figure 3.

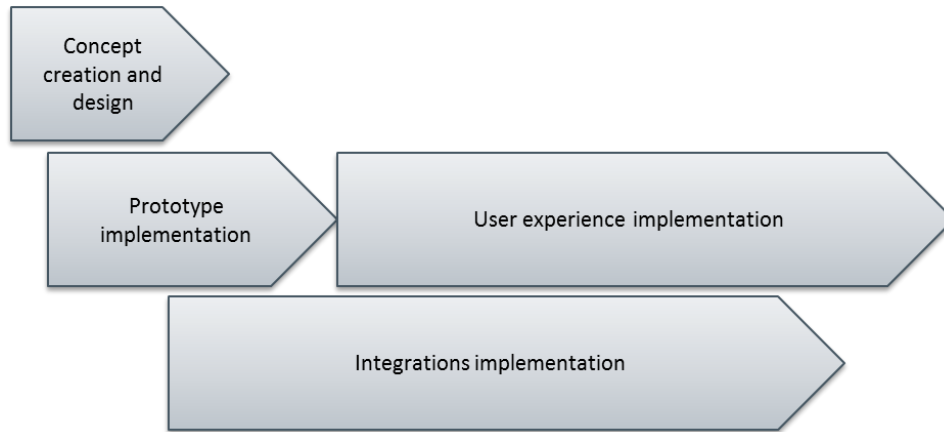


Figure 3. Main phases of the project

First version of the new webshop was released in April 2014, after 9 months of agile development. After the first release there have been 6 releases in 6 months to improve the functionality based on customer behavior and feedback. The new webshop application has been released to limited amount of customers to test the conversion rate through A/B testing and has been running in parallel with the old webshop.

After 2 months in production, when starting this thesis work, the conversion rate was not on the expected level and this thesis is one means to investigate why.

1.7 Terminology

Webshop

Online shopping tool for consumer customers to be able to make a purchase online over internet with a web browser.

User experience (UX)

ISO 9241-210 defines user experience as "a person's perceptions and responses that result from the use or anticipated use of a product, system or service. According to the ISO definition, user experience includes all the users' emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviors and accomplishments that occur before,

during and after use. The ISO also list three factors that influence user experience: system, user and the context of use." (Wikipedia)

Conversion rate

The conversion rate is the proportion of visits to a website who take action to go complete a goal. In this case it is the proportion of visits that actually purchase car insurance online.

Customer satisfaction

In this case the customer satisfaction is measured with conversion rate and usability tests. There is no customer satisfaction index for the online purchase itself so the satisfaction is estimated more based on the interviews and measured with the conversion rate.

Design principle

A fundamental idea of functional and nonfunctional aspects of the design of an online service.

A/B testing

A/B testing is a buzz word used when two parallel alternatives are offered to the online user and it is measured which alternative leads to a better result and more customers achieving their or company goal.

Online sales funnel

Customer purchase follows a flow of actions also online. Sales funnel is this flow from the seller's point of view.

Customer journey

When entering a website, customers have different interests in mind; browsing, comparing prices, finding detailed information, buying and so on. These flows typically have a certain goal, but can also be goalless surfing on the web. The flow of a customer is called customer journey.

Scrum

Agile development methodology used in this project is scrum. It is iterative development methodology where requirements change during the development and are prioritized continuously. It allows changes in the project scope flexibly and requires day-to-day decision making.

2 Review of related work

Figure 4. illustrates my own initial thinking of related theories. Theories on consumer behavior and purchase decision are important to understand the implications in an online context. Technology acceptance and use models relate to the usability of an online application. Insurance purchase decision and insurance online behavior has been studied before and those results are considered in this study as well. As the online use is turning towards mobile and tablet use, results from mobile purchase have been included.

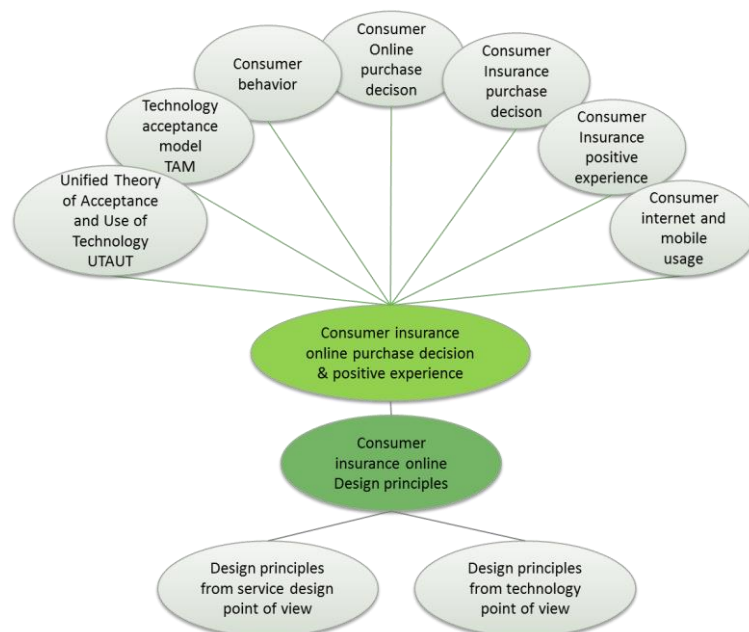


Figure 4. My own initial thinking on theories affecting insurance online purchase

2.1 Related theories

There are tens of theories to choose from to be the ground for my topic, depending on the aspect you want to look at the problem. In the following chapters I will present the theories I have considered and I will present them shortly.

2.1.1 Online purchase behavior

One of the models I looked into was of consumer behavior by Laudon and Traver (2007), a model on consumer online behavior (Figure 5.). I did not find this the most useful for my study since they seem to address factors that are outside the scope of my study and based on the interviews, some of these factors were not discussed at all.

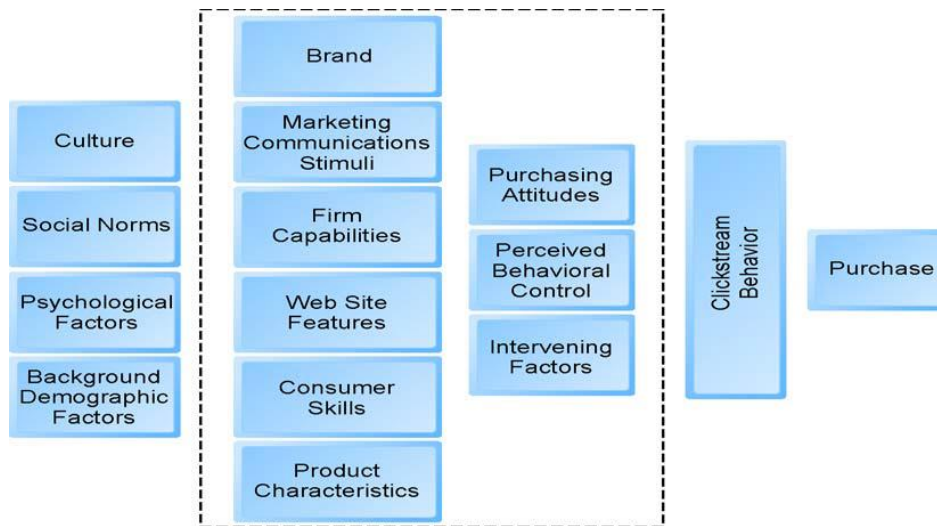


Figure 5. A Model of Online Consumer Behavior by Laudon and Traver (2007)

Consumer behavior and purchase decision have been studied widely. The five step process (Figure 6.) was originally introduced by John Dewey (1910).

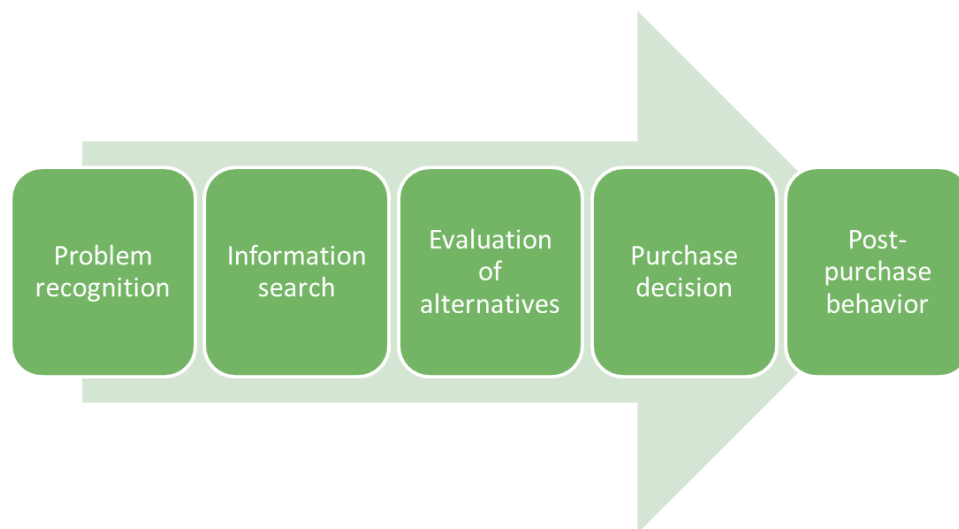


Figure 6. Five step purchase decision process by Dewey (1910)

This main customer behavior in purchase flow in an online context turned out to be the core theory for my thesis.

Additionally I have looked into theories in insurance context and user acceptance on new technologies.

