



CHALMERS
UNIVERSITY OF TECHNOLOGY



UNIVERSITY OF GOTHENBURG

Volvo Adapt

A Qualitative Study on the Perception Towards, and Opting-In to, Soft Offers in the Automotive Industry

Master's thesis in Interaction Design and Technologies

MADELEINE CHIESI & KLARA REHBINDER

MASTER'S THESIS 2023

Volvo Adapt

A Qualitative Study on the Perception Towards, and Opting-In to,
Soft Offers in the Automotive Industry

MADELEINE CHIESI & KLARA REHBINDER



UNIVERSITY OF
GOTHENBURG



CHALMERS
UNIVERSITY OF TECHNOLOGY

Department of Computer Science and Engineering
CHALMERS UNIVERSITY OF TECHNOLOGY
UNIVERSITY OF GOTHENBURG
Gothenburg, Sweden 2023

Volvo Adapt

A Qualitative Study on the Perception Towards, and Opting-In to, Soft Offers in
the Automotive Industry

MADELEINE CHIESI & KLARA REHBINDER

© MADELEINE CHIESI & KLARA REHBINDER, 2023.

Supervisor: Beata Stahre Wästberg, Department of Computer Science
and Engineering

Advisor: Malena Helldén, Volvo Cars

Examiner: Mikael Wiberg, Department of Computer Science and Engineering

Master's Thesis 2023

Department of Computer Science and Engineering

Chalmers University of Technology and University of Gothenburg

SE-412 96 Gothenburg

Telephone +46 31 772 1000

Cover: Description of the picture on the cover page (if applicable)

Typeset in L^AT_EX

Gothenburg, Sweden 2023

Volvo Adapt

A Qualitative Study on the Perception Towards, and Opting-In to, Soft Offers in the Automotive Industry

MADELEINE CHIESI & KLARA REHBINDER

Department of Computer Science and Engineering

Chalmers University of Technology and University of Gothenburg

Abstract

This report is an investigation about subscription services, or soft offers, in the automotive industry. The study aims to answer whether the design of soft offers can affect the willingness to opt-in and if there is a perception difference in soft offers for hardware, software and content. The outset of the work is the users, or consumers experience and not a company's economic viability for soft offers. Using research through design with the five stages of design thinking, qualitative methods aided the design of a mobile platform prototype called "Volvo Adapt". Applying methods such as competitor analysis, user journey, focus group discussions among others, led to an additional research question about the consumers expectations towards functions and soft offers. By conducting observations and interviews on the platform "Volvo Adapt", results indicate a complex mix of perception on general attitudes towards soft offers, attitudes towards hardware, software and content, as well as the additional research question about consumers expectations. It was concluded that even though there are individual differences on the general perception towards soft offers, there are ways of designing them to allow for a positive user experience. Nine guidelines on how to design soft offers are recommended which includes, but are not limited to, not replacing the current customisation flow with soft offers, general design guidelines, and the functionality of soft offers. Along with this the guidelines suggest further studies on what functions to offer as soft offers with caution towards hardware functions, especially those who consumers expect to be included in their cars. This work is a step towards covering the research gap on subscribing to a part of a technological product that is owned by a consumer.

Keywords: Research Through Design, soft offer, subscription service, Volvo Cars, User Experience, thesis.

Acknowledgements

We're extremely grateful for our supervisor Beata Stahre Wästberg for continuous guidance and encouraging words during this work.

We would also like to thank the Product Validation department at Volvo Cars for once again welcoming us with open arms. By showing interest and providing us with help during the whole work, we've felt like a part of the team. Special thanks to Malena Helldén and Jonas Öhman for taking on the role of advisors with gusto.

Lastly, we would like to extend our gratitude to the Co Dev-drivers who took their time to participate in our studies. Without their insights, this wouldn't have been possible.

Madeleine Chiesi & Klara Rehbinder, Gothenburg, May 2023

Contents

List of Figures	xiii
List of Tables	xv
1 Introduction	1
1.1 Goal, Aim and Research Questions	1
1.2 Scope and Limitations	1
2 Background	3
2.1 Soft Offers	3
2.1.1 Hardware vs. Software vs. Content	3
2.1.2 Volvo on Call	4
2.1.3 Other Car Companies' Subscription Services	4
2.2 Subscriptions	5
3 Theory about User Experience	7
3.1 Prospect Theory and Mental Accounting	7
3.2 Sunk-Cost Effect	8
3.3 Fogg's Behaviour Model (FBM)	8
3.4 Motivation and Emotions	9
3.5 Mental Models	9
3.6 Familiarity	9
4 Methodology	11
4.1 Empathise	12
4.1.1 Literature research	12
4.1.2 Competitor Analysis	12
4.1.3 User Journey	13
4.1.4 Focus Group Discussion	13
4.2 Define	14
4.2.1 Affinity Diagram	14
4.2.2 Consensus Matrix	14
4.3 Ideate	15
4.3.1 How Might We	15
4.3.2 Worst Possible Idea	15
4.3.3 Brainstorming	15
4.3.4 Storyboarding	16

4.4	Prototype	16
4.4.1	Sketching	16
4.4.2	Design Guidelines	16
4.5	Test	17
4.5.1	Observations	17
4.5.2	Interviews	18
5	Planning	19
5.1	Empathise	19
5.2	Define	20
5.3	Ideate	20
5.4	Prototype	20
5.5	Test	20
6	Execution and Process	21
6.1	Empathise Phase	21
6.1.1	Information Gathering	21
6.1.2	Competitor Analysis	22
6.1.3	User Journey	22
6.1.3.1	Free Subscription Trial	23
6.1.3.2	One Month Paid Subscription	24
6.1.3.3	Takeaways from User Journey	26
6.1.4	Focus Group Discussions	26
6.1.4.1	Screening Survey for Focus Group Discussions	26
6.1.4.2	Execution of Focus Group Discussions	26
6.2	Define Phase	27
6.2.1	Affinity Diagram & Consensus Matrix	27
6.2.2	Takeaways	33
6.3	Ideate Phase	34
6.3.1	How Might We	34
6.3.2	Worst Possible Idea	35
6.3.3	Brainstorming	36
6.3.4	Storyboards	38
6.4	Prototype Phase	40
6.4.1	What to Design?	40
6.4.2	Lo-Fi Prototyping using Sketching	41
6.4.3	Hi-Fi Prototyping of Volvo Adapt	43
6.4.3.1	Design	43
6.4.3.2	Functions	48
6.5	Test Phase	49
6.5.1	Pilot Tests	49
6.5.2	Observations and Interviews	49
6.5.3	Thematic Analysis	50
6.5.3.1	Observations	50
6.5.3.2	Interviews	53
7	Results	59

7.1	Perception Towards Soft Offers	59
7.2	Perception Difference in Investigated Categories	60
7.3	The Design of Soft Offers	60
8	Discussion	63
8.1	Reflection of the Results	63
8.2	Reflection of the Study Design	66
8.2.1	The Participants	66
8.2.2	The Prototype	67
8.3	Ethical Discussion	68
8.4	Future Studies	68
9	Conclusion	71
	Bibliography	73
A	Appendix A: Summary of Subscription Services	I
B	Appendix B: Screening Survey	V
C	Appendix C: Questions for Focus Group Discussions	VII
D	Appendix D: Quotes from Focus Group Discussions	IX
E	Appendix E: Tasks and Questions from the Observations/Interviews	XI
F	Appendix F: Template of Task Categorisation	XIII
G	Appendix G: Thematic Analysis Categories	XV
H	Appendix H: Quotes from the Observations/Interviews	XVII

List of Figures

4.1	The five stages of Design Thinking adapted from Interaction Design Foundation [1].	11
5.1	It's estimated that Study 1 (marked with yellow) and 2 (marked with green) will be enough to fulfill the purpose of this report, meaning Study 3 (marked with blue) is planned to be executed if there is enough time. If something occurs that leads to delays in the process, this study will be dismissed.	19
6.1	Location of BMW Store in the BMW Application.	23
6.2	Last step in payment flow for subscribing to Traffic Camera Information.	25
6.3	Features in the dashboard display.	25
6.4	Information displayed during focus group discussions in order to allow for common ground.	27
6.5	Part of affinity diagram in process.	28
6.6	Categories from Affinity Diagram and their relations.	29
6.7	Storyboard 1 is used to demonstrate the scenario of adding a function after the purchase of the car.	38
6.8	Storyboard 2 illustrates the ongoing subscription of a function and what the consumer could face during this instance.	39
6.9	Storyboard 3 shows the consumers flexibility in testing and trying out functions.	40
6.10	Lo-fi sketching.	42
6.11	Sketches for a new icon.	43
6.12	Volvo App's home screen with new icon in the navigation bar (second right).	44
6.13	Introduction pop-up.	45
6.14	Tabs for Current, Available and Previous.	45
6.15	The frames for Headup-display. Including if they own the function (right), subscribes to the function (centre) and neither owns nor subscribes to the function (left).	46
6.16	The frames for Headup-display and options illustrating no option chosen (left) and monthly subscription with continuous duration (right).	47
6.17	Part of Volvo Brand Palette.	48
F.1	Template of task categorisation.	XIII

List of Tables

2.1	A categorisation of which subscription services are provided in automotive companies. The data collected are categorised according to the authors of this paper, the companies have not provided a division between the services. The data was obtained between 21/2-2023 and 22/3-2023 and may have been altered since then. A compressed summary of the services they provide along with references can be viewed in Appendix A.	5
6.1	Consensus Matrix regarding Trust.	29
6.2	Consensus Matrix regarding Feeling of Control.	30
6.3	Consensus Matrix regarding Knowledge.	30
6.4	Consensus Matrix regarding Transparency.	31
6.5	Consensus Matrix regarding Flexibility.	32
6.6	Consensus Matrix regarding Simplicity.	32
6.7	Consensus Matrix regarding Expectations.	33
6.8	The functions added into Available with categories.	48
A.1	Summary of subscription services provided by premium brands in the European and American market.	I
A.1	Summary of subscription services provided by premium brands in the European and American market (continued).	II
A.1	Summary of subscription services provided by premium brands in the European and American market (continued).	III
A.1	Summary of subscription services provided by premium brands in the European and American market (continued).	IV

1

Introduction

This master thesis is executed in collaboration with Volvo Cars to investigate what can be termed as *soft offers* in the car industry. Instead of building cars on demand that are equipped with functions decided and bought by the consumer, the companies have the possibility to equip all cars with a complete set of functions. This includes hardware (physical products), software (technological programs) and content (new content with each subscription period). The consumers can then try the functions for free during a limited time period and afterwards, pay a regular fee for the ones they want to keep. This would aid in the manufacturing of the cars as well as the calculation of expected incomes for the company [2]. Even though there seem to be an economic benefit for companies to provide subscription services, the users, or consumers, shouldn't be forgotten. In this report, the users will be termed as consumers since that is the term used at Volvo Cars. Research is necessary to investigate if and how soft offers can be designed to create a positive user experience of these offers.

1.1 Goal, Aim and Research Questions

The goal of this study is to investigate if soft offers could be a viable option for Volvo Cars. This includes getting an understanding of how soft offers are perceived and should be designed. The aim of this study is therefore twofold: investigating if and how a design of a subscription offer can affect the willingness to opt-in and whether there is a perception difference between hardware, software and content. These domains will foremost be studied on how they are perceived regarding a design aimed to create a positive user experience. The research questions that this study aims to answer are thus the following:

RQ1: What is the general perception of soft offers?

RQ2: Is there a perception difference between soft offers for hardware, software and content?

RQ3: Can the design of soft offers affect how it is perceived and the willingness to subscribe?

1.2 Scope and Limitations

This report aims to investigate the consumers perception of soft offers and not the company's profit from them. Investigating economic profits a company could make from soft offers, along with consumers' perception towards them, could lead to a

better understanding regarding the viability of the model. However, this study will only focus on the latter. To investigate in such a holistic view, long-term effects on subscriptions (i.e., if consumers stop subscribing, what products consumers try but are not willing to subscribe further to etc) should be studied. This will not be within the scope of the study but could potentially be an option for further studies. Instead, the focus and scope of the study will be on how consumers perceive soft offers, specifically towards Volvo Cars products and services, and how to design soft offers so that consumers choose to opt-in to the subscriptions.