Google has studied and published smart phone customer paths in retail (Figure 7.). This study does not answer the percentage that actually start the research with a smart phone, but it is interesting that already 41% do both research and purchase with a smartphone.

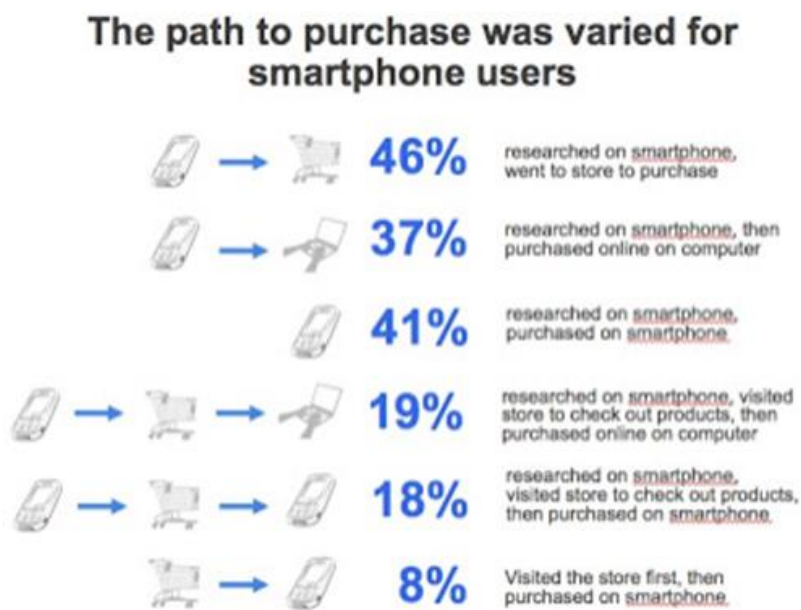


Figure 7. Smartphone paths to purchase by Google (2014)

Same study by Google shows that reading reviews is the most common activity for smart phone and tablet users, while most of the price comparisons are still done with a computer (Figure 8.).

The popularity of activities differed by device

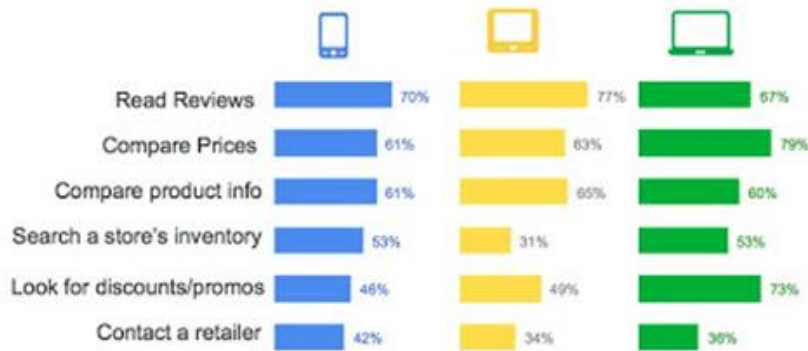


Figure 8. Common activities with different devices by Google (2014)

2.1.2 Insurance online

To tie this study into the insurance context, I am using results from the study on insurance purchase decision by Syrjälä (2010). The finding from study based on customer interviews was that the price was the most influencing factor for selecting insurance company and other important factors were the content and terms of the insurance and the reputation of the company. Also expertise in service, availability and a contact person in insurance company were perceived important.

Ahonen (2007) presents a theoretical model (Figure 9.) for designing a customer-friendly electronic insurance service scape in his doctoral thesis. This model is more about services to manage your own insurances than buying online. What I found to apply for buying as well was the attractiveness, trustworthiness, visual informativeness and clearness.

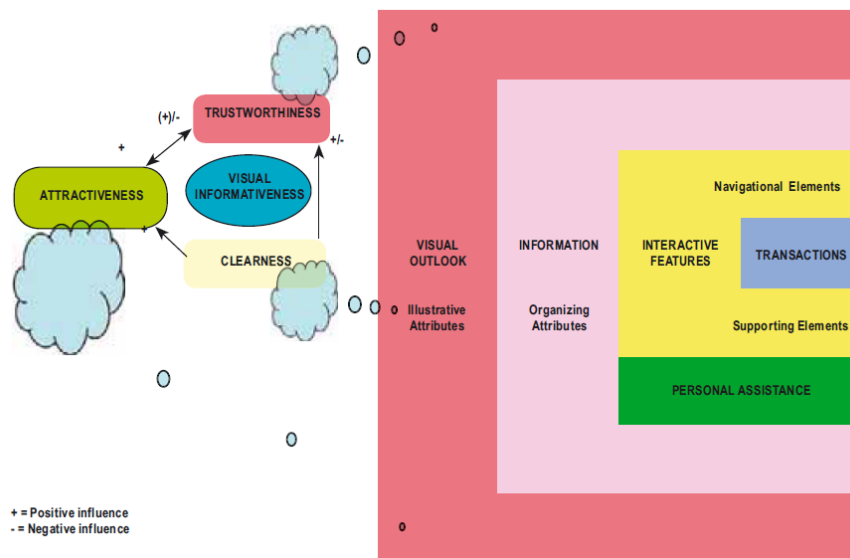


Figure 9. A theoretical model for designing a customer-friendly electronic insurance service scape (Ahonen 2007)

2.1.3 Technology acceptance and use

The most traditional theory on using new technologies is Technology Acceptance Model (TAM) (Davis, 1989), one of the most widely used and matured models which has been further developed to Unified Theory of Acceptance and Use of Technology (UTAUT) an extended model, which integrates eight other theoretical models. UTAUT has been found to provide as much as 70 percent of intention to use ICT (Venkatesh et al., 2003).

Lee, et al (2007) have empirically studied the effects of trust and perceived risk to the behavioral intention in the context of electronic document authorities in Korea and I have have used thore results in the analysis as well.

2.1.4 Mobile purchase

I have also considered revised UTAUT model (Figure 10.) by Alkhunaizan, A. (2012).

Alkhunaizan has done an empirical evaluation of UTAUT model and revised it covering trust and cost as factors of the usage intention in context of mobile commerce.

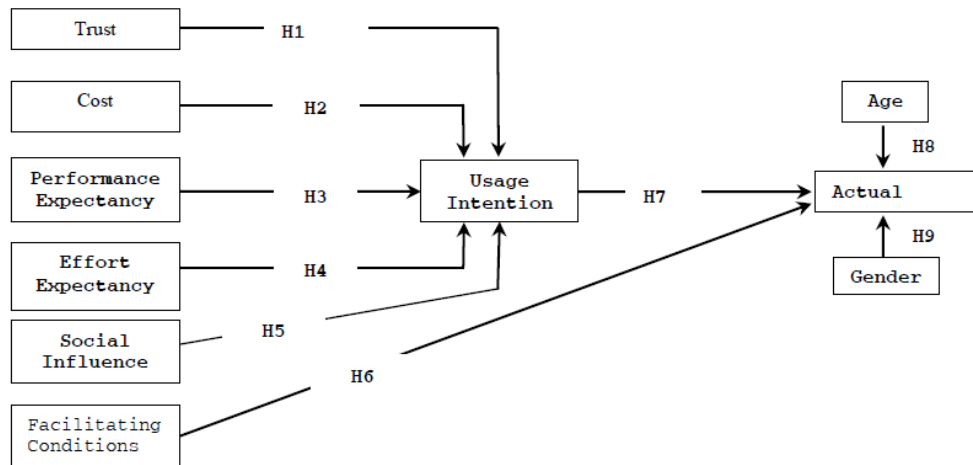


Figure 10. Revised UTAUT model by Alkhunaizan

3 Online insurance purchase behavior

In this chapter I present my own synthesis of main factors affecting consumer insurance online and mobile purchase decision from theory point of view.

3.1 Customer journeys vs. sales funnel optimization

Customers entering the company sites have different interests in mind. To support these different interests, the sites can be built bearing this in mind. In this study, I call these different interests customer journeys. It includes the assumption that the customer doesn't enter the site by accident but a certain motivation and goal in mind. In case of car insurance, different journeys could be for example

- Customer is planning to buy a car and wants to know the ballpark price for different types of cars
- Customer has bought a car, has sold old car and wants to insure new car with old car bonus
- Customer has car insurance from other company but is looking for better price or coverage
- Customer already has car insurance from the company and wants to check if he has best possible price
- Customer is looking for new insurance company for all his insurances, including car insurance

The sales funnel should be optimized to support these main (by volume) journeys. The logic should be built to optimize customer clickstream behavior, avoid distractions, and minimize customer effort in each step of the journey.

This leads to a conclusion that conversion rate only is not the best possible measure by itself since all these different journeys have different goals and those should be measured since they are determining the customer satisfaction and return rate. Also keep in mind that

that according to Syrjälä (2010) price is the most determining factor in insurance purchase decision. If the journey for the customer is built compelling enough, there is a slight chance that price would not be the factor, if getting it from the competitors would take much longer or would be more complicated than in our webshop.

Another thing to consider is the context. Customers starting their journey are in different places and using different kinds of devices. It requires different kind of support if the customer is at the car dealer trying to make a car purchase decision and only needs a ballpark price for the insurance quickly with his mobile phone or if he is sitting in his home office with bank id and all required papers or information at hand.

Generic journey for consumer online purchase is presented in Figure 11. To support this journey, the customer purchase process online, it is important that company provides different kind of support for each step.

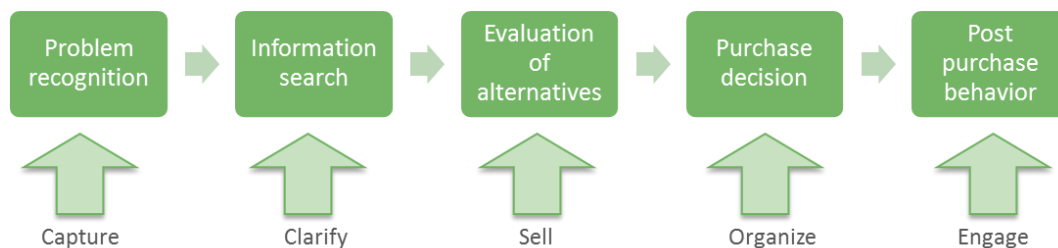


Figure 11. Customer journey for online purchase and main activities from the provider

In the problem recognition phase, the customer can be invited to realize the problem for example by marketing. In this phase it is important to capture the customer's attention. Factors in this phase are more general in nature: the image of trustworthiness of the company and social influence giving positive image of the company. Also the context where the customer is at when starting this journey and what kind of personal assistance (for example personalized marketing) the company provides.

In the information search phase the goal is to clarify the answers to the questions customer is having in his journey. It is important that there is a balance between Informativeness and simplicity, which in insurance industry is probably the most difficult state to achieve. It is also important how the information is presented to the customer; attractiveness and personalized content is important for the customer feel that this information is valid for exactly me.

When customer is evaluating the alternatives, in insurance business the price has been studied to be the most influential factor. Revised UTAUT model has the concept of cost for using the system, but from the online purchase point of view this can be more generalized to cover the cost of acquiring the desired insurance service. In this phase the online selling is most important: how the company differentiates from the competitors, what the actual value to customer is (again balance between informativeness and simplicity), what is said about the company and its products in social media and does the customer have immediate answers to any questions he might have at this point.

For the customer to make actual purchase decision and stick with it until purchase is completed, simplicity is required to help the customer manage with the required actions. In this phase the customer's skills, age and gender have affect as well as the context of use. Trust is influential; customer needs to feel that the site is trustable and also that he is doing the right choices and actions.

Post purchase behavior is influenced by all the previous steps. The overall customer experience of the online purchase determines the customer's intention to return. Important is to engage the customer to the company.

3.2 Factors affecting online behavior and purchase decision

The following collection of factors is a combination of factors from the revised UTAUT model and studies on insurance purchase decision and electronic services.

3.2.1 Cost

Price of the insurance was found to be the highest factor in overall insurance purchase decision by Syrjälä (2010). It was also important, that the customer was assured that he is getting the lowest possible price for him. Insurance pricing logic is not transparent to the customer and it must be clear to the customer that he gets all benefits and discounts he is entitled for. In the UTAUT model, cost was defined as cost of using the system. In online purchase context I consider it as the cost of the purchase.

3.2.2 Attractiveness

As stated in the introduction, consumers of today have a high expectation level on the digital services they use. High expectation comes from experiences in the entertainment services but also rapidly growing business application user experience improvements. Many applications customers use today are fun to use, even entertaining. The least that has to be done is to make new digital service attractive.

3.2.3 Simplicity

Related to the journeys and context the customer is in, the experience should be simplified to support the specific situation at hand. Customer only wants to answer questions he sees meaningful from context he is at, other additional action required leads to lower conversion rate and customer dissatisfaction. Concerning car insurance purchase, customer's effort expectancy might be high, so any simplifications would most probably lead to a pleasant surprise and improved customer satisfaction and higher conversion rate.

In general, insurances are perceived as complex and difficult to understand. Clearness is the minimum, what an insurance provider must do online.

Minimizing the intervening factors for the online experience in a certain context would optimize the customer's clickstream behavior. These intervening factors could be for example

irrelevance of information, perceived irrelevance of actions required, requiring information customer does not have at hand and without it he is not able to proceed.

3.2.4 Informativeness

The findings by Syrjälä (2010) that insurances are perceived complex is probably caused also by the insurance companies themselves. They see their products being complex and all exceptions and rare situations are explained, all on the same level. Some hierarchical approach to the information could support the customer to get relevant information quickly. The relevance of information is related to the sales funnel optimization as well, depending on the journey and context the level of information needed by the customer varies.

One of the most important factors is to make the coverages more understandable to the customer and help the customer to understand what would be the best choice for him. In online context this could be achieved for example by suggested insurance and peer comparisons. There is a balance between simplicity and Informativeness, customers are also willing to answer more questions if they feel it will help them to get a better insurance from value and from cost point of view.

3.2.5 Trust

In today's world we read almost every day from the news about fraud attempts, especially around the bank identification. Banks are constantly communicating to their customers never to use their bank id in sites they don't trust. Online purchasing attitudes are changing, more rapidly with credit card than with using bank id or direct payments. It is important that services are built bearing this in mind, it is not even the customer's perception of trustworthiness but the authorities, and in this case it is the banks.

Building trust means reducing the risk from the customer's perspective. Customer might see a risk of misuse of his personal information or technical risks in transferring sensitive

data over the internet. This relates also to the perceived behavioral control, customer might not want things to happen automatically, he might rather click a button to initiate action.

One of the most important factors in insurance business and building trust is to provide the customer a sense of security, reassuring that he is doing the right thing, doing the right choices for himself and he is not making any mistakes in buying car insurance. After all, the success of the insurance is measured only when there is a first claims incident at hand and the customer wants to feel secure that he has the right insurance, right coverage, right information so his effort at claims incident is minimized.

3.2.6 Social influence

Social influence from the revised UTAUT model I have left in the model even though in this practical thesis the effect is not clear. Alkhunaizan (2012) in his study of mCommerce did not find social influence (or trust) to affect the customer behavior, only the intention to use. I have the assumption that for example by peer reviews and comparisons of other similar people's choices the customer intention can be increased.

3.2.7 Context of use

The variety of devices customer use today is higher than ever. It would not be cost efficient to provide superior customer experience for all devices and all journeys. In this case volumes of course help to prioritize which journeys to be supported with which devices. Optimizing the most common journeys for mobile use and most common journeys for desktop would improve the customer experience. In the optimization, there comes also the question of effectiveness: how much effort should be put in supporting all available devices and how much effort should be put to optimize the experience.

3.2.8 Personal assistance

Facilitating conditions in UTAUT model, which I here call personal assistance since it is more understandable term, are the supporting functions for the customer to reach his goals. In case of car insurance online purchase this is about online support for the specific situation the customer is at. This support can be personal (chat for example), context dependent (information appearing based on pre-set rules about the customer behavior), field specific instructions or general instruction (for example FAQ).

3.2.9 Gender and Age

Gender and age have been proven in the original model to have an effect on the actual usage. In this study I did not make a quantitative analysis to prove this nor did I see it meaningful since the target group is not limited by these factors. For this thesis purpose it is enough to say that different genders and ages have different skills.

According to Tilastokeskus, there is no difference between men and women who have made an online purchase in the past 3 months (45 % and 44 %). When it comes to age, this seems to be a factor. 70 % of 25-34 years olds have made an online purchase but only 29 % of 55-64 age range. This confirms the assumption that younger generations are more frequent online shoppers now and as they grow older, this shifts to the older age groups as well.

3.2.10 Skills

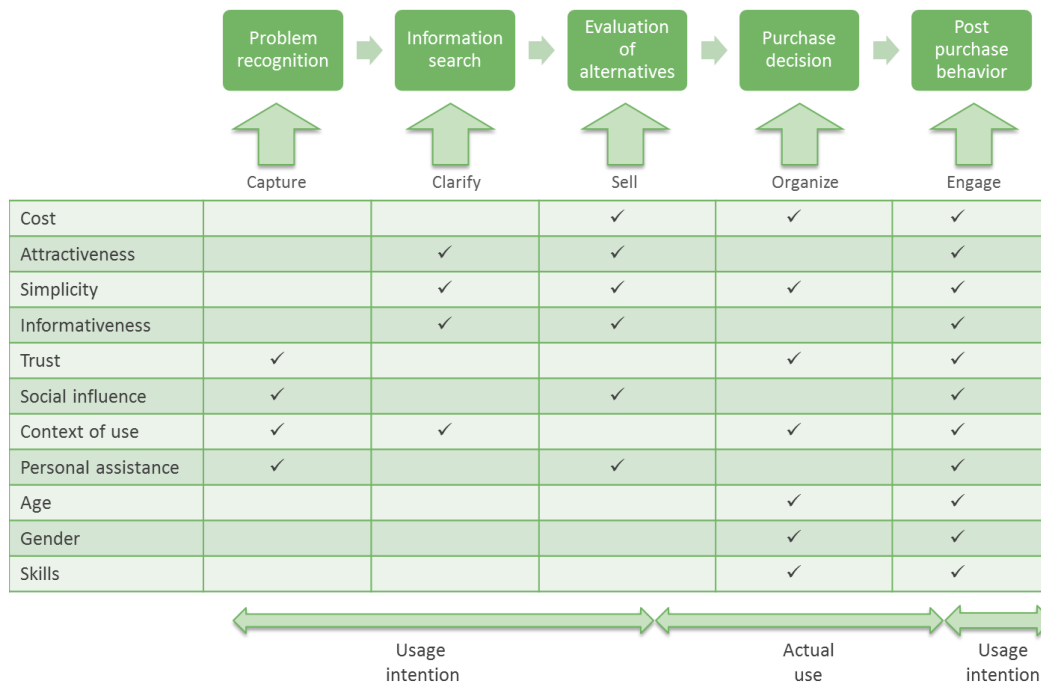
The ISO standard 9241-210 (Ergonomics of human system interaction - Part 210: Human-centered design for interactive systems, formerly known as 13407), list three factors that influence user experience: system, user and the context of use. The previous factors I have presented fall into the system and context of use categories. One thing to consider in designing superior customer experience is the user. In case of car insurance webshop it is fairly difficult design task since the target group has a great deal of variety. At least gender and

age have been proved in UTAUT to play a role in the actual behavior, but also the customer skills need to be considered. There are at least two aspects to this. Some users are very familiar with car insurances and some are not familiar even with the terminology. Another aspect is the user's computer, mobile and tablet skills. Some are highly skilled and can instantly use any intuitive system; some need a lot of instructions for any basic use or functionality.