There are possible directions and options that can be complemented to a soft offer. One such option could be to implement a “buy-out option” for products or services that a consumer no longer wants to pay a monthly fee towards but buy it through one-time purchase. Examining if “bought-out functions” should follow, or stay with, the consumer or the car could affect brand loyalty. This aspect should therefore also be investigated to understand whether soft offers are a viable option for Volvo Cars. Since the study focuses on “opt-in” and not behaviours after a subscription has started, this will not be investigated but will be discussed in section 8.3 Ethical Discussion.

Another limitation for the study is using design in a way that will not hurt the company since the purpose is to investigate soft offers as a viable option. Therefore, using *dark patterns* is not a viable option for the design. Dark patterns are a form of deceptive design that tricks a user into making a choice or action that they did not mean to perform [3]. This could be *sneak into basket* which is when an additional product is placed in the purchasing basket and forcing the user to “opt-out” of that product. Another dark pattern that relates to subscription is *forced continuity* which is when a free trial turns into a paid service without the user’s acknowledgement. Since the concept was coined, other dark patterns have been identified. For example, Gray et al. [4] proposes *gamification* as a potential dark pattern which is also sometimes referred to as “pay-to-win” [5]. The use of dark patterns, specifically aggressive ones, is not appreciated by users [6], the design will therefore be avoidant of the use of identified and blatant dark patterns to not hurt the perception of the company.

The implementation of soft offers has another ethical angle to consider. This includes the sustainability of producing a standardized version of each car model. For this report, the sustainability will not be considered but will be discussed further in section 8.3 Ethical Discussion.

2

Background

This chapter aims to describe and depict soft offers further. This type of subscription model is relatively new, and there is a research gap regarding how they are perceived as well as how the offers should be designed to create a positive user experience for the consumers. Therefore, this chapter contains information that is not only empirical, but that is anecdotal and/or might not fully be in accordance with how the soft offers are planned to be executed by Volvo Cars.

2.1 Soft Offers

Soft offers are, according to dictionary and marketing sites [7][8][9], when a consumer receives a product and can be asked for payment in order to keep receiving the product. This contrasts with hard offers which refers to when payment occurs before receiving the product [9]. The academic term used and associated with soft offers are *subscription services* [10][11] or *subscription programs* [12]. The difference is that subscriptions do not need to be a soft offer, i.e a subscription can occur without a “free period”. For this report however, when discussing subscription offers with a free trial, it will be described and termed as soft offers. This is due to the term being used to describe this type of subscription at the company (J. Öhman, personal communication, 3 February 2023).

2.1.1 Hardware vs. Software vs. Content

To be able to answer the research question regarding if there is a perception difference between *hardware*, *software* and *content* in subscriptions, the services are divided into these categories. Hardware refers to physical products, which for cars needs to be assembled beforehand or added on by a retailer. These include camera equipment, heated seats etc. Software are the underlying mechanisms that, through connected car services, can be updated remotely and can be infotainment software, remote connection (app to car) or assistance systems. Content is the media or information provided that is continuously updated, and could be games and entertainment, also real time map information. There is however rarely a hard cut line between each of the three types, for instance real time map information relies on software but is continually updated with new content. For the purpose of this paper and to understand if there is a perception difference between them, a subjective categorisation was made, the different categorisations can be viewed in Appendix A.

2.1.2 Volvo on Call

Volvo Cars has decided to investigate how soft offers will be met among their consumers but are currently lacking the data. A similar subscription provided by Volvo Cars is *Volvo on Call* which is connected to the cars systems within the car such as Supplemental Restraint System Module (SRS) and alarm systems [13]. There are several different services within Volvo on Call which can be divided into three categories: comfort services which is communicating with the car through an app [14], safety services containing alarms and assistance [15] and security services providing lock-functions and other assistance [16]. When purchasing a car, the consumer receives a “free period” (lasting four years) with the option to continue subscribing (J. Öhman, personal communication, 3 February 2023). The service is popular, but whether people choose to continue the subscription after the free period is unclear.

2.1.3 Other Car Companies’ Subscription Services

Even though Volvo on Call is a popular service, there is anecdotal evidence that suggests that subscription models for vehicle companies are received poorly by consumers such as when BMW launched a subscription service for heated seats [17][18]. The subscription service is available in some countries where the function is built into the vehicle but to access it, a monthly fee should be paid which the company means will let the user test the function and then decide if they want it [19].

Through an extensive online search of other automotive companies (4.1.3 User Journey & 6.1.3 User Journey), it became evident that BMW is not the only company offering subscription services. The search involved sixteen companies, all selling premium to luxury cars available in the European and American markets as classified by J.D. Power [20]. The way in which the subscription services were packaged (single product, package of products or mixed), the length of the subscription (a month up to three years) what they contained (hardware, software and content) varied amongst them (see Appendix A) as illustrated in table 1. A majority of the brands have a similar soft offer as Volvos “Volvo on Call” with a free trial and the option to continue with the subscription.

It was concluded that BMW is not the only company offering all three types of subscription services with Mercedes-Benz also offering them (see table 2.1).

Table 2.1: A categorisation of which subscription services are provided in automotive companies. The data collected are categorised according to the authors of this paper, the companies have not provided a division between the services. The data was obtained between 21/2-2023 and 22/3-2023 and may have been altered since then. A compressed summary of the services they provide along with references can be viewed in Appendix A.

Automotive Company	Hardware	Software	Content	Subscription Option
Acura		✓		Packages
Alfa Romeo				<i>No info available</i>
Audi		✓	✓	Packages
BMW	✓	✓	✓	Mixed
Cadillac	✓	✓		Mixed
Genesis		✓		Packages
Infiniti		✓	✓	Mixed
Jaguar		✓	✓	Mixed
Land Rover		✓	✓	Packages
Lexus		✓		Packages
Lincoln				<i>None</i>
Mercedes-Benz	✓	✓	✓	Mixed
Polestar		✓		Packages
Porsche		✓		Mixed
Tesla		✓	✓	Packages
Volvo Cars		✓		Packages

2.2 Subscriptions

What is usually characterised with a subscription model is the pricing of it, a continuous flat-rate fee over a predetermined time [11]. It is also characterised with an opt-out option for each subscription renewal, benefiting companies with a continuous flow of income as well as benefiting consumers with the ability to stop the subscription [2]. Furthermore, Iyengar et al. [12] suggests that subscription services may have benefits that go beyond economical.

Iyengar et al. [12] investigates subscription programs, defined as “a paid membership program initiated by an existing noncontractual business and provides members exclusive benefits beyond those available to regular customers (i.e., nonmembers)” [12] (p. 1101). These subscription programs differ from soft offers in the following aspect: the subscription program allows a user to receive “special offers” i.e. subscription occurs beforehand and then the consumer can receive benefits. Soft offers provide a trial period and then consumers subscribe to products. In addition, the research was made on an Asian retailer that sells personal care-products (e.g.

skincare), and they disregarded new subscribers as well as the process of opt-in [12].

The study by Iyengar et al. [12] mentions aspects that may be applicable for Volvo’s intended soft offers. They claim that both economical and psychological drivers can impact the behaviour towards subscription programs. They showed that subscription methods increased purchases when the consumer was in the subscription program with psychological drivers as one of the main reasons. They also identify sunk-cost fallacy (further explained in section 3.2 Sunk-Cost Effect) as an explanation. In addition, they found that affect is negatively correlated with the increased purchases, meaning that consumers experience a hedonic deterioration, i.e. a decline in encouragement towards the service, as they continue to do purchases.

Even though empirical evidence regarding psychological effects and subscriptions services have not been extensively studied, Bray et al. [10] found both motivators and barriers associated with the likelihood to subscribe (opt-in). They found that *utilitarian motives*, such as ease and convenience, exerted higher influence on subscription likelihood than *hedonic motives*, such as surprise and excitement [10] [21]. Baek and Kim [21] showed how consumers’ perception of goods changes when subscription is introduced using a variety of products. They argue that a product or service that is perceived as utilitarian is perceived as hedonic after subscription which is not desirable since utilitarian products have a higher purchase rate. Due to the change in perception from utilitarian to hedonic, people are less likely to “purchase” and join the subscription. They also argue that in what sense the user can evaluate the product influences the perception of it. Search goods, which are products that a user can evaluate before purchasing them, are perceived more as experience goods, which is evaluated through direct observation, when subscription models are introduced [21].

It therefore seems that different products, or how the products are perceived, influences the likelihood of subscription. Several of the goods used when investigating the perceptions amongst consumers are recurring delivery goods, that is, online services or new products every subscription period. Bray et al [10] claim that previous work has been largely focused on the fashion and beauty market, it therefore stands to argue that more understanding around subscription models towards other fields is needed. Furthermore, these subscription models either differ (or neglect to describe the used model) compared to that of Volvo Cars intended soft offer model.

3

Theory about User Experience

User experience (UX) has several different definitions, one of which is “user’s perceptions and responses that result from the use and/or anticipated use of a system, product or service” [22](3.2.3). The perception of these subscription services could therefore be seen as UX since it’s a perception that results from the anticipated use of them. In the following sections, theories regarding UX are presented that may have an impact on how soft offers are perceived depending on how they are designed.

3.1 Prospect Theory and Mental Accounting

Prospect Theory was first introduced by Kahneman and Tversky [23]. The theory argues that people are acting differently if they are facing risky choices that can lead to gains versus if they can lead to losses. If a person has a chance of gains, they tend to choose a safer option that will lead to a certain gain. On the other hand, if they are faced with a risk of loss instead, they tend to choose a riskier option that could potentially result in them not losing at all.

Kahneman & Tversky [24] nonetheless argue that Prospect theory is incomplete. They mean that individual preferences make this theory more complex since their choices are also affected by the framing of the options. It therefore seems like how alternatives are presented not only can affect what alternative they choose, but also how they experience its outcomes.

In addition, Shafir & Thaler [25] states that Prospect Theory is a rule to explain *mental accounting*, namely, the feeling of spent money. Mental accounting refers to the state when there is an interlude between purchase and consumption. Soft offers could therefore potentially fit into this category, the functions are used at a later point than the purchase. Shafir and Thaler [25] found that the time and usage can have different effects on how the consumer views the products. Their conclusions might therefore also have implications on how consumers view specified (pre-purchased) functions for their cars and potentially soft offers. They suggest that if a product is purchased much earlier than it is used, people often view it as free [25]. It therefore stands to argue that, when a consumer uses a pre-specified function at a later point, they could also view it as free. They also suggest that such purchases are treated more as investments than “typical” purchases and that when the product is not used as planned, it is more likely to be associated with the initial cost [25]. This could potentially mean that a pre-specified function that is

not being used is more likely to be associated with the cost of it than pre-specified functions that are being used.

Some caution should however be taken into account, soft offers are a subscription, meaning that either the consumer could view it as a purchase every time the subscription is renewed, or not view it as a purchase at all, this will be discussed in section 8.1 Reflection of the Results.

3.2 Sunk-Cost Effect

As previously mentioned, Iyengar et al. [12] also proposes *sunk-cost fallacy* as a reason behind increased purchases when consumers are in subscription programs. Sunk-cost effect (or sunk-cost fallacy) was first introduced by Thaler [26]. The theory claims that people tend to consider historical costs while making decisions in their everyday life. Through sunk-cost effects, Thaler argues that people tend to utilise products and services more when they have already invested, or paid for them, not using them gives the people a feeling of “wasting money”. The sunk-cost effect has been studied further and proved to be applicable on investments. Once an individual has made an investment, they are more likely to invest more, even if the investment does not seem worthwhile [27]. Preston McAfee et al., [28] exemplifies this by mentioning when the British and French governments continued to invest in the aircraft “Concorde” after knowing that the project would not generate the desired return.

3.3 Fogg’s Behaviour Model (FBM)

How and when offers are presented can affect how the offers are perceived by the users [24]. The following paragraphs are based on Fogg’s Behaviour Model (FBM), a model proposing that behaviour is a result of *triggers*, *motivation*, and *ability* [29].

Triggers can, according to FBM, take different forms and several examples are given such as a growling stomach or a text message. A trigger is something that triggers a behaviour. For soft offers, a trigger could be a notification of an offer or that the user encounters something that reminds them that subscriptions are possible. According to FBM, these types of triggers are called *signals* and work best when the user has both motivation and ability. These triggers should be presented at the right time in order to trigger a behaviour.