3.3 Insurance online purchase - Affecting factors by customer journey phases

The following picture illustrates my synthesis of the theories. In the table I present factors affecting the customer journey for online purchasing process. It is a combination of the online purchase process and the revised UTAUT model. The factors are presented and explained in the previous chapter.

Main conclusion from theory point of view is that the customer purchasing process should be synchronized with the online sales funnel. Each step in the process requires different kind of features and support from the webshop. The main target is to maximize the number of users in the beginning of the process and minimize the users dropping out in each step. Target is also to maximize the value of the end result of the process (from the seller point of view) and to maximize the customer satisfaction at the end of the process (customer point of view). Factors affecting the journey of online insurance purchase in each step are presented in Figure 12.



4 Research methodology

In this chapter I describe the methodology and data collection for this thesis work.

4.1 Action research case study

In this descriptive study, my research philosophy is pragmatic. My aim is to select most suitable theories and models to be able to answer my research questions and I am combining several theories to be able to interpret the data and continue to the development aspect of the study.

My research approach is deductive where I try to find applicable theories and test them using the data gathered. To a certain extent there are inductive aspects in generating the design principles as well.

The research strategy is a combination of applied action research and case study. The results should be applicable at a certain point of time and context but the aim is not to generalize the results.

I have chosen to use multi-method qualitative study: semi structured interview to understand the importance of already identified hypothetical factors and to identify new factors and the importance of these factors. Besides that I am also using analytics and customer feedback from existing services to identify the factors.

4.2 Data collection

Besides the actual customer feedback on usability and the webshops overall, the data needed was the insight to understand the possible underlying root cause: analysis on the actual

behavior. For this reason I have interviewed internal online sales experts and end users and used the analytics of the old and new webshops.

4.2.1 Internal expert interviews

I interviewed six key persons in the organization to get an understanding of the key factors affecting the online purchase decision in the fall 2013. During the interviews I realized the questions could be understood in many ways so it was good that interviews were only semi-structured and there was enough room to get an understanding of the interviewees point of view by discussion. The following questions were asked from all of the interviewees.

Sales

1. How does it affect online sales if the customer is already our customer vs. totally new customer
2. Is it possible to motivate a customer making a claim to shop online? How?
3. Is it possible to motivate a customer making a call to customer service to shop online? How?
4. Put the following in order of importance considering the online purchase decision (besides price). Most important 1, second 2, has no effect 0
 - a. UI design
 - b. Content and information about products
 - c. Not having to log in/use bank ID
 - d. Not having to manually insert information
 - e. Having questions answered while making the purchase
 - f. Seeing the price before giving any information about yourself
 - g. Reliability (technical)
 - h. Simplicity
 - i. Quality and amount of information
 - j. Sense of security
 - k. Being able to buy all insurances at the same time (kilpailutus)
 - l. Being able to buy one specific insurance the most simple way
 - m. Time it takes to perform a purchase
 - n. Possibility to make mistakes (over-, under-insure, buy wrong insurance, not understanding dependencies etc.)
 - o. Other, specify ...

The interviewees arranged the factors in order of importance and were allowed to do grouping of the factors and add new factors (Figure 13.). They were asked to explain their reasoning while prioritizing.

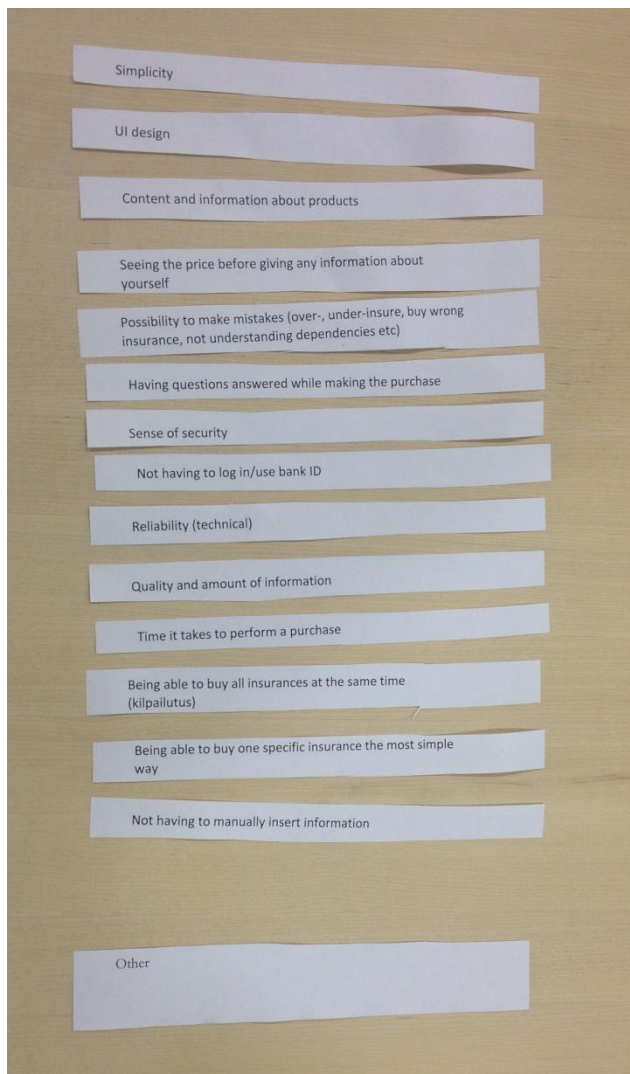


Figure 13. Example of expert arrangement of the factors in order of importance

Services

1. What are most important online services for customers?
2. What should be the easiest online services for customers? Why?
3. What extra services would customers appreciate (any that would lead to sales)? Why?
4. What are the most complained features/online services? Why?
5. What type of features most likely would lead to positive feedback? Why?
6. What type of features most likely would lead to negative feedback? Why?
7. What would you say about security of the services from customer usability point of view?
8. What motivates customers to find answers themselves and not to call our agent?

Design

1. How does the used equipment affect the experience? Which services are used with which devices?
2. How does the learning effect the experience (first time user vs. frequent user)
3. What steps/areas in the current design cause negative customer experience?
4. What kind of effect has customer's own situation (knows what he wants, does not know what he wants or what to do)
5. What kind of effect is there with response times?
6. How does the UI design affect the experience?

Anything else you think we should discuss when talking about customer online experience and purchase?

Analytics

Separate set of questions to person responsible for the analytics of existing webshop and online service.

1. What are the key metrics you follow? Why?
2. What metrics are you now missing and would like to have in the future? Why?
3. From analytics perspective, what is the biggest problem with current webshop?
4. Can I see the results during this year? Can we discuss what was changed and how it shows in analytics?

4.2.2 End customer interviews

I interviewed 5 persons myself in attempt to get the insight for underlying root causes of low conversion. Interviews were non-structured. I asked the users to navigate at if.fi as if they were buying car insurance and asked them to talk freely on their thoughts as they were proceeding with the task. In addition I made some questions along the way only to clarify that I had understood correctly and tried to avoid leading the user with my questions. This turned out to be a very good way to get insight on the underlying assumptions and real life behavior. From the usability tests we get data only on the usability, not the intention for use.

4.2.3 Data collection from existing online services

I used statistics from Google Analytics from the time period 28.4. - 25.6.2014. I have considered both old and new webshop, number of sessions, number of users and conversions in the sales funnels in the new and old webshops.

New webshop error log was analyzed to identify how technical error situations effect on the conversion rate.

I have also analyzed direct customer feedback from existing webshop during this year. I used a heat map to present and categorize the content of the feedback. Key words are calculated and the size illustrates the frequency the word has shown up in the customer feedback. The context where the word has appeared may vary so this not a scientific analysis, rather a visual illustration of key words the customers have used when giving open feedback.

4.2.4 Studies on webshop usability

For this thesis I have also used six usability tests done by external partners during 2012-2014.

Usability tests were done with a functional prototype and the findings were classified from very important to minor. Each of the interviewees used the prototype independently, their actions were followed and the users were to freely explain their experience in using the prototype.

Old Webshop:

17.9.2012 by Adage

12.12.2012 by Adage

27.1.2013 by Turku School of Economics, student team

New Webshop:

7.11.2013 by Futurice

15.3.2014 by Adage

30.4.2014 by Adage

5 Developing a webshop

In this chapter I describe how the webshop was built, how it looks like and how the development methodology gives opportunity to do small improvements in short cycles. I have been responsible for the IT implementation of the new webshop.