A trigger alone can however not trigger a behaviour; the user also needs motivation for this behaviour. For soft offers, this means something that motivates the consumer to opt-in to a subscription. Motivation can, according to FBM, be of three types; pleasure/pain, hope/fear, and social acceptance/rejection. These types of motivators can also be embedded in a trigger to form so-called *sparks*. An example of this could be to highlight the risk of not having a blind spot warning in the car while, at the same time, present an offer to subscribe to that function.

Lastly, the user also needs the ability to perform the behaviour. This means that the consumer should be able to afford these offers, as well as understand how to opt-in to them. Triggers can therefore be designed to simplify an action; these types of triggers are called facilitators. According to FBM, the users need a trigger, motivation and ability in order to opt-in to a subscription [29]. How and when the offers are presented could therefore affect how they are perceived, and to which extent the consumers are willing to sign up for them [29][24].

3.4 Motivation and Emotions

Even if FBM suggests that motivation can be of three types, other theories suggest that additional emotions can cause motivation. DeSteno and Williams [30] for example suggests pride as a cause for motivation and explains that individuals strive towards goals even if they face short-term costs. Faselow [31] states that motivation is closely linked to emotion and describes that “motivation is one component of the emotion but emotion is a broader term” [31](p. 105). Furthermore, Silvia [32] argues that interest is an emotion that motivates people to approach new things. He makes a distinction between interest and happiness by arguing that while interest causes a person to try new things, happiness creates attachments to things that previously has been proved rewarding.

It therefore seems like additional emotions such as pride and interest can cause motivation, leading to an increased willingness to opt-in to soft offers. The theory presented by Fogg (FBM) will however be foremost used in this paper due to it’s practical implications.

3.5 Mental Models

Mental models are described as “cognitive representations of external reality” [33](p. 46) and were, according to Jones et al [33], originally described by Kenneth Craik in 1942. He argues that people have models in their minds regarding how the world works. These models are however simplified which leads to them being incorrect.

Andersson [34] presents “a model for analysis of automation usability in control room settings”. He argues that the user’s mental model must match the system performance to build trust towards the system. Soft offers are not a control room setting, yet this assumption is in accordance with Baek and Kim [21] statement that consumers should understand the subscription model in order to increase purchases.

3.6 Familiarity

The mental models a user have on the external world describes how that individual perceive that world. The theory does not however describe how an individual encodes information that they are already familiar with. *Familiarity*, the thorough

knowledge of an object and how to interact with it [35], further describes how a user might benefit from a familiarity with a product [36]. Johnson and Russo [36] argue that familiarity facilitates encoding of new information relating to the stimulus and more efficient decision making in relation to the stimulus. Furthermore, familiarity also seems to be intertwined with trust. Gefen [37] showed in a study on e-commerce, that familiarity evoke trust towards the object and those who sell it and in turn, purchases. It therefore seems that not only mere exposure is needed to achieve familiarity and increased purchases.

4

Methodology

To investigate if soft offers are a viable option for Volvo Cars, several methods will be conducted and applied using the methodological concept of research through design, or design-based research. Anderson and Shattuck [38] describe it as designing and testing something through a variety of methods and iterations. This will in turn be executed with the five stages of design thinking developed by d.school [39]. These five stages are: empathise, define, ideate, prototype and test (see fig. 4.1). Although they'll initially be conducted in mentioned order; design thinking is an iterative process. This means that the order will not be followed exclusively in a sequential order. Prototyping may generate new ideas and testing may aid in further defining the problem. Within these stages, other methods that are often used in the field of interaction design will be conducted. These include investigating the subject and the current general perception of soft offers, along with theory-based designs and evaluations of those.

Below, a chronological description of each method that will be used is given. How and in what way they are executed will be described in chapter (6 Execution and Process).

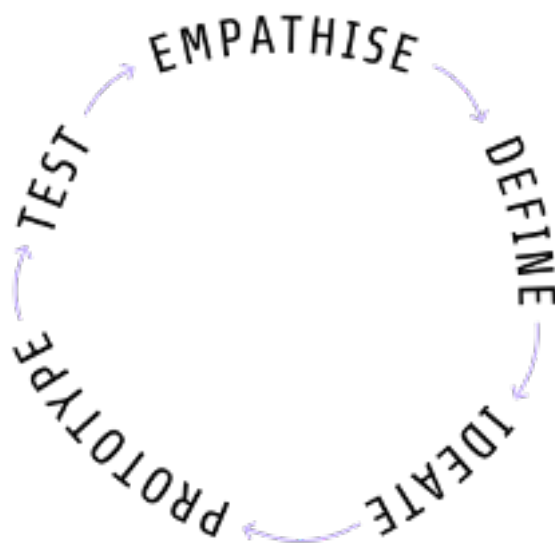


Figure 4.1: The five stages of Design Thinking adapted from Interaction Design Foundation [1].

4.1 Empathise

To understand the problem and to be able to create a design, the first step is to understand the users and the context and should be conducted through observing, engaging as well as watching and listening [39]. Interaction Design Foundation [1] also suggests consulting experts and emerging oneself in the context of the users. To achieve this, literature research, user journeys, competitor analysis and focus group discussions will be carried out.

4.1.1 Literature research

As Snyder [40] argues, existing knowledge is the base of all academic research activities. *Literature reviews* can therefore be helpful in several aspects when research is carried out. There is a difference between the research background in academic papers and literature review as a method, even if they share several traits. For literature reviews to be a proper research methodology, they need to follow certain steps to ensure accuracy, precision and trustworthiness.

There are several approaches for conducting literature reviews that are beneficial for different purposes. One of these are *systematic reviews* which has the aim to “identify all empirical evidence that fits the pre-specified inclusion to answer a particular research question or hypothesis.” [40](p. 334). Within systematic reviews, there are also different search approaches one of which is *snowballing*. This approach refers to the use of references and citations in relevant articles to find additional articles that potentially can be relevant for the purpose [41]. Even though a systematic review will be the leading literature data gathering, an iterative approach will also be applied to this kind of data gathering. Depending on the data collected from other methods, additional theories might need to be reviewed.

4.1.2 Competitor Analysis

Competitor analysis is used to get a better understanding of other companies take on a specific issue and by doing so, be able to design their products [42]. Komnions [43] explains that the identification of competitors solutions to problems is a standard tool in the field of UX and that it’s often done in the early phases in the design process. He argues that competitors strengths and weaknesses should be considered when creating designs that can be improvements of what’s already on the market.

Komnions [43] also explains that competitor analysis should be done strategically, identifying “real” competitors and comparing them though criteria. For this report, the competitor analysis was created as a part of the Background and can be found in section 2.1.3 Other Car Companies’ Subscription Services. Further explanation regarding how it was carried out can be found in section 6.1.2 Competitor Analysis.

4.1.3 User Journey

The making of a *user journey* can aid in the understanding of how a user interacts with a product or service by acknowledging general feelings towards it, pain points and delights [44]. Furthermore, it is a method often used by the validation teams at Volvo Cars (M. Helldén, personal communication, 2 March 2023). This analysis can vary in the execution, it can be concerning a specific action or higher level, and it can be a real or anticipated scenario. Nevertheless, Munro [44] argues that it should contain a user persona (who is the user?), a scope (what is the situation/scenario?), and touchpoints (what are the actions and interactions?).

4.1.4 Focus Group Discussion

Focus group discussions are, in a concise description, a method gathering feedback (or data) from a group of people simultaneously [45]. They are a time efficient method to gather a large quantity of qualitative data [45][46], and will therefore be used for this research. It can also aid in discovering and defining users' mental model around a subject and is therefore suited to use in the early stages of research [45]. A distinctive feature of focus group, that cannot be met by stand-alone interviews, are the interaction between participants. This can generate diverse data on experience and the comparisons and comments by other participants [46].

The design of the user group can also vary. Hennink et al. [47] argues that the sample size for focus groups should be adapted after several parameters. With additional methods planned to get a deeper understanding of the problem space, the amount of groups, and the amount of people in those groups, will be affected thereafter. Focus groups are often suggested to contain seven to twelve participants +/- 2 [45][48][49]. Fern [50] does however argue that two groups of four people could lead to more information retained compared to one group of eight people. Using smaller groups can also minimise the effect the participants have on each other [51] which is, according to Fessenden [45], one of the risks with using focus groups. The concept of *groupthink* was originally defined by Janis [52](p. 12) as “a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action.” Additionally, Carey and Smith [51] states that groupthink is a drawback of focus group discussions.

The focus groups will be either held in Swedish or English, depending on the preferences of the focus group participants. Resch and Enzenhofer [53] discuss and proposes strategies on how to execute and analyse cross-language research. They also highlight the importance of cross-language research by a threefold justification; “. . . ensuring inclusive social research, making diversity between and within groups and societies visible, and increasing cultural competence of involved researchers.” [53](p. 133). They suggest, if a translator is being used, a collaboration between the translator and the researchers to promote a discussion about the transcripts. This could potentially reveal differential, or dual, semantic meaning behind a quote, discussing this could therefore lead to better understanding. A translator will not

be used for this research, however a systematic translation will be made. The researchers will individually translate the quotes used in the paper and discuss it together to further understand the meaning.

The audio recordings will not be transcribed through any transcription software due to the sensitive nature of the data (the participants may disclose sensitive information) and will therefore be conducted by the authors of this paper. The risk of the interviews containing sensitive data is also the reason why the transcripts are not in the appendix of this paper. The act of transcribing is nevertheless not a biased-free method, Kowal and O'Connell [54] suggest that even though it might be a selective process, there are steps that can be taken to ensure an appropriate methodological approach. This includes following established notation and transcribing systems such as using phonetic transcription, note loudness and duration, or using the Jeffersonian transcript notation method.

4.2 Define

When the empathise stage is concluded, defining, by clarifying the problem space, can begin. This emerges from the data gathered through previous work [39]. The research questions have already been introduced but a problem statement can include more specific problems. By defining the problem statement, the challenges that should be focused on, thus, aiding the next phases [39].

4.2.1 Affinity Diagram

Affinity diagrams are used to convey and cluster data. According to Hannington and Martin [55], there are two different variations of affinity diagramming: one for contextual inquiry and one for usability tests. Common for both is that they are inductive exercises, meaning that the clustering is not based on predefined categories. When using affinity diagramming for contextual inquiry, observations are withdrawn from transcripts and written on post it notes to allow for easy adjustment of their places. When they have been written, they are clustered based on similar issue, problem, intent or affinity, creating a diagram where key concepts can be identified [55]. This way of clustering data will be used when analysing the focus group discussion.

4.2.2 Consensus Matrix

One specific method that can be used to analyse focus group discussions is using a *consensus matrix*, developed by Onwuegbuzie et al. [56]. When other participants agree or disagree, both verbally and non-verbally, on a participant's statement, this is noted down in a matrix. Even though a focus group is a qualitative method, and no quantitative data should be extracted from it, they suggest that some valuable insights might emerge from this type of analysis. It could potentially show the level of agreement/disagreement in the group which can yield a richer view on the data

[56]. Using consensus matrices in this study, can therefore deepen the understanding regarding perception towards soft offers.

4.3 Ideate

In the ideate phase, solutions to the problem statements from the define phase should be generated. By combining the data gathered in the empathise phase, and ideate phase, information about the users and the problems that they're facing should be the foundation of the ideas generated. More than one possible idea can be provided and converged to one later in the design process [39].

4.3.1 How Might We

How Might We is a template for ideating in design which d.school [39] argues is a beneficial way to go from the define phase to ideation phase. The method was originally presented by Procter and Gamble but have later been adapted by IDEO [57]. The method is used to reformulate problems to discover solutions. By rephrasing a problem or statement into a question that starts with “how might we”, the process of brainstorming can be facilitated. The questions should allow for multiple solutions while also be narrow enough to indicate on where the brainstorming should start [58]. Therefore, it will be used to brainstorm from the categories developed through the affinity diagramming.

4.3.2 Worst Possible Idea

To promote innovation and create a relaxed environment for ideation, Bryan Mattimore developed *Worst Possible Idea*. By asking group members to come up with the worst solutions to a problem, the members are encouraged to share ideas without the risk of feeling that they are not good enough. After the generation of bad ideas, ideas that are the opposite to them can be created in a more casual environment [59]. For the purpose of this paper, the method will be combined with dark patterns which, as explained in section 1.2 Scope and Limitations, is a form of deceptive design [3]. To avoid deceptive design in the prototype, the worst possible ideas will therefore include deceptive design. The dark patterns that will be used can be viewed in section 6.3.2 Worst Possible Idea.

4.3.3 Brainstorming

Based on the results from the two previous methods brainstorming possible solutions on a prototype will be made. *Brainstorming* is a method for problem solving, increase of creative efficiency, and idea generation. The method is adaptable and can be executed by an individual or a group. There are also variations for brainstorming where the group is limited, for example by shyness, cultural norms, or by them being geographically apart from each other. The procedure for a group without known limitations goes as follows: The group is presented to a clear topic, question or problem. They are then asked to generate ideas or solutions regarding

the theme without criticism. The generated ideas and/or solutions are afterwards collected where the ones that are most applicable are selected [60].

4.3.4 Storyboarding

Storyboard is a tool used to visualise a story chronologically with the user experience as the focus with (usually) drawn pictures to tell that story [61][62]. It contains a scenario, pictures and captions (narratives) to those pictures. It may aid in visualising an experience in a potential environment thus creating a better understanding in the ideation phase [62]. Wikström [63] further showed that storyboarding can enable ideation (innovation) by allowing another way to look at the problem space. It will therefore be used in this research to help further develop the problem space and possible solutions to it.

4.4 Prototype

Lauff et al, [64](p. 9) describes a *prototype* as “a physical or digital embodiment of critical elements of the intended design, and an iterative tool to enhance communication, enable learning, and inform decision-making at any point in the design process.” These can be of low fidelity (*Lo-Fi*) or high fidelity (*Hi-Fi*). Lo-Fi Prototypes are low-tech, easy, and quick creations of artifacts while Hi-Fi prototypes are supposed to emulate the final product [65].

4.4.1 Sketching

Sketches are resource effective Lo-Fi representations. They can be created quickly and cheap which also makes them disposable since they can be thrown away when they are done. The goal with sketches is not to create a final product, but rather to explore a concept [66]. Sketching different solutions towards different concept can therefore yield new insights and will be used in the initial stage of the prototype phase.

4.4.2 Design Guidelines

While designing, familiarity (see section 3.6 Familiarity) can be utilized using existing design guidelines. Since the prototype will be designed for Volvo Cars, guidelines from Volvo Design System will be considered. Volvo Design System is a webpage that contains design guidelines for Volvo platforms. Among others, it includes guidelines regarding colour, grids and typography [67].

The prototype will also be a platform at a mobile device which Material Design has a collection of design guidelines for. Material Design is Google’s open-source design system. It contains tools, components and guidelines which can be used when creating user interface design. They do for example provide layouts and specs for buttons, navigation bars and tabs [68].

4.5 Test

In the test phase of the design thinking process, the prototype from the previous stage will be tested. For this study, both observations and interviews will be conducted to evaluate it.

The language aspect and transcripts of the observation and interview study will be treated the same as for the focus group discussions (see section 4.1.4 Focus Group Discussion) , i.e translation of the questions will be separately translated by the researcher and composed together. The translation of quotes (from Swedish to English) will also be conducted in this manner.

4.5.1 Observations

How an observation should be carried out depends on what it is for. There are however three elements that, when considered, could aid the data gathering: details, sequences, and atmosphere [69]. Wästerfors explains details as the in-depth observation of what people do and say, sequences as the chain of events the actions occur in and the atmosphere as the social environment. With the observation being that of a screen recording and the elements referring to more human interactions, they need to be slightly adjusted for the purpose of this study. The interaction between the participant and the screen will be observed in a way that two similar acts will not be interchangeable by using simplification when describing their actions. The sequences are of high importance in the interactions and any navigational “errors” will be noted, as well as how previous tasks affect current ones. The atmosphere will however not be considered, the observation (and interviews) will be held in offices at Volvo Cars.

To test the usability of a product, its typical to use tasks and scenarios to gather feedback that is similar and comparable to other participant feedback [70]. Tasks and scenarios may also aid the process of discovering where users face issues when interacting with the product [71]. By placing a task in a scenario, McCloskey claim that it will help the user understand why they are doing a specific task. Barnum [70] argues that these scenarios should be in accordance with the tasks and the test goals. McCloskey [71] further suggest that the scenarios should be realistic, the users should be able to perform the tasks given and that the researchers should avoid giving hints and description on how to perform the tasks. To gain even more insight from observations, Barnum [70] suggests using the think-aloud method (asking the participant to verbally describe their actions and reactions). She does however stress the cognitive load this can be on the participants and that the result (how much response they give) might vary between them. There are also different think-aloud methods, concurrent think-aloud methods (think-aloud whilst performing a task) and retrospective think-aloud (think-aloud after they’ve performed a task by watching a video of themselves performing that task). The two methods seem to have little impact on the results but retrospective think-aloud being more time-consuming [72]

[73]¹. Therefore, concurrent think-aloud will be used during the observation with the assignment to the participant “please tell us what you are doing and thinking” with no additional probes during the observation to relieve some cognitive load.

The data will be handled in the same manner as the data from the focus groups with transcriptions and translations. How the data will be analysed differs slightly from them. To answer the research question “Can the design of soft offers affect how it is perceived and the willingness to subscribe?”, a thematic analysis, identifying themes or patterns of the interviews [74] will be made with one of the categories “did they navigate successfully”. This category will be viewed in a manner which Wästerfors [69] calls sequences. Furthermore, Marvasti [75] argues that an observation analysis should not force information into predetermined categories but still be based on theories and empirical data. The subcategories and additional categories will therefore be conducted iteratively with the purpose of answering the research questions.

4.5.2 Interviews

Another method that will be used for testing the prototype are semi-structured interviews. Roulston and Choi [76] recommends creating interview guides such as questions and probes (follow-up questions to what the interviewees has previously said). They further explain that these guides are just that, guides, and that a good interview should allow for flexibility with the researcher being able to deviate from the guides if necessary. They introduce challenges and corresponding strategies if those occur. A number of those challenges that are introduced refers to ethical areas such as sensitive topics and disclosure of personal and/or sensitive information. They also present the challenge of “failures to generate the information anticipated from interviewees” [76](p. 240-243) with proposed strategies such as conducting a pilot study and the use of more than one method (methodological triangulation).

Roulston [77] argues that there is not a “one way” of analysing interview data but recommends three general steps to aid in the analysis. The first step is to reduce the data by highlighting the key parts of the interview. For this study, reducing the data will be made through marking the transcripts and discussing the markings (similar to that of the focus group discussions, see section 4.1.4 Focus Group Discussion and 6.1.4.2 Execution of Focus Group Discussions). The next step recommended by Roulston [77] is classifying the data by relating concepts and information most discussed, a process that also should be made iteratively. When classifying the data for this study, a thematic analysis will be made similar to that of the observations. The final step recommended by Roulston [77] is interpreting the data by comparing it to previous research. For this study, quotes and extract will be used to highlight the themes and how (and if) it relates to previous research.

¹There were some differences on the impact the think-aloud methods had on the result in the two studies. The differences can be viewed in van de Haak et al., [72]

5 Planning

This chapter includes the initial planning of how this work will be executed. The project starts in January 2023 and will continue for 20 weeks. Important to note is that during all phases, continuous documentation and writing will be carried out. The weekly planning can be viewed in fig. 5.1.

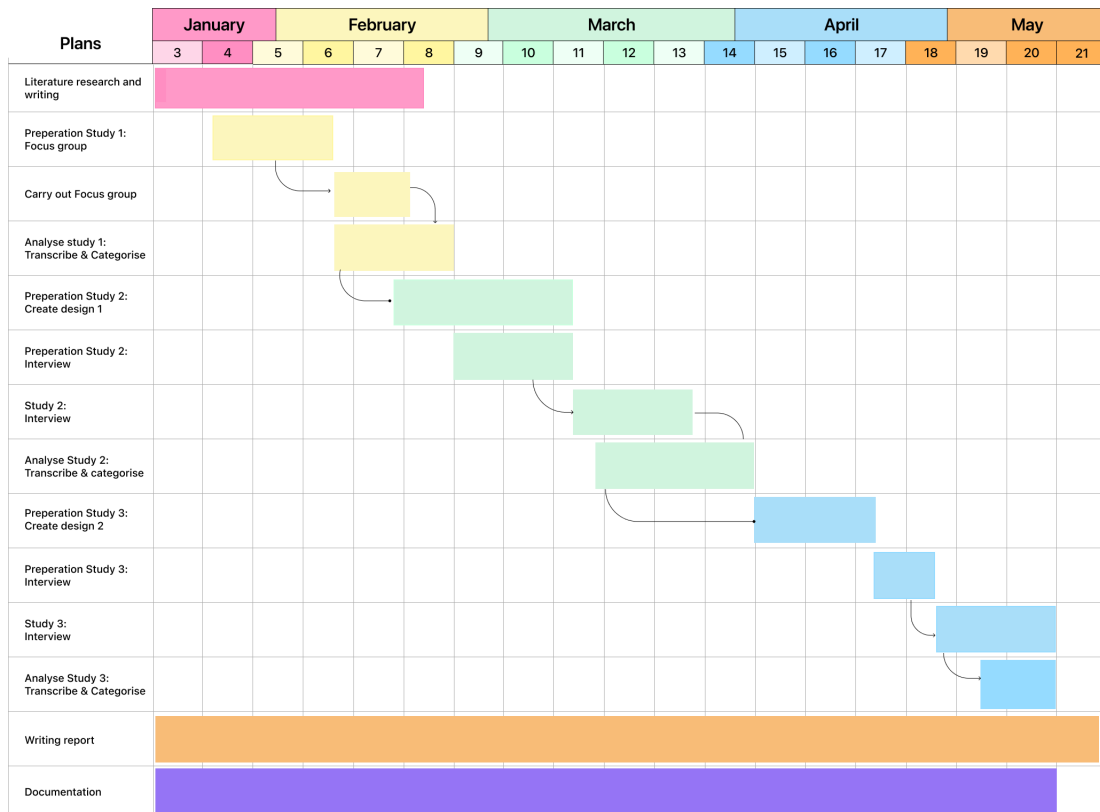


Figure 5.1: It's estimated that Study 1 (marked with yellow) and 2 (marked with green) will be enough to fulfill the purpose of this report, meaning Study 3 (marked with blue) is planned to be executed if there is enough time. If something occurs that leads to delays in the process, this study will be dismissed.

5.1 Empathise

To understand how the current attitudes towards soft offers, literature research and focus group discussions will be carried out. This includes researching potential theories that might affect the attitudes towards soft offers, how other automotive

companies have approached the subject and planning how to execute the focus groups (as well as executing them). The planning of the focus groups will be aided by employees at Volvo Cars, this is due to them having the contact information to the CoDev drivers. Furthermore, during this phase, writing this report is also included as well as continuous documentation.

5.2 Define

Further defining the research area will be carried out by analysing the result from the empathise phase, i.e analysing the focus group discussions and see how they might correspond with previous research and theories.

5.3 Ideate

The ideate phase includes how to take the existing data and transform it to solutions. This will require continuous referencing to the previous gathered data as well as creativity in brainstorming new ideas and solutions. The ideas generated during this phase will be well documented, however not all may be taken into account during the prototype phase due to resource constraints. The initial plan is to be able to conduct this phase twice by taking the results from the test phase to generate new ideas of possible solutions.

5.4 Prototype

During this phase, the ideas generated from the previous phase, with references to the gathered data, will be formed into a prototype. As mentioned in the previous section, not all ideas may be included but still enough features so that it is possible to be able to answer the research questions. Most likely, this phase will also inspire new ideas which will be documented and maybe also included in the final prototype. If there is enough time, this phase will also be executed twice by taking the new ideas generated from testing the prototype and creating a new one (or “updating” it).

5.5 Test

Testing the prototype will also require consulting and help from employees at Volvo Cars for the same reason as for when conducting the focus group discussion (communication with CoDev drivers). This phase will be about evaluating the prototype and depending on what the prototype is, the method of testing it will be decided. The initial plan is to also be able to test the “updated” version of the prototype but again, due to resource constraints, will probably not be possible.

6

Execution and Process

This chapter includes a description of the implementation of the methods provided in chapter 4 Methodology. Since each design phase is dependent on the previous phase, the findings from them are also being presented in this chapter.