During summer 2013 it was decided that a new webshop for Car insurance should be developed. The goals for the webshop renewal were to provide support to most common mobile devices and tablets, to simplify the purchase process as it was expected to improve the conversion rate and renew the UI to better answer the growing demand of superior customer experience.

The project original goal and guidelines are described below.

The project goal is to create a simplified car sales process. The process will be based on the following guidelines/framework:

- The purchase funnel begins from product pages
- Minimum questions for customers 1-10: SSN and 1-10 product related tariff questions
- Compulsory identification (Tupas)
- Indicative and precise pricing
- RWD as an implementation technique
- Re-usability
 - For other insurance products
 - Rebranding for partners
 - Meaningful content management to be included
- Wide target group to be considered: online customers 18-64 years of age
- Notification requirements

We chose a partner to support in the concept creation and creating such a design which would also be implementable and reusable for the following products. We decided to do the development in an agile way to secure of continuous improvement in short cycles. The

methodology was not strictly followed from the beginning and was adjusted along the way. The idea was to first develop a minimum viable product (MVP), which we could use to test the customer behavior and the further develop according to business prioritization of new features. Business had a desire to launch the MVP in November 2013 but the work effort in total was not estimated in the beginning to see if this would be realistic or not.

We chose a new technology for the user interface and designed an architecture that would be easy to maintain and further develop by reusing already implemented features. We also put an effort to reach test driven development (TDD), where we would write unit tests before the actual development to make sure we would not break any already implemented and tested features with new development. This was not fully achieved because we were under schedule pressure (TDD requires more time initially) and the team competence in TDD was still on the learning curve. We chose not to reuse renewed webshops from other Nordic countries partly because it was recommended by the partner due to the assumption that those UI technologies would limit the user experience immensely and prolong the development work. Also the backend and core systems, products and processes were different in all the countries.

5.1 Development results

The new application is in production with main required features implemented. There are some known errors and many "should have" features are not yet implemented.

5.1.1 Releases

The following table (Figure 14.) describes the releases and the main content of them (related to those features and error that might affect the conversion rate).

Release	Date	Content
Release 1.0	16.4.2014	Basic functionality
Release 1.0.1	25.4.2014	Tupas error msg

Release 1.0.2	30.4.2014	Error logging Payment issue error msg Tablet fixes
Release 1.1	28.5.2014	Moniautoetu Address search fix Financial company as owner fix
Release 1.1.1	17.6.2014	Tablet fixes Recommended package fix Add Internet discount information
Release 1.1.2	27.8.2014	Licence plate modification fix Relocate bonus slider Mobile and tablet fixed

Figure 14. Webshop release contents

5.1.2 Snapshots & process of new webshop

In this chapter I shortly present the functionalities of the new webshop. To get an indicative price the customer must enter a valid car license plate number and his social security number (Figure 15.).

Osta henkilöautovakuutus verkosta ja säästä 10 %

1. Syötä rekisterinumero

2. Syötä henkilötunnus

Anna vakuutusalanottajan henkilötunnus.
Vakuutusalanottaja on henkilö, joka tekee vakuutusasioiden IT:n kanssa.

	Huippukasko ja Liikennevakuutus	Täyskasko ja Liikennevakuutus	Etukasko ja Liikennevakuutus	Osakasko ja Liikennevakuutus	Liikennevakuutus
Pysäköintiturva	✓				
Jatkuvuusturva	✓				
Lasiturva	✓	✓			
Lunasturva	✓	✓			
Törmäysturva	✓	✓	✓		
Autopalveluplus	✓	✓	✓	✓	

Figure 15. First view of the webshop

Customer navigates down in the page to enter answers about transferring bonus from another car, deductible for a certain coverage and information whether the car is owned by a financial company (Figure 16.).

The image shows a web form with three questions:

- 3. Siirrätkö liikennevakuutuksen bonukset toisesta autosta tai vakuutusyhtiöstä?**
Options: Kyllä, En
A slider below shows a range from 0% to 75% to 75%. The slider is positioned at 70%.
Text: Anna vanhan vakuutuksen tiedot. Jos et muista niitä, valitse liikennevakuutuksen bonus yläpuolelta. Tarkistamme liikennevakuutuksen bonuksen oston jälkeen. Uuden kadovakuutuksen bonus on aina 70 %.
Dropdown: Valitse yhtiö, josta bonus siirretään
Text input: Mistä autosta bonus siirretään? (Value: ABC-123)
- 4. Valitse törmäysturvan omavastuu**
Options: 200 €, 500 €
Text: Muiden turvien omavastuu on 0-200 €.
- 5. Onko auto rahoitusyhtiön omistama?**
Options: Kyllä, Ei

Figure 16. First price affecting questions

Based on the answers, a collection of alternative packages are shown and suggested package is indicated. The possible packages are shown in a matrix that helps to compare the coverages between the packages (Figure 17.).



Figure 17. Matrix illustrating the available packages and which coverages are included

After choosing the package, the customer is requested to identify himself (bank or mobile ID) to get a personalized price.

Identification is a separate service quite familiar to any customer who has made online identification or purchase before. It is provided by the the bank or mobile ID provider.

Oletko auton omistaja?

Kyllä En

Omistajan tiedot

PPKKVV-1234

Etunimi

Sukunimi

Lähiosoite

Postinumero

Postitoimipaikka

Vahvista tiedot

Oletko auton haltija?

Kyllä En

Haltija tarkoittaa auton pääasiasta käyttäjää

Valitse vakuutuksen alkamispäivä

04.08.2014

Figure 18. Questions on second page

After identifying himself, the customer is forwarded to the second page (Figure 18.).

Customer is asked to give information about the owner and holder of the car.

Customer is asked to enter the startdate for the insurance. Then customer should navigate down in the page.

If the customer is already a customer, his information is retrieved. If he is a new customer, some details are requested.

Täydennä vakuutuksen tiedot

Vakuutuksenottaja	Vakuutettava auto
Postinumero	TOYOTA TOYOTA AYGO VISTOPERÄ S90554 Rekisterinumero: 1A-225 Vuosimalli: 2019 Henkilönnäköluokka: 338
Postitoimipaikka	
Lähtöosoite	
Puhelinnumero	
Sähköpostiosoite	

Täyskasko ja Liikennevakuutus

Hinta 66,36 € /kk	Bonusesi <small>Hinta on 66,36 euroa (ja lisäksi jäseniä koskevat edut) ennen bonuslaskua.</small>
--	--

<table style="width: 100%;"> <tr> <td>Itämeren vakuutus (1 vuosi)</td> <td style="text-align: right;">-88,40 €</td> </tr> <tr> <td>Aleuskauti yhteensä</td> <td style="text-align: right;">-88,40 €</td> </tr> <tr> <td>Vuosimaksu</td> <td style="text-align: right;">796,73 €</td> </tr> </table> <small>Sääntökirja sähköisessä muodossa. Voit peruuttaa sähköisesti 14 päivän kuluessa.</small>	Itämeren vakuutus (1 vuosi)	-88,40 €	Aleuskauti yhteensä	-88,40 €	Vuosimaksu	796,73 €	<table style="width: 100%;"> <tr> <td>Liikennevakuutuksen bonus</td> <td style="text-align: right;">-20 %</td> </tr> <tr> <td>Kaskovakuutuksen bonus</td> <td style="text-align: right;">-10 %</td> </tr> </table>	Liikennevakuutuksen bonus	-20 %	Kaskovakuutuksen bonus	-10 %
Itämeren vakuutus (1 vuosi)	-88,40 €										
Aleuskauti yhteensä	-88,40 €										
Vuosimaksu	796,73 €										
Liikennevakuutuksen bonus	-20 %										
Kaskovakuutuksen bonus	-10 %										

Vahvista osto

Kyllä, olen lukenut vakuutusopin ja vahvistusohjeet.
 Includi unchi a l'indirizzo di email della società per la polizza.

Osta vakuutus

Kun vahvistat ostos, lähetämme sinulle vahvistuksen sähköpostilla. Luekin Ohjeet.
 Voit peruuttaa vakuutuksen 14 päivän kuluessa.

Figure 19. Policy holder questions and summary of the purchase on secon page

After filling in the information, final pricing and discounts are shown (Figure 19.). Customer is provided with links to terms and conditions and is requested to confirm the purchase. After confirming, a confirmation of the purchase will be shown and sent by email.

5.2 Opportunities of agile development methodology

Development of the new car insurance webshop was done using agile methodology, scrum (Figure 20.). First two months were spent on concept creation and prototype building together with a partner, after which we strengthened the team with internal competence. They already had competences in integrating towards the backend and core systems but who were new to the chosen UI technology and learning as doing. The following 3-4 months were time of further development, concept was in place and business requirements were detailed in two week sprint cycles. In parallel all the integrations were implemented.



Figure 20. Illustration of agile methodology used

First release into production was in the spring of 2014 with a limited direction of traffic from company pages to the new webshop. Before the summer holidays we made four more production releases.

Agile development gives the opportunity to develop the most important features first, publish a first release and learn from the actual users how to improve and prioritize the further development.

5.3 Development challenges and experiences

We faced many challenges in the implementation project. Probably the most influential was that the agile methodology was new to many of the team members and selected methodology, scrum, was not followed from the beginning. There was quite a lot of inefficiency in learning the new way of working, both for business and IT resources. We learned along the way the level of requirements and user stories that are needed for efficient development. There were many stakeholders who had expectations on the new application and it was not clear all the time how those expectations should be taken into consideration and how they should be prioritized.