6.1 Empathise Phase

The field of soft offers was provided by Volvo Cars but no other specifications towards possible research fields were given. The task to find a research subject was therefore assigned to the authors of this paper. The phase of empathising also included a user journey and focus group discussions to get a deeper understanding of the problem area and the consumers.

6.1.1 Information Gathering

The first step was to identify potential research subjects and gaps in previous research which was done in a manner inspired from snowballing literature research (see section 4.1.1 Literature Research). The review started by searching for keywords related to subscriptions in general such as: subscription, subscription services, subscription models, subscription programs, and subscription methods. When relevant articles were found, additional articles could be identified by visiting the references. This continued until it was concluded that all relevant scope had been covered. The search gave limited result and another angle towards the subject was initiated, namely the financial aspect of subscription models. One example of a keyword used for this search is “subscription purchase”.

It became evident that the previous research regarding subscription models contained several research gaps, and a decision was therefore made to also initiate snowballing inspired literature research from a secondary angle: user experience. It seemed that a more general view on the topic could fill in some of the gaps that the more specific search regarding subscriptions could not provide. Due to previous knowledge among the authors of this paper, these keywords were more specific. Examples of these are: Fogg Behaviour Model, Familiarity, and Prospect Theory.

The result from the snowballing inspired literature research resulted in the research question with the belonging sub-questions (see section 1.1 Goal, Aim and Research Questions). It also provided information that was gathered in the background (see

section 2 Background) and in the theory (see section 3 Theory about User Experience) which further aided the empathising of the subject.

6.1.2 Competitor Analysis

As previously mentioned, a competitor analysis (see section 4.1.2 Competitor Analysis) was executed as a part of the background in this report to investigate what soft offers other automotive companies provide. The investigated companies were the same as presented by *J.D. Power*, a company that is leading in consumer insights [20] and, along with other sources, is often used to gain consumer insights at Volvo Cars. Through online search, car brands that are categorised as premium brands were investigated, and their functions available as soft offers were categorised into hardware, software and content (explained in section 2.1.1 Hardware vs. Software vs. Content). Features that, according to the subjective analysis, did not fit into these categories such as services (e.g., insurances) were disregarded due to being outside the scope of this report.

The result showed that all car companies offered at least one software function as soft offer, except from Lincoln that did not offer any, and Alfa Romero that required a specific account to view their services. This might be connected to an EU rule regarding all car models approved for manufacture by 31 March 2018 or later needing to have *eCall*. *eCall* is a system that automatically calls emergency (112) if the “vehicle is involved in a serious accident” [78](How *eCall* works). This requires technical functionality in the car which, in combination with additional software, can be used for other purposes as well such as remote connections.

The result also showed that even though BMW and Mercedes Benz both provide functions from each category as soft offers, it seems like there is a less hostile attitude towards Mercedes-Benz. At the point of conducting the competitor analysis, the reason behind this was still unclear.

6.1.3 User Journey

To further understand how other automotive companies have designed their subscription models, a user journey (see section 4.1.3 User Journey) on BMWs model was made. Volvo Cars has an unspecified number of competitor cars at their disposal for them to investigate and analyse. This model was the only model with an account connected to it (which is required to subscribe to functions), resulting in this being the only user journey conducted. Two other automotive subscription models were looked at, but with only the car and no account connected to it available, no user journeys were made with those. The work was in collaboration with two Product Validation Architects at Volvo Cars: Malena Helldén and Jonas Öhman. The work is published at Volvo Cars intranet which requires access to view [79].

For this User Journey, two scenarios were tested; a free subscription trial and one month paid subscription. During each scenario, pain points and delights were noted down, screenshots and screen recordings of the interactions were taken along with

pictures of the dashboard display. Moreover, an extensive online search was made to gain knowledge of the available options. The authors of this paper were not able to participate in the first scenario (free subscription trial) due it being carried out before the work had begun. The exact methodology might therefore differ slightly from the second scenario and only the findings will be presented from the first.

6.1.3.1 Free Subscription Trial

During the free subscription trial, the employees went through the steps from setting it up to what is happening during the trial. Setting it up refers to creating a BMW profile in the BMW application. By scanning a QR-code on the dashboard display in the car, the consumer can connect the platform to an existing BMW profile or navigate to the “create profile” flow in their application. The employees experienced this flow as easy and deemed it as a delight.

The subscription platform is called BMW Store and is in the store tab in the bottom navigation bar in the application (see fig. 6.1). The list item navigates the user to BMW.se. The employees did find it somewhat difficult to find due to it being placed in a long list. They also noted that the BMW Store is viewable for all users who are connected to the car, but only the owner can initiate a subscription.

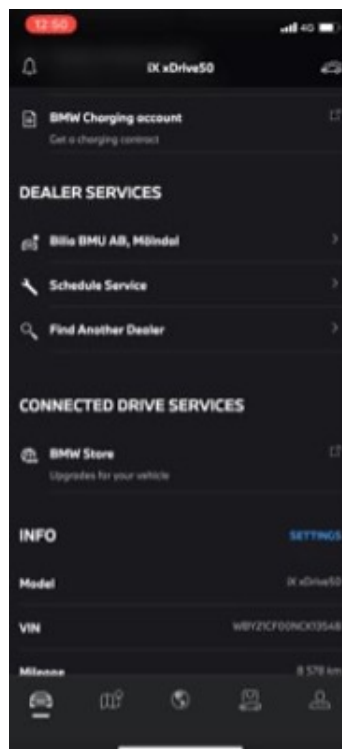


Figure 6.1: Location of BMW Store in the BMW Application.

The functions available as subscriptions are presented in a list on BMW.se. The list contains functions that are suited for the car, and further down, functions and services that are already installed in the car. The employees noted a pain point in the application being installed in English but, due to navigating to a Swedish

website, this list is in Swedish.

There was one function available as a free trial, “Traffic Camera Information”, which therefore was chosen for this user journey. The user can decide to either place the subscription in the basket and continue to search or go straight to the register. While “purchasing” the free trial, information about the user is taken from their account which only requires the user to enter billing address and accept terms and conditions. The employees noted that there is no need to enter credit card details or other payment alternatives to start the free trial.

When the purchase is completed, the function is automatically activated in the car. A notification appears in the dashboard display communicating that the function is activated, and no restart of the car or reboot of the system, is required. The user also receives a verification of the purchase via email. The ongoing free trial is displayed in the application as well as in the dashboard display in the car along with other available functions. These lists also contain elements both in English and Swedish.

6.1.3.2 One Month Paid Subscription

The user journey for one month paid subscription was carried out by the same Volvo Cars employees as the previous user journey in addition to the authors of this paper. The consumer can choose the function in the dashboard display of the car, which sends a notification to the application that brings the consumer to the function. The consumer does not get any information in the application regarding what function they are subscribing to at that point. To try the function, the consumer is sent to the same webpage as for the free trial, that is, the BMW Store. The payment flow was experienced as a standard payment flow. Here, the employees noted text “the contract period ends automatically”, meaning that this might not be a subscription, even though they name it as such. In the last step, the order overview, the consumer can see what function they are subscribing to (see fig. 6.2).



Figure 6.2: Last step in payment flow for subscribing to Traffic Camera Information.

When the payment is confirmed, a banderol with a notification appears in the dashboard display, communicating that the function is automatically activated in the car. The newly installed function, along with other available functions, are displayed in the dashboard display along with information about them. There was also another pain point noted in a second function called “Under Construction” which appeared to be installed and activated for free in connection to the purchase with no available information (see fig. 6.3).

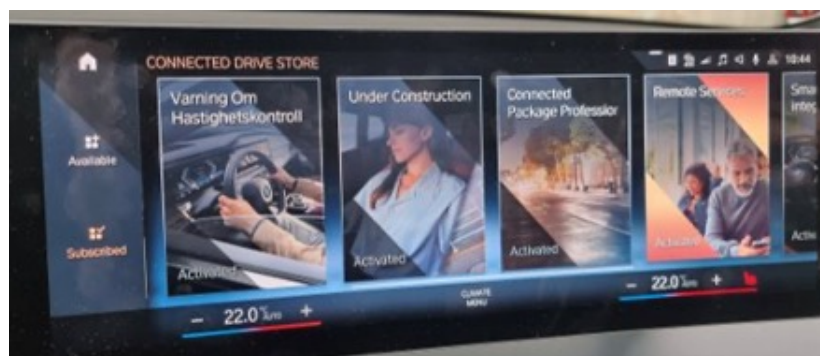


Figure 6.3: Features in the dashboard display.

The authors of this paper also investigated other functions available as subscriptions at the BMW Store and noted that they are a mix of hardware, software and content. The available length of subscription periods varies between them. In addition, it seems like longer subscription periods results in higher discounts.

6.1.3.3 Takeaways from User Journey

The identified delights and pain points from the user journey resulted in several takeaways that could be implemented in a Volvo Cars platform. Accessing the platform through a QR-code in the dashboard display, navigating the consumer to an application, seemed to be experienced as easy for the consumer. Connecting the platform to an already existing application, and existing profiles, also seems beneficial. The platform should however not be hidden but easy to find and be consistent with the language. More functions could also be available as a free trial, allowing the consumer to try a function before buying it. During the flow of purchasing a feature, it should also be clear for the consumer what feature they are purchasing.

Notifying the consumer that the feature is activated by a banderol in the dashboard display seems to work. Not requiring a restart or reboot of the system promoted a positive user experience and were noted as a delight. Keeping a consistent difference between the subscription length for the different functions could also enhance the user experience.

6.1.4 Focus Group Discussions

To get a general understanding regarding the users' thoughts and attitudes towards soft offers, i.e., empathising with the users, focus group discussions (see section 4.1.4 Focus Group Discussion) were conducted.

6.1.4.1 Screening Survey for Focus Group Discussions

The participants were gathered from *Care by Volvo Co-Development* (CoDev Fleet), an ongoing project where permanent employees at Volvo Cars in Sweden contribute with data regarding their cars, and participate in studies [80]. Thus, all participants were Volvo employees with a leasing contract to a Volvo Car. A screening survey was sent to 400 of the CoDev Fleet participants who all are located at Volvo Cars Torslanda. The survey contained questions regarding their gender, age, current CoDev car model and subscription experiences. This was done to avoid possible sources of errors by having a mixture of all aspects. The full screening survey can be found in Appendix B.

From the survey, twelve participants were selected and divided into three groups. The participants in each group were a mix of the previous mentioned parameters. They were also from different departments at Volvo Cars in order to minimise the risk of them knowing each other, as recommended by Fern [50].

6.1.4.2 Execution of Focus Group Discussions

The twelve participants were invited into on-suit focus groups discussions. One participant withdrew which resulted in two groups with four participants, and one with three participants. The discussion was three parted. The first part was to discuss their general perception towards subscriptions services. The second was

to discover their perception and attitudes towards subscribing to functions in a car and the third was to give them subscription model scenarios where they could discuss what they liked/disliked about these subscription models. For each part, relevant information (e.g., examples of hardware, software and content or written out scenario) was displayed on a screen so that they had a common ground (see fig. 6.4). Furthermore, the scenarios given were either heavily influenced by BMW's subscription model or influenced by subscriptions such as Adobe and HelloFresh. The questions for the focus group discussions as well as the information displayed for the participants can be viewed in further detail in Appendix C.

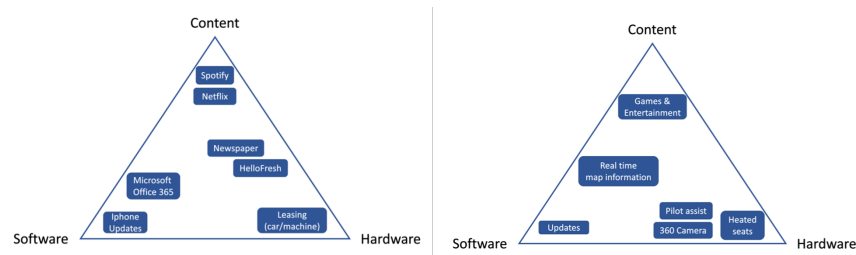


Figure 6.4: Information displayed during focus group discussions in order to allow for common ground.