The main issue related to the schedule was that the initial planning of the implementation project was poor; we had no picture of the total work and no common understanding in which order new features should be implemented to minimize the IT work required. We did a lot of redundant development work to support the changing requirements and understanding of the application logic. Product backlog was prioritized from the business perspective and was concentrating heavily on the UI and not the actual logic of the application. This caused late development of the application logic and required a lot of re-development on the UI. We did not have a solution architect or technical lead role in the project, which would have helped immensely.

New technology for the UI was chosen and as always, learning takes time and effort. Simple UI modifications competence is gained but full understanding of the complexity still remains to be achieved.

The main learning from the development methodology is that if you decide to use agile methodology, you need to

1. Secure that the steering committee understands the principles and able to prioritize between three cornerstones: time, money and content
2. Publish the first MVP before using too much time on integrations to gain understanding on the quality of the concept. Had we done this, we would have been expecting low conversion from the beginning and would have solved it before spending a lot of time on the integrations. This would have also helped to identify the prioritization of the improvements. Afterwards it is very difficult to identify which user experience or design mistakes cause low conversion and to which extent the low conversion is due to technical difficulties in the integrations. Understanding of this would have improved the capability to prioritize backend improvements in parallel, now we have tried to use the existing interfaces as they are today.

6 Findings from data collection

In this chapter I summarize and highlight the most important pain points of the new webshop in my opinion. I base my opinion on the analytics, usability tests, customer feedback, error log analysis and interviews

6.1 Internal expert interviews - Simplicity

Even though there was quite a lot of variance in the internal interviews in what was perceived the most important factors, the main elements and reasoning seemed to stay the same. I asked the interviewees to put the proposed factors in order of importance, the most important I gave 14 points, second 13 points, and so on. If interviewee answered that it is not important at all, the factor did not get any points. The results are presented in Figure 21.

1	Simplicity	65
2	Content and information about products	48
3	Time it takes to perform a purchase	43
4	Sense of security	42
5	Possibility to make mistakes (over-, under-insure, buy wrong i	42
6	Having questions answered while making the purchase	41
7	Being able to buy one specific insurance the most simple way	35
8	Quality and amount of information	34
9	UI design	32
10	Not having to log in/use bank ID	32
11	Not having to manually insert information	22
12	Seeing the price before giving any information about yourself	22
13	Reliability (technical)	21
14	Being able to buy all insurances at the same time (kilpailutus)	21

Figure 21. Pre-identified factors in order of importance

Since the variance was obvious and I only interviewed six people, I don't feel this is a good way to analyse the results. In addition to the above mentioned, new important factors came

up in the interviews. One was based on the observation that customers feel insurance is difficult to understand and it is difficult to decide which coverages or excess to choose. Besides simplicity and information about the products, peer comparisons seemed to be a good way to help the customers decide. Also services in the customers own context was perceived an important factor. Enjoyability is not only UI design and it was perceives as factor as well.

In one of the internal interviews it became evident that the customers are not necessarily always complaining or giving feedback on what actually is found out to be the issue. I tried to bear this in mind when analyzing the direct customer feedback.

6.2 Customer interviews - trust

In addition to internal interviews, I interviewed 5 randomly selected persons during June 2014 in production and in test environment, 3 users with laptop and 2 with iPad. Many of the findings are the same as in the usability tests, so I summarize here only those findings that don't appear in the other findings or known errors.

The most substantial finding is about sense of security. It was noted by three of the users that the heading and the content of the webshop look different and they would suspect a fraud page. They would be hesitant to insert their social security number (SSN) or use bank identification. It was questioned why it is needed to enter the SSN to get any initial price and complained that it is not explained why the SSN is needed. Bank identification was seen as a turn off at this stage of the buying process. Some users tried to use the application with fake license plate number and SSN just to see how the application works.

Second finding was related to the dynamic pricing, the application automatically retrieves updated price when you change any answer. This was seen problematic by two of the users, who commented that they want to indicate when they want an updated price and are ready with the modification of their answers. It created a sense of mistrust when the application started to do something by itself, especially when the quoting calls were long.

Top 10 open feedbacks relevant to buying only car insurance

1. Lower prices
2. Did I get all discounts I deserve?
3. Clarify identification and payment difference
4. Clarify bonus transfer scenario (if bonus is not immediately automatically retrieved)
5. Limit the information I need to type, personal information must be typed many times
6. Clarify when do I get my first invoice?
7. Clarify the coverage, how do I easily get more information during the buying process
8. Simplify the language you use
9. Simplify the process of changing insurance company, who cancels my old insurance from my old company
10. Clarify which devices and browsers are supported

6.4 Statistics - trust

From Google analytic statistics, there are two major findings.

First is that the immediate exit is very high in the new webshop (Figure 23.).



Figure 23. Immediate exit % over time

Second is that there is a very high volatility of conversion in the new. Partly this is explained that not on all day traffic was forwarded to the new webshop. When this is taken into consideration, the difference is still high (Figure 24.).



Figure 24. Conversion rate daily changes during a selected period of time

6.5 Usability tests - Informativeness

Main painpoints of the old webshop according to usability tests

- Asking SSN at the beginning of the process
- Information available is insufficient, must navigate outside webshop to get additional information
- Placing of elements
- Navigating in the webshop (shopping cart and starting over)
- Personal offerings were expected but were seen problematic from protecting identity point of view
- Error messages and validations are unclear
- Comparing prices and the coverages within packages is difficult
- Entering duplicate information (address, SSN, name)
- Address search automatics is poor
- Using browser backspace not enabled

Main painpoints of the new webshop according to usability tests

- Price comparison not well supported
- identification required too soon in the process
- Not clear which action really is the purchase decision
- Bonus transfer scenario unclear
- Terminology used is not familiar to users
- The need to do selection of package is not indicated
- It is not explained why the bank identification is needed
- Too much error situations
- Indicative pricing and personal price on the second page differ and this causes confusion
- Does not fit into screen, requires navigating up and down
- "Unhappy" flows and changing the selections is cause error situations

- Returning from second page to first page (without losing data entered) is not possible
- Communication about error and validations is poor
- Display of prices and discounts unclear
- Summary of the purchase before accepting is missing

7 Analysis

7.1 Analysis process

This chapter describes the process of analyzing the new webshop pain points and how I have identified the factors affecting the online purchase decision to improve the conversion rate.

I started by investigating related theories and studies and combined two main theories, online sales process and UTAUT, to base by analysis on. I combined some relevant findings from other studies and theories to support overall analysis of the thesis scope. This was described in the theory synthesis.

I collected data from interviews, customer feedback, old and new webshop analytics and error logs. My main goal was to analyze the pain points of the new webshop, their underlying root causes and identify how the webshop could be improved. I have considered a variety of theories and studies, but have tried to identify very practical improvement ideas.

I identified online purchase decision factors based on theories and studies, analyzed how the new webshop is built against these factors and based on those findings I have listed the improvements proposed.

The decision to implement those improvements is not part of the scope of this thesis. I have proposed what the improvements could be and how they could be implemented.

7.2 Reasons for low conversion rate

There were many findings from the data collection in relation to the theories, which might explain the low conversion rate. I have categorized the findings to overall, usability and technical pain points.

7.2.1 Overall painpoints

One of the main problems with the new webshop is the number of direct exits. There are several reasons for this, two of them related to the directed customers and their potential buying decision. First one is that part of the traffic was directed directly from the first page "Buy insurance", there were many users who might have been looking for other insurance than car. Secondly, the new webshop was not appearing in the search results, since it was new. So when customer would search for "Buy car insurance from company X", he would be directed to the old webshop. Actually this could have even improved the conversion of the old webshop.

Trust

Other overall reasons are the difference in the look and feel and slow loading of the content which might cause uncertainty of the trustworthiness of the application. Different look and feel from the company main pages style creates uncertainty also when starting to use the application, especially when entering the SSN or using bank identification.

One of the major overall problems is that when the license plate nr is not found from external service or the service is not responding, the user is not able to proceed since giving the car information manually is not yet implemented. There is a known error related to this as well; when the user modifies the license plate number slowly, the application starts to do quoting before the user is ready with the modification and the customer faces an error.

Informativeness

From the interviews and usability tests it became evident that the terminology used is not understood by the users. There is a difficult balance in simplifying the solution and keeping it informative enough so the customer doesn't become uncertain that he is doing the right choices for him or become uncertain how to proceed. Also at the first look the user sees that he needs to remember the license plate number and if he does not, he will exit immediately.

Cost

Pricing is the most interesting thing for the user and the logic is unclear. User is having difficulties to understand how his choices affect the pricing, which parts are fixed and which parts he can affect. It seems that the pricing might be too dynamic (user does a lot of changes in the choices and always gets a different price) and the user becomes uncertain if he got correct and best possible price.

7.2.2 Usability painpoints

From the usability tests there were quite a bit of variance in the results. I have summarized here the most important ones in my opinion.

Trust

One contradicting result was the identification. The users in the usability tests did not see this as a problem (since they were not using their own SSN or identification) but from the interviews this came up. It is seen that giving the SSN and identification are too soon in the process.

Informativeness

It was not informed why and how the SSN and identification is used. This has already been improved by adding confirming text under the identification button.

Bonus transfer functionality seemed difficult for the users. Some were not familiar with the terminology at all and to get additional information, you would need to navigate away from the application.

One pain point was that the progress is not visible and returning from the second page to the first page is not possible for the user. The application is very dynamic, all changes initiate a quote call which at times might be long and initially were not visible to the customer.

There is only a short summary of the purchase when you are supposed to make the purchase decision. It is not possible to modify the first page answers at that time.

From usability point of view the context specific error messages is a must. Now the user does not understand if the error situation is caused by him or the system. This has been somewhat improved but there are many error or validation scenarios that are still missing a specific error message.

Simplicity

For desktop users, that concerns still major part of the traffic, one usability issue is that application has been designed to support mobile and tablet use and seems too large for desktop users. You are not able to see the entire content on one page and are required to navigate up and down when making modifications to your choices.

As the application is built dynamic (which also causes proneness to errors) the user might feel uneasy when some selections create pricing call even if the user feels he is not ready with his answers. This would not be a usability problem if the quote call would be done in milliseconds, but as they take now a few seconds, this is a usability issue.

7.2.3 Technical painpoints

Trust

There is a known error in modifying the license plate number, quote call is done too soon and user faces error. Also when the external service does not retrieve car information, the user faces error and is not able to continue. The license plate modification problem is also related to the bonus transfer scenario. If the bonus transfer call does not return bonus, the user is expected to enter the bonus manually. This is not clearly indicated in the application the order of the questions is misleading.

Quoting and purchase calls are fairly long (and the response time varies quite a bit). There is improvement done already to indicate when the application is calculating, but when the user makes many changes during a service call, sometimes the application crashes and the user gets an error page without knowing what happened.

The content of the application comes from a separate content environment, which performance and reliability is not always on the required level. This causes the user to see a screen where a lot of texts are missing or updating slowly.

One technical pain point was still in June that there was a combination of answers allowed in the UI that is not supported by the backend (when financial company owns the car, only certain packages should be offered) and then the systems gets an error prom the service call and the use experiences an error page. This was fixed partly, but several errors related to this were still occurring.

7.3 Suggested actions to improve conversions rate

I found 20 practical improvement ideas and several other more vague ideas for improvement.

7.3.1 Sales funnel optimization

To reduce the number of direct exits we need to secure that those who are interested other than car insurance are not directed to the car webshop.

To prevent the user from getting stuck with the first question (license plate), secure that customer is able to proceed when we cannot find the car information and enter the car information manually. Fix the bug related to the license plate modification. Conversion rate is not improved but customer satisfaction probably is if there is a possibility to get an indicative price without the license plate number.

Since the application is very dynamic with the pricing, the order of the questions should be planned to minimize unnecessary quoting calls that take time and don't seem logical to the customer. Change the order of the bonus transfer questions (Figure 25.):

1. License plate
2. Company
3. Show question to insert bonus manually only if it is not retrieved automatically

3. Siirrätkö liikennevakuutuksen bonukset toisesta autosta tai vakuutusyhtiöstä?

Kyllä En

0 % 70% 75 %

Anna vanhan vakuutuksen tiedot. Jos et muista niitä, valitse liikennevakuutuksen bonus yläpuolelta. Tarkistamme liikennevakuutuksen bonuksen oston jälkeen. Uuden kaskovakuutuksen bonus on aina 70 %.

Valitse yhtiö, josta bonus siirretään

Mistä autosta bonus siirretään?

ABC-123

3. Siirrätkö liikennevakuutuksen bonukset toisesta autosta tai vakuutusyhtiöstä?

Kyllä En

Mistä autosta bonus siirretään?

ABC-123

Valitse yhtiö, josta bonus siirretään

Anna vanhan vakuutuksen tiedot. Jos et muista niitä, valitse liikennevakuutuksen bonus yläpuolelta. Tarkistamme liikennevakuutuksen bonuksen oston jälkeen. Uuden kaskovakuutuksen bonus on aina 70 %.

0 % 70% 75 %

Figure 25. As is order of the questions on the left, proposal on the right

Also the same problem with the license plate modification needs to be fixed for the license plate where the bonus is transferred from.

The placing of the deductible question should also be considered. It is now seen as out of context. Below the matrix where "Törmäysturva" has been presented or within the matrix would be more meaningful to the user.

Progress bar could be implemented to improve the visibility. Important is also the possibility to see and alter the selections made on the first page on the second page when the actual purchase call is made. It should be considered to move the owner and holder questions to the first page to reduce the number of different prices the customer gets and to move the identification further in the process.

The main principle of navigating from left to right and from top down is not clear in the current design since the bonus transfer questions require more space. This could be improved by changing the order of the questions.

To support the different customer journeys, one option would be to separate indicative price calculator and webshop as proposed by one of the usability test results. The indicative price calculator could ask only the age of the policy holder and it would be noted that to get personal price and see discounts, you need to identify yourself. However, this would probably not improve conversion rate but would improve customer satisfaction. The problem is that if the company doesn't compete well in the pricing competition, the indicative pricing will lower the conversion. Indicative pricing should be calculated to include some assumption of the discounts, however, this would cause satisfaction in those cases when customer identifies himself and the price is actually higher if the assumed discounts are not valid.

To enable smooth navigation, implement the possibility to change your mind, even on the second page by implementing possibility to navigate back without losing identification or data entered or enable editing the first page answers on the second page.

7.3.2 Building trust

To minimize the direct exit caused by the mistrust when the look and feel is different to if.fi and old webshop, consider communication this to the customer and providing a separate link to the new car webshop. This could be also an opportunity to get open feedback if the customers feel they are trying out something new and their feedback would be valuable. Fix the different coloring of the logo and slogan.

Most customers are sensitive about giving their SSN or using their bank identification. Add information about using the SSN, why we need and what we use it for. Inform about the secure connection. Assuring text under the identification button has already been implemented after the usability tests.

As stated earlier the dynamics in the application are good when the response times are fast. It should be considered to remove some of the unnecessary dynamics to avoid situations where "the application starts to do something by itself and it takes a long time". Consider adding a user initiated process for the pricing.

The response time of the service calls is not possible to reduce within the scope of this project. To improve the experience for customer to face problems, we should add context dependent error messages.

- external (or our) service is not responding, try again later
- You did something wrong (validate the customer answers immediately or if later, indicate clearly where the invalid answer is)

Especially the long loading time of the content needs to be fixed, since it affects the direct exists probably the most.

7.3.3 Informativeness and support

Chat link has already been implemented to the new webshop to support with the questions during the purchase process. It has not had a significant effect on the conversion as one of the studies indicated as well.

To support the user in understanding the terminology used, consider adding tooltips for most difficult fields. Try with A/B testing to find out more informative copy texts.

Explain the pricing logic or at least the process to the customer. This can be done for example by the progress bar "Get indicative price to compare" "Get your personal price" "Buy".

To avoid the users to try out the application with invalid SSN and license plate number, consider providing a test SSN and license plate number for the customer to try out the application or a short demo to present the functionality.

Both from customer feedback and conversion point of view it is seen problematic that you need to navigate away from the webshop to get more information. Consider implementing tooltips. Especially concerning bonus transfer, customer needs information on the process.

To reassure the customer to make the purchase decision, a summary of the purchase and the choices he has made is needed close to the purchase button.

7.3.4 Context of use

The user experience has been designed to support mobile and tablet usage. Consider improving the desktop experience by decreasing the size to fit at least the main functionality into one page.

7.3.5 Summary of improvements

Improvement ideas presented in the previous chapters are presented in the following table (Figure 26.).

	Area	Improvement
1	Sales funnel optimization	Direction to webshop
2	Sales funnel optimization	Fix bug: License plate modification
3	Sales funnel optimization	Enter car information manually
4	Sales funnel optimization	Change the order of the bonus questions
5	Sales funnel optimization	Change the deductible question place
6	Sales funnel optimization	Add progress bar
7	Sales funnel optimization	Enable edit of 1st page answers on 2nd page
8	Sales funnel optimization	Move owner/holder questions to 1st page
9	Building trust	Separate link to the new car webshop
10	Building trust	Fix the different coloring of the logo and slogan
11	Building trust	Add information about using the SSN
12	Building trust	Add a user initiated process for the pricing
13	Context of use	Fit page on desktop screen
14	Informativeness	Add tooltips for most difficult questions
15	Informativeness	Provide test license plate nr and SSN
16	Informativeness	Demo
17	Informativeness	Summary of answers and choices
18	Informativeness	Context dependent error messages
19	Superior customer experience	Fix known bugs
20	Superior customer experience	Enable returning to 1st page without losing data

Figure 26. List of proposed improvements

7.4 How the improvements could be implemented and much would it cost

The effort estimates and implementation options are described in the confidential appendix.

8 Conclusions

8.1 Conclusion of results

The project has developed a new webshop and there has been 6 production Releases for the end customers. The already implemented improvements have not substantially improved the conversion. The latest Release has not been published to end customers, which presumably contains one major fix to the low conversion problem.

In this thesis I have identified several further improvement ideas and alternatives for the implementation. They are prioritized based on the expected improvement on conversion and implementation cost has been considered in the prioritization - highest prioritization has those improvements that have lowest cost and highest potential to improve conversion rate.

The decision to implement the improvements is out of scope of this thesis and thus is the measures of the results.