The discussions were audio recorded and notes were taken by a secretary to gather data regarding the participants verbal and non-verbal cues toward other participants statements. The data was transcribed and afterwards read through to extract observations that referred to the research area. With only the authors of this paper reading and extracting information from the transcript, no established notation systems were implemented as recommended by Kowal and O'Connell [54] but rather pre-determined notations were decided between the authors such as using brackets to note jokes or quotations when describing scenarios. The observations were analysed further in the definition phase.

6.2 Define Phase

The phase of empathising generated a gathering of relevant theory, a user journey and observations from the focus group discussions. To define the problem area, these required further analysis. In this section, a description of how affinity diagram and consensus matrix were used to develop initial design requirements and guidelines is given.

6.2.1 Affinity Diagram & Consensus Matrix

The initial step was to analyse the result from the focus group discussions further by placing the observations in an affinity diagram (see section 4.2.1 Affinity Diagram). Each observation was written on a post-it and placed on a wall. Observations that seemed to share a similar affinity were clustered together, revealing key words/categories. During the process, some observations were moved, and clusters

were partially deleted or divided into smaller clusters, revealing new categories (see fig. 6.5).



Figure 6.5: Part of affinity diagram in process.

This resulted in the following categories: Trust, Feeling of Control, Knowledge, Transparency, Flexibility, Simplicity, Expectations, Satisfaction, Money, Suggestions, and Comments regarding specific Functions. The category Satisfaction seemed to be more connected to expectations, trust, feeling of control etc. and were therefore removed and the belonging statements were moved to the according categories. Money seemed to be either outside the scope of this paper or connected more towards other categories, these observations were therefore also either moved or disregarded. The category Suggestions included observations of participants that purposed other areas where subscriptions could be used in the car industry. This category was decided to be excluded in the analysis since it was outside the scope of this report.

The affinity diagrams resulted in the final categories: Trust, Feeling of Control, Knowledge, Flexibility, Simplicity, and Expectations. The categories are somewhat intertwined and dependent on each other (see fig. 6.6). For each category, a few observations from the focus groups were selected and analysed with a consensus matrix (see section 4.2.2 Consensus Matrix) to further examine the robustness of the categories. The quotes have been translated from Swedish to English and the

original quotes can be viewed in Appendix D. They were translated separately by the researchers and then discussed together to gain understanding of the semantic meaning (see section 4.1.4 Focus Group Discussion). Both verbal and non-verbal cues were considered in the making of the consensus matrix.

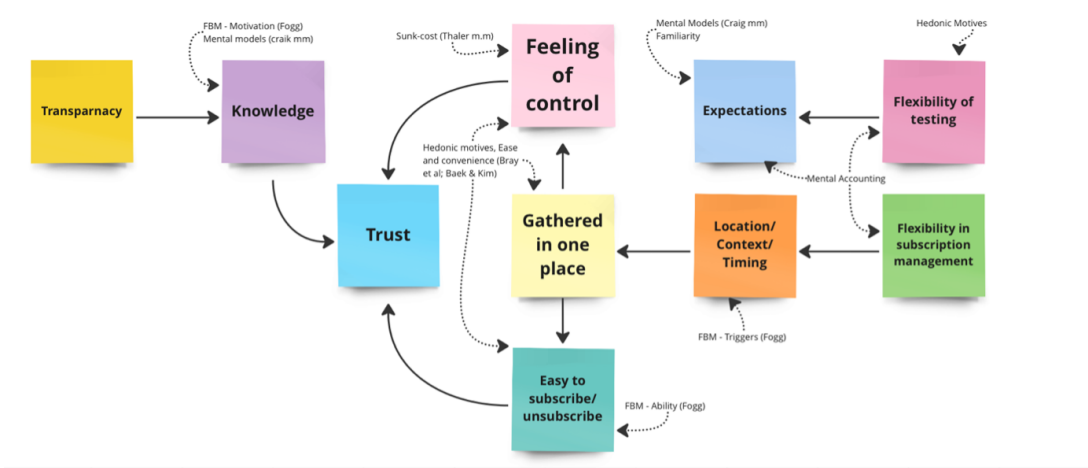


Figure 6.6: Categories from Affinity Diagram and their relations.

Below, each category is presented and explained along with a consensus matrix of observations. In the consensus matrices, the notations follow the ones that were suggested by Onwuegbuzie et al. [56](p. 8).

- “A = Indicated agreement (i.e., verbal or nonverbal)
- D = Indicated dissent (i.e., verbal or nonverbal)
- SE = Provided significant statement or example suggesting agreement
- SD = Provided significant statement or example suggesting dissent
- NR = Did not indicate agreement or dissent (i.e., nonresponse)”

Trust

A category that appears to be in the centre of the problem area, and therefore the diagram, was Trust. The participants stated that subscriptions and free trials in general can lead to distrust in several ways. They shared experiences about other subscriptions where they stated that they’ve felt deceived by companies’ use of free trials to keep their customers locked-in towards the model (see table 6.1).

Table 6.1: Consensus Matrix regarding Trust.

Participant 1	Participant 2	Participant 3	Participant 4
“Sometimes I get the feeling that the free period is built to almost fool one to stay in it in some way.”	A	A	A

Feeling of Control

The lack of trust in themselves (an individual’s distrust in themselves and their

subscriptions) seemed to be related to a feeling of not being in control regarding subscriptions. The respondents shared experiences where they have forgotten that they have ongoing subscriptions which has led to a fear to opt-in to other subscriptions (see table 6.2). They also mentioned cases where they have discovered that subscriptions with subjectively low monthly costs builds to a cost that is subjectively high in total. The feeling of getting stuck in a subscription could be related to previously presented theory regarding sunk cost effect (see section 3.2 Sunk-Cost Effect).

Table 6.2: Consensus Matrix regarding Feeling of Control.

Participant 1	Participant 2	Participant 3	Participant 4
"All of a sudden you see that something has been withdrawn from the account like, okey... What was that?"	A	SE	SE

Knowledge

Another factor that seemed to affect trust was knowledge. The respondents were raising questions such as: what will happen when a free trial is over? And if they are supposed to subscribe on a function that is already implemented in their car, what are they paying for? (see table 6.3). They also explained that a free trial could lead to them believing that they own the function which would result in dissatisfaction when the function switches to a payment-based service. The last statement could be related to the theory regarding mental models (see section 3.5 Mental Models) and how it could potentially disrupt their existing mental model of subscription models.

Additionally, they stated that knowledge could lead to them being more willing to opt-in. They asked for a platform where they could see all available functions and explanations regarding why they could benefit from them. These statements are in accordance with FBM's theory regarding motivation for behaviour (see section 3.3 Fogg's Behavior Model).

Table 6.3: Consensus Matrix regarding Knowledge.

Participant 1	Participant 2	Participant 3	Participant 4
Regarding Volvo on Call:" I've had many friends who were like 'what the h*ll should I use that for?' [...] then you have not understood what the worth is."	NR	A	SE

Transparency

Knowledge also seemed to be affected by the level of transparency. They wished for it being clear that they do not own a function when they have a free trial (see table 6.4). They also wished for an explanation regarding why they get a free trial. Additionally, they stated that the free trial should not be turned into a paid service without notification.

Table 6.4: Consensus Matrix regarding Transparency.

Participant 1	Participant 2	Participant 3
"If you buy... Or believe that you buy the function, you should always have the function and not have to pay for it afterwards."	A	NR

Flexibility

The respondents discussed two types of flexibility: A desire for flexibility in the subscription management and the flexibility that subscriptions can provide by trying different functions. The respondents seemed to have different preferences regarding if they want to buy out the functions, or if they want to pay monthly, every three months etc. They also highlighted that everyone might not have the financial capacity to buy-out a function, for them a subscription might be beneficial.

Furthermore, they discussed the possibilities of what soft offers can provide regarding flexibility. They mentioned cases where they have forgotten to include a function they like in the specification for their new car. They also discussed that some consumers include functions in their car that they are not interested in, but that a potential buyer in the secondary market might view as a necessity. Having soft offers for these functions could ease the process of buying the car. Additionally, they mentioned the possibility of only paying for a function when it is needed, such as games when the children are young. They also stated that soft offers could promote consumers to try out new functions. Instead of having to pay full price for a function that they would like to try out, they can try it for a period and then decide if they want to continue to subscribe or buy-out the function (see table 6.5).

Table 6.5: Consensus Matrix regarding Flexibility.

Participant 1	Participant 2	Participant 3	Participant 4
"But then, I can also think that when you are choosing your next car that 'the thing that I tried during the last leasing-contract, I really want that in my next one'"	A	A	NR

Simplicity

To be able to build trust, the respondents wished for simplicity. They stated that opt-in and opt-out should be easy (see table 6.6). They wished for a platform where everything regarding the soft offers (e.g., offers and current subscriptions) would be gathered. There were however different opinions regarding where this should be located. While some preferred a platform in the current application, others preferred to be able to subscribe directly in the car on the dashboard display. This assumption can be connected to the previously presented theory about Ability in FBM (see section 3.3 Fogg's Behavior Model) regarding different consumers having different abilities when wanting to initiate a subscription.

Table 6.6: Consensus Matrix regarding Simplicity.

Participant 1	Participant 2	Participant 3
"It should be simple as well, otherwise you won't bother with it."	A	A

Expectations

The respondents also stated that the flexibility of soft offers (being able to try out functions) can increase the expectations of what should be included in a car. They said that functions that are perceived as standard in cars should not be offered as soft offers (see table 6.7). Since Volvo-cars are premium cars, they argued that the expectations for this brand could be higher than other brands. These assumptions could be in accordance with the previously mentioned theory regarding mental models (see section 3.5 Mental Models) and familiarity (see section 3.6 Familiarity).

The respondents also brought up some hesitance towards hardware, this included it not being sustainable to equip cars with hardware that wouldn't be used. Furthermore, there seemed to be a reluctance towards hardware with the description that it would feel like a function can just be turned on in exchange for money.

Table 6.7: Consensus Matrix regarding Expectations.

Participant 1	Participant 2	Participant 3	Participant 4
Regarding BLIS™: "That is one of those that you have gotten used to, it should just be there."	NR	NR	A

6.2.2 Takeaways

The affinity diagram from the focus groups revealed categories that are supported by previously presented theories (see section 3 Theory about User Experience). It also seemed to be a general consensus regarding the quotes in each category. The defined categories therefore are supported by the focus group discussions as well as literature. An additional decision was however made to remove a category, Transparency. This category seemed to be heavily overlapping with the category Knowledge and from this point, all discussions regarding Transparency and Knowledge are presented under Knowledge.

Further methods were executed to answer the research questions, but methods executed so far gives some initial answers to them:

What is the general perception of soft offers?

The focus group discussions suggests that the general perception of soft offers differs among consumers. While some see benefits from it and believes that they would enjoy it, some state that they are critical and do not want soft offers for parts in a car. A takeaway from this is therefore to not force the consumers into soft offers, i.e., remove the possibility for the consumers to specify options to a car when they buy it. Instead, soft offers should be combined with the option to specify functions in the car.

Can the design of soft offers affect how they are perceived?

The categories also indicate that the design of soft offers affects how they are perceived, which is one of the sub-questions in this report "Can the design of soft offers affect how it is perceived and the willingness to subscribe?". It seems that the perception towards soft offers is affected by factors that go beyond the offer, in order to adapt for the keywords, a platform should be designed.

Is there a perception difference for soft offers between hardware, software and content?

The results also indicate on it not being a perception difference between soft offers for software and content which partially also is one of the sub-questions in this report. It rather seems to depend on the previous experiences among the consumers, leading to expectations on what should be included for free in the car. The perception towards hardware is however still unclear due to the respondents in the focus

group discussions mentioning topics such as sustainability (further discussed in section 8.3 Ethical Discussion) and the feeling of a function in the car being switched off (further discussed in section 8.1 Reflections on the Results).

All this led to a new research question: “*Is there a perception difference between what is always included in the car, specifiable options and functions that no Volvo car has?*”. As previously mentioned, it seems that the consumers experiences leads to expectations of what should be included in the car hence, not available as a soft offer. This resulted in a hypothesis that consumers perception towards functions as soft offers is affected by how they are currently being presented. They might therefore have a more negative perception towards functions that are always included in a Volvo car but more positive towards functions that they are used to paying extra for adding, and functions that they haven’t seen in a Volvo car yet.

6.3 Ideate Phase

With a defined problem area, ideation could begin. In the phase of ideation, multiple design methods were executed to explore potential designs of soft offers, taking the previous phases into account.

6.3.1 How Might We

The ideation started by reframing the previously defined keywords (see section 6.2.1 Affinity Diagram and Consensus Matrix.) into questions starting with “How might We” to allow for the How Might We-method (see section 4.3.1 How Might We). With the newly formulated questions, ideation could be initiated.

*How might we make sure the users **trust** the service and company?*

To build trust, it seems like the consumers should have sufficient knowledge, and the company should offer transparency regarding the soft offers and how they work.

*How might we make sure the consumers feel that they are in **control**?*

For the consumers to feel that they are in control, a subscription service could allow the consumers to actually be partially in control. By allowing the consumers to be able to design their own subscription model e.g., the length of the subscription period and if it should end automatically or not, along with a simple way to end a subscription (opt-out), the feeling of being in control could increase. The design could also promote this by making it easy to find the subscriptions, not using fluctuating costs and making it easy to compare prices.

*How might we make sure the consumers have sufficient **knowledge**?*

In order to promote knowledge, information regarding the subscription model as well as the functions that are available as soft offers should be presented to the consumer. For the subscription model, information about the price, how to opt-in and opt-out, the length of the subscription and why the functions are available as soft offers could be presented. For the functions, information about what it is (name

and explanation), why the consumer should have it, and why they should not have it should be presented.

*How might we encourage consumers to test different functions (**flexibility**)?*

The possibility to try out functions without having to pay full price for them seems to be a positive effect of soft offers. The platform for soft offers should therefore encourage the users to try out functions. This can be done with free trials, giving the consumers the possibility to test functions without having to pay for them. It can also be done by personalising offers for the consumers which could be done via AI creating “smart” offers based on factors such as the consumers driving style, future trips and localisation of the car. Along with this, the available functions and free trials should be visible for the consumer, signalling that the functions are available.

*How might we make it **simple** for the consumer?*

For the consumer to experience soft offers as simple, the whole process of them, from initiating to understanding, should be made simple. This can be done by gathering everything regarding the offers in one platform and creating that platform using existing design guidelines. Since there seem to be different opinions regarding where the users want to handle their soft offers (in the Volvo application/on the dashboard display directly in the car/on a website) there could also be multiple platforms.

*How might we meet the **expectations** of the consumers?*

To examine what functions should and should not be offered as soft offers, further studies are required which therefore will be discussed in section 8.4 (Future Studies). It also seems like the consumer still should have the option to pre-specify and buy-out functions if they want to avoid subscriptions.

6.3.2 Worst Possible Idea

The questions from the How Might We-method were also answered with the Worst Possible Idea (see section 4.3.2 Worst Possible Idea) to promote further ideation. The questions were therefore answered with how to not fulfil the purpose of the questions.

*How might we make sure the users **trust** the service and company?*

To not promote trust regarding the service and the company, information could be hidden. This includes information about the subscriptions as well as costs of them. It could also be done by complicating the flow of opting-out of a subscription, creating a feeling of that the company want them to “be stuck” in the subscription.

*How might we make sure the consumers feel that they are in **control**?*

For the consumers to not get the feeling of being in control, a difficult flow for opting-in and foremost, opting-out to soft offers could be implemented. The ongoing subscriptions could also be hidden in order to make it difficult for the consumers to get an overview of ongoing subscriptions. Fluctuating costs for the subscriptions without notifications could also reduce the feeling of being in control.

Along with this, dark patterns could be implemented. These could be implemented in the descriptions of the functions by *Confirmshaming*. This refers to guiltting the consumer to opt-in to something [3]. In this case it could mean to add a sentence such as “Don’t you want to keep your passengers safe?” in the description of a safety function. They can also be implemented by *Price Comparison Prevention* which refers to obstructing comparison between the prize of different options [3]. In this case, it could mean to hide the prize for the different lengths of subscription periods when they are first presented, forcing the consumer to navigate forward and back to compare the prices.

Dark patterns could also be implemented in the payment process such as *Hidden Costs* which refers to unexpected charges being added in the last step of the payment process such as taxes. They could also be so called *Sneak into Basket* which refers to when an additional item is added to the chart without notifying the consumer [3].

Lastly, dark patterns can be implemented when the consumer has an ongoing subscription by making it difficult to opt-out from them. These are called *Roach Motel* [3] and could for example mean to force the consumer to make a call in order to opt-out from an ongoing subscription.

*How might we make sure the consumers have sufficient **knowledge**?*

In order to not give the consumers sufficient knowledge regarding the functions and the subscription model, the platform could be plain, simply asking the consumer “Do you want to subscribe on a function?” with the possibility to answer yes or no.

*How might we encourage consumers to test different functions (**flexibility**)?*

If the platform was to be designed to not encourage testing, either no free trial could be offered, or all free trials could be activated at the same time to limit the possibility for the consumer to try one function at a time. Making the flow to find available functions could also be complicated.

*How might we make it **simple** for the consumer?*

To make it difficult for the consumer, there could be a complicated flow in the platform. This could include navigational excise and not following design guidelines.

*How might we meet the **expectations** of the consumers?*

To not meet the expectations that the consumers have, basic functions that usually are included for free in the cars could be offered as soft offers. The functions could also only be available as soft offers, not as buy-out options or specifiable options.

6.3.3 Brainstorming

The results from How Might We and Worst Possible Idea were used as a base for brainstorming (see section 4.3.3 Brainstorming). The results from both methods were used as inspiration for ideas of designs that could promote the previously de-

fined keywords.

Trust

To promote a feeling of trust, the idea of giving the consumer sufficient overview about the offers emerged. By implementing an overview of price per function/month as well as an overview of total cost/month, trust might be achieved.

Feeling of Control

For a feeling of control, several design ideas emerged. It should be easy to opt-out from a subscription, preferably by a two-step process where the consumer declares that they want to unsubscribe and then confirms that subscription. Along with this, everything should be gathered in one platform, allowing the consumer to get an overview of current and available subscriptions. The length of the subscription period and whether it should continue automatic or not, could also be a choice of the consumer. If this is implemented, a possibility to see comparison price between the different subscription options could also promote the feeling of being in control. Lastly, notifications regarding ongoing subscriptions could also promote this feeling by notifying the consumer that they are paying for functions that they may not use.

Knowledge

To give the user sufficient knowledge regarding the functions and the subscription model, information regarding these should be visible in the platform. This can be done by an information-page that informs the user about why soft offers are beneficial for them. Along with this, the offers should be informative, explaining what the function is and why it could or could not be usable for the consumer. Also, important information could be highlighted to allow for the consumer to navigate to the most important parts.

Flexibility

For the consumer to experience the flexibility of soft offers, free trials should be offered, and the consumer should have the opportunity to choose when to start a free trial. The possibility to adapt the subscription model after personal preferences should also be visible. Along with this, the consumers could also get personalised suggestions of functions that might be relevant for them.

Simplicity

Simplicity could potentially be created by using familiarity (see section 3.6 Familiarity). The design of the platform could therefore follow existing guidelines such as Material Design (see section 4.4.2 Design Guidelines) and the design of other Volvo platforms.

Expectations

To meet the expectations of the consumers, the functions should not only be available as soft offers, but also as buy-out and specifiable options for those who would like to avoid subscriptions. Along with this, the functions that are available as soft offers should not include standard functions that the consumer are used to being

included for free. Rather, they should include functions that are experienced as “exclusive”.

6.3.4 Storyboards

Even if the previous methods generated ideas for the platform, three storyboards (see section 4.3.4 Storyboarding) were created to promote further ideation and potentially discover additional design ideas. For the storyboards, three scenarios were created that previous methods hadn’t considered.

In storyboard 1 (see fig. 6.7) it became evident that consumers who might benefit from the platform for several reasons, might not have got informed that the platform exists. Therefore, if the platform is implemented in the already existing Volvo Cars App, it should be visible in the first frame, potentially by placing it in the navigation bar.

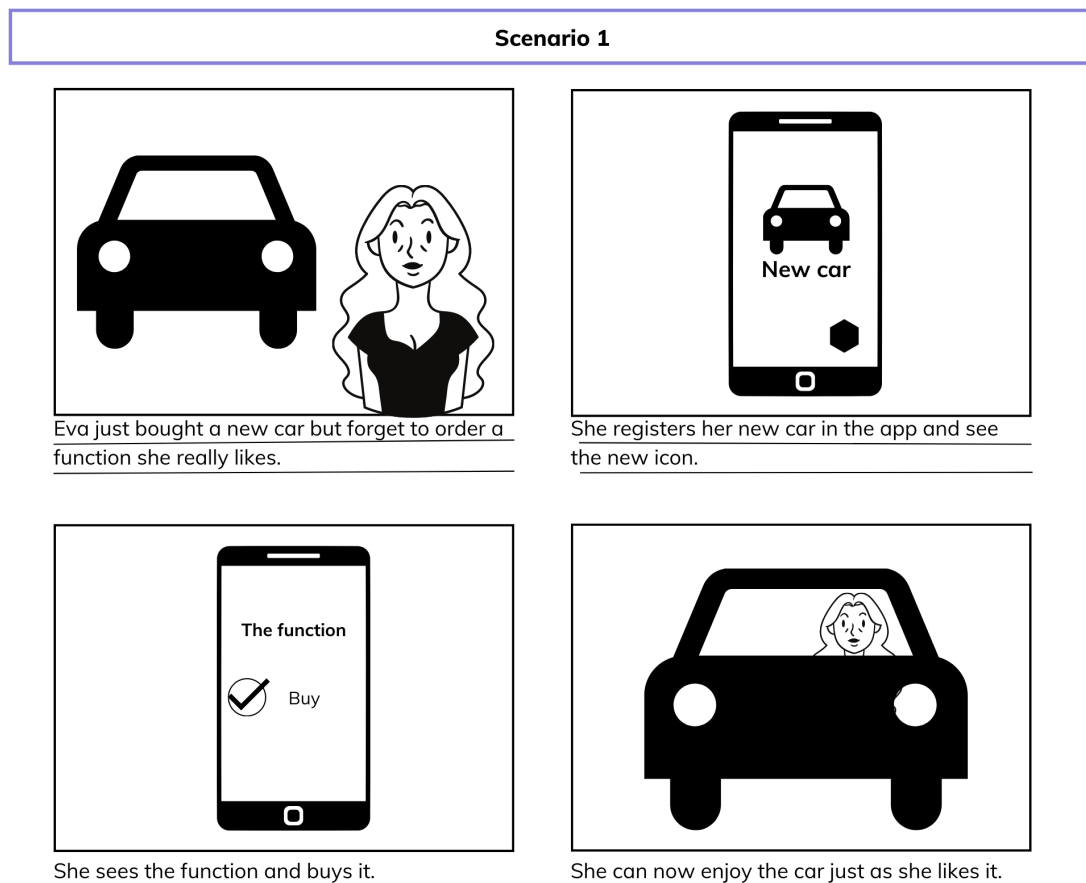


Figure 6.7: Storyboard 1 is used to demonstrate the scenario of adding a function after the purchase of the car.

From the second storyboard (see fig. 6.8) the question arose what happens when a subscription soon will or has expired. For this purpose, tabs can be used to sort content in the platform into Current (ongoing subscriptions), Previous (previous subscriptions) and Available (functions available as subscriptions in the car).