8.2 Generalization

This is a case study and related to a specific context. However, the findings from the theory synthesis could be generalized. To prove it in practice would require another study. In my study, I found out that the synthesis I made from the theories, also works in this particular case (Figure 27.). Adding the perceived risk, context and skills seemed meaningful from practical point of view as well.

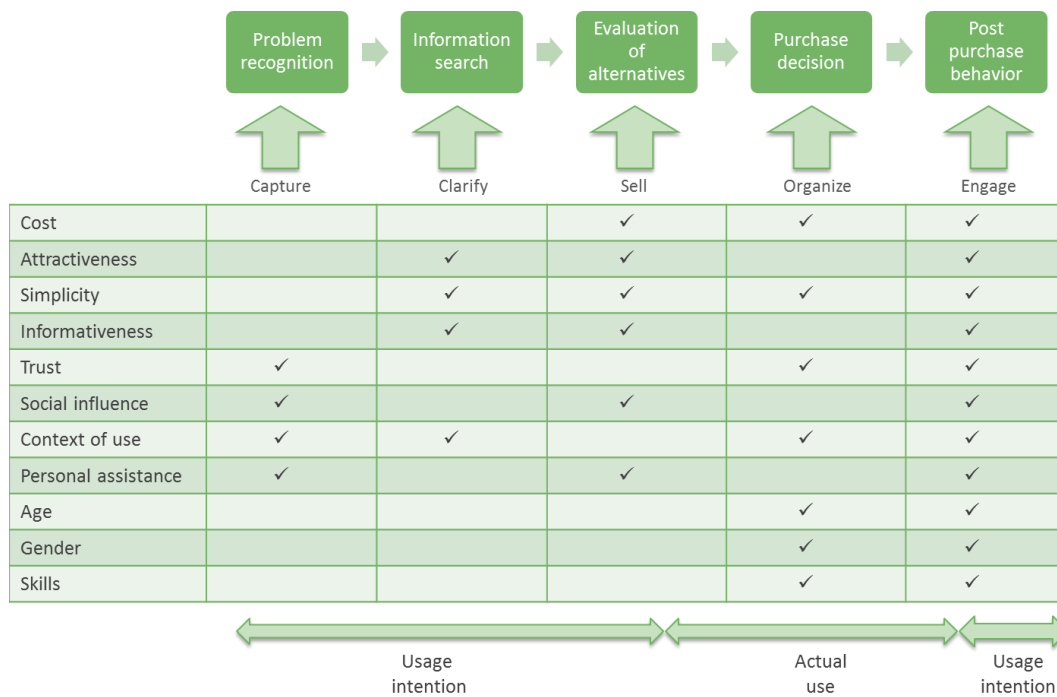


Figure 27. Factors affecting customer online purchase decision in each step

This thesis was done in the context of insurance online purchase, but to an extent the results can be utilized more widely in any trust oriented business, mainly in Finance industry. I would expect banking online solutions and financial services purchases online to follow similar theoretical synthesis.

For other industries most of the factors would remain the same since they are very general and based on the UTAUT model. What would change is the weight of each factor: in finance industry trust is the most influential factor while for example in entertainment business, social influence and attractiveness probably would be more important.

8.3 Personal evaluation

I am proud to complete this thesis work in fairly limited calendar time. I was in a good position to start the thesis work, since I had made an R&D prestudy on the same topic and was really enthusiastic about the topic area. I am thankful for my sponsor and supervisor to help me limit the scope, without it, it would have not been possible to conclude in such a short time.

To answer my research questions, I have concentrated on the main measure of the business objectives - conversion rate. I have investigated the number of purchases in the webshops, but not the value. This I decided to scope out already when starting this work since the value comparison metrics is not in place yet. I succeeded in identifying also the underlying reasons for the low conversion rate, identified practical and exact improvement ideas and was able to come up with estimates of the cost and propose how the implementation should be done.

The project overall was one of the most difficult ones in my professional career, at times it felt like the odds were against the project. I have learned immensely about agile development methodology and how to use it to actually gain value. Main learnings are

1. Secure that the steering committee understands the principles and able to prioritize between three cornerstones: time, money and content
2. Publish the first Minimum Viable Product (MVP) before using too much time on integrations to gain understanding on the quality of the concept.

I have learned to say out loud if there is something I don't understand. In that case there is a fair chance that someone else, or even no-one else, understands either.

When starting the thesis, I had a time plan for the work in mind, which changed somewhat but the order of the work remained almost the same. I revised the theoretical synthesis in

the middle of the thesis work to get better support for my findings. This additional work I was not prepared to but am satisfied now that it is done, I feel it improves the quality of the thesis and findings immensely and improves the generalization opportunities of the work.

9 Discussion and further development

Environment for the project has changed during the implementation project as it often happens in the rapidly changing business environment. There are growing demands to utilize synergies across the company that were not there in the beginning of the project. There are new projects starting and there is a high demand for competent resources and it is difficult to prioritize projects and further development.

A new opportunity has evolved during the implementation of car insurance webshop to utilize something that has already been developed in the company and my proposal is to wait a few weeks before deciding on the further development of the new webshop to get actual production feedback from another project. Those learnings will help to decide how much effort should be put in further develop the car webshop and how much effort to use in doing it in a different way. This opportunity is described in the confidential appendix of this thesis.

10 Reference list

Ahonen, A 2007 *From complex to simple. Designing a customer-friendly electronic insurance servicescape*. Tampereen Yliopistopaino Oy.

Alkhunaizan, A 2012 *What drives mobile commerce? An empirical evaluation of the revised UTAUT model* <http://marcomacademy.co.uk/ijmma/What-drives-mobile-commerce-An-empirical-evaluation-of-the-revised-UTAUT-model.pdf> Published in International Journal of Management and Marketing Academy, Vol. 2, No. 1, pp. 82-99. [Accessed 23rd November 2013]

ComScore 2013, *2013 U.S. Online Auto Insurance Shopping Report* <http://www.comscore.com/Insights/Press-Releases/2013/10/comScore-Releases-2013-US-Online-Auto-Insurance-Shopping-Report> [Accessed 5th September 2014]

Davis, F 1989 *Perceived usefulness, perceived ease of use, and user acceptance of information technology*. MIS Quarterly, Vol. 13, No. 3 (Sep., 1989), pp. 319-340. http://www.academia.edu/2036076/Perceived_usefulness_perceived_ease_of_use_and_user_acceptance_of_information_technology [Accessed 28th September 2014]

Dewey, J 1910 *How we think*. Boston, D.C. Heath and Co. <https://archive.org/details/howwethink000838mbp> [Accessed 28th September 2014]

Google 2012 *Shopping blog, Smartphones and Tablets Influence Consumer Purchasing Decisions on Mobile, Online and in Store* <http://googleshopping.blogspot.fi/2012/02/smartphones-and-tablets-influence.html> [Accessed 9th September 2014]

ISO FDIS 9241-210 2009 *Ergonomics of human system interaction - Part 210: Human-centered design for interactive systems (formerly known as 13407)*. International Organization for Standardization

(ISO) http://en.wikipedia.org/wiki/User_experience#cite_note-1 [Accessed 28th September 2014]

Laudon, K & Traver, C 2007 *E-commerce: business. technology. society*. 3rd Edition. Pearson.

Lee, J et al 2010 *The effects of trust and perceived risk on user's acceptance of ICT services*. Available from <http://ssrn.com/abstract=1703213> [Accessed 27th September 2014]

Meeker, M 2014 *Internet trends*

Available from <http://www.kpcb.com/internet-trends> [Accessed 5th September 2014]

Niemi, A 2010 *Verkkokaupan käytettävyys mobiililaitteella*. Tietojärjestelmätieteen pro gradu - tutkielma. Available from <https://jyx.jyu.fi/dspace/handle/123456789/23332> [Accessed 21st July 2014]

PwC 2014 *Total Retail: Global survey of online shoppers*

Available from <http://www.pwc.com/gx/en/retail-consumer/retail-consumer-publications/global-multi-channel-consumer-survey/explore-the-data.jhtml> [Accessed 5th September, 2014]

Saunders, M, Lewis, P, Thornhill, A 2009 *Research methods for business students*, fifth edition, Pearson Education Limited.

Slideshare 2014 *Mobily 50 Must-Know Mobile Commerce facts and statistics*

Available from <http://resources.mobify.com/50-mobile-commerce-stats.html> [Accessed: 5th September 2014].

Syrjälä, M 2010 *Kuluttajan osto- ja vaihtokäyttäytyminen vakuutuslalla*, Seinäjoen ammattikorkeakoulu. Available from <http://www.theseus.fi/handle/10024/15335> [Accessed: 5th September 2014].

Tilastokeskus 2012 *Internetin käytön muutoksista*. Available from <http://tilastokeskus.fi/til/sutivi/2012/index.html> [Accessed: 11th November 2013].

TNS Gallup 2013 *Verkkokauppatilasto 2013*. Available from http://www.tns-gallup.fi/doc/digi/Verkkokauppatilasto_2013.pdf [Accessed 21st July 2014]

Venkatesh, V 2003 *User Acceptance of Information Technology: Toward a Unified View*. Available from <http://nwresearch.wikispaces.com/file/view/Venkatesh+User+Acceptance+of+Information+Technology+2003.pdf> [Accessed 11th November 2013]

Wikipedia, definition of *User Experience* (UX)
http://en.wikipedia.org/wiki/User_experience [Accessed 28th November 2014]

11 Appendix 1: Company confidential report