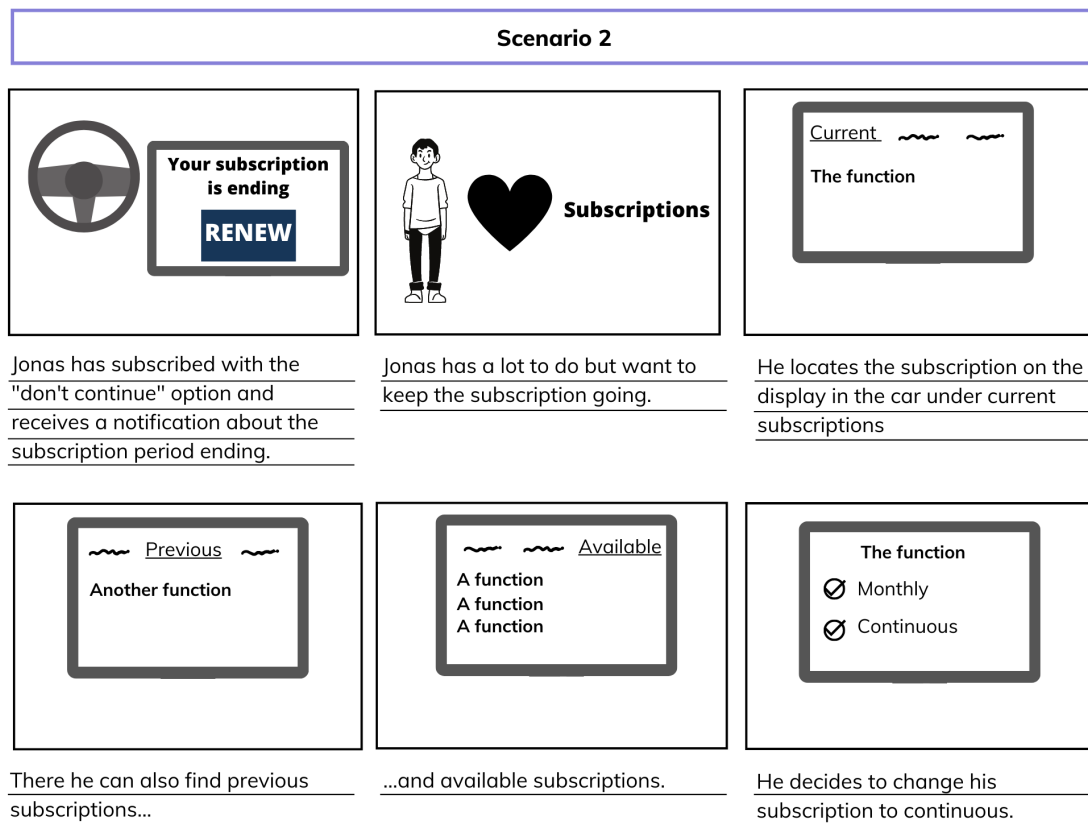


Figure 6.8: Storyboard 2 illustrates the ongoing subscription of a function and what the consumer could face during this instance.

In storyboard 3 (see fig. 6.9) there were discussions about how a consumer can use the flexibility of soft offers by both testing them and choosing different subscription options.

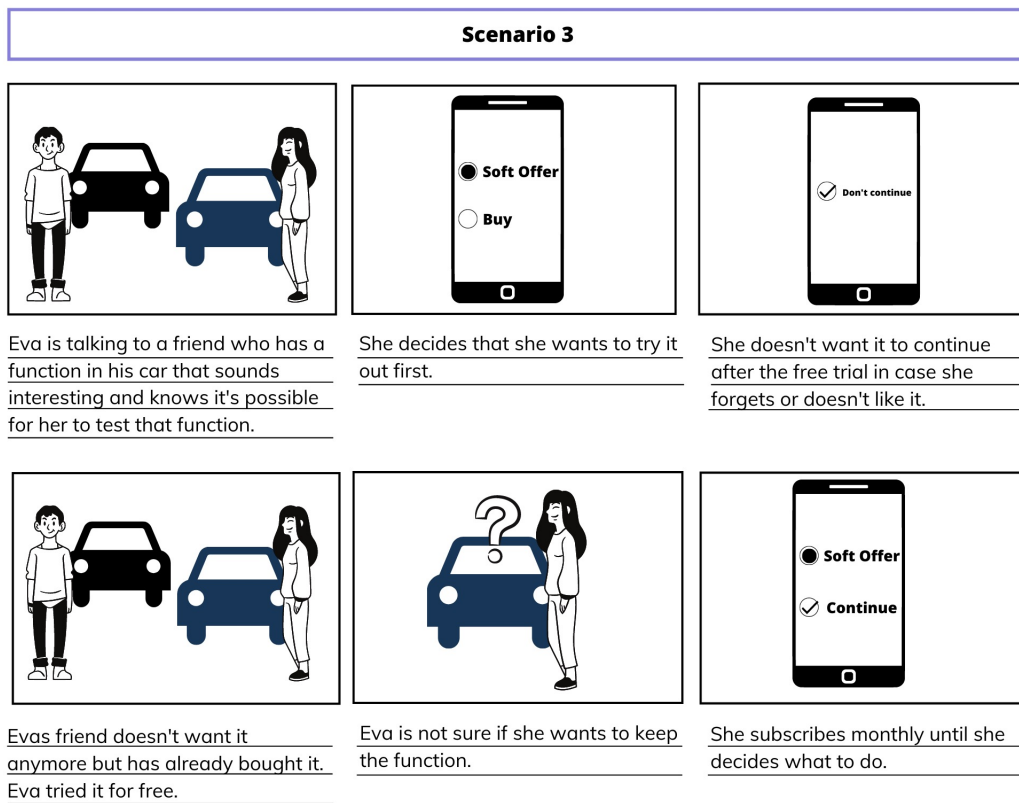


Figure 6.9: Storyboard 3 shows the consumers flexibility in testing and trying out functions.

With scenarios and design possibilities explored, the making of a prototype could now be carried out.

6.4 Prototype Phase

The knowledge gained from the previous phases was decided to be implemented in a platform to demonstrate possible solutions to the research problem space while also facilitating testing of previous findings.

6.4.1 What to Design?

Based on the previous design phases, it seems that the platform should be implemented in multiple devices since consumers preferences differ in this aspect. A decision was however made to focus on the option to implement it in the already existing Volvo Cars app. This was due to one car model (EX90) having other hardware in the dashboard display compared to other car models at Volvo Cars, leading to multiple designs being required if designing for the dashboard display. Additionally, the only feature currently available as a subscription (Volvo on Call), is available in the Volvo Cars application which could contribute to familiarity. Co Dev-drivers, who were the intended test group for the test phase, already have it in their Volvo

Cars app. Further discussion regarding this can be found in section 8.2 Reflection on the Study Design. Implementing the platform in an already existing app was also due to the delight in the BMW User Journey regarding connecting the platform to an already existing application and profile (see section 6.1.3 User Journey).

The platform was designed to take the results from the previous phases, Material Guidelines and Volvo Cars Guidelines into account (see section 4.4.2 Design Guidelines). Several decisions were made regarding functions that is to be implemented in the platform. A list of the decisions is presented below, and they are further described in section 6.4.3 Hi-Fi Prototyping of Volvo Adapt.

The platform should:

- Include all information and all actions regarding the soft offers.
- Have an information page regarding what it is and why it is beneficial for the consumers.
- Have informative offers regarding the different function.
- Highlight important information.
- Show price per function per month.
- Show the current total cost for the consumer per month.
- Allow for easy opt-out from subscriptions.
- Allow the consumer to choose length of subscription.
- Allow the consumer to choose if the subscription should be continuous or not.
- Allow the consumer to get free trials of functions.
- Allow the consumer to choose when to start a free trial.
- Allow the consumer to buy out a function.
- Allow the consumer to view already specified options.

6.4.2 Lo-Fi Prototyping using Sketching

The prototyping started by sketching (see section 4.4.1 Sketching) using pen and paper. Sketches of the layout and potential frames were initially made independently (see fig. 6.10). Afterwards, the sketches were compared and considered together to extract the most optimal solutions for the design.

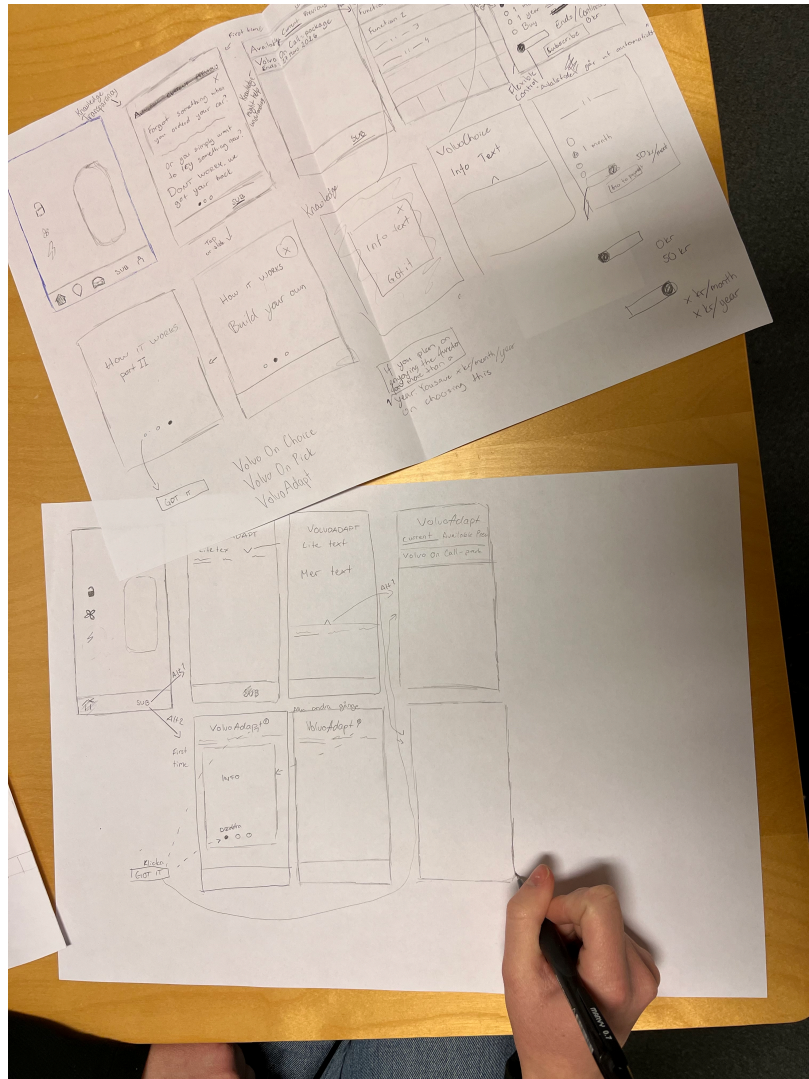


Figure 6.10: Lo-fi sketching.

Design decisions:

- Add the platform to the navigation bar, replacing the message page.
- Use an app bar to always display the name of the platform.
- Use tabs to navigate between Current, Available and Previous.
- Present an informative pop-up when the consumer enters the platform for the first time. This information should however always be available through an information icon in the app bar.
- Show all functions in lists.
- Use radio buttons for choice of subscription length.
- Use a switch to toggle between a continuous payment or a single payment.

To enhance the flexibility soft offers provides to the consumer, the platform was decided to be named *Volvo Adapt*. The name refers to the consumers possibility to adapt their cars after their current needs. Since Volvo creates their own icons, there were no icon available for this purpose and a new icon was therefore designed (see fig. 6.11).

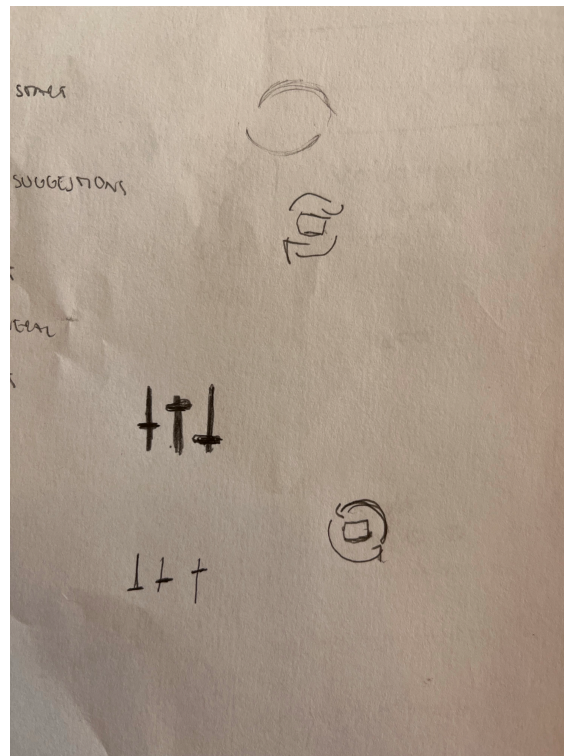


Figure 6.11: Sketches for a new icon.

6.4.3 Hi-Fi Prototyping of Volvo Adapt

The solutions from the lo-fi prototyping were implemented in an interactive hi-fi prototype, created with the design tool Figma.

6.4.3.1 Design

This section will describe and present the design choices implemented in the interactive prototype with accompanied reasoning to those choices.

To allow for simplicity and easy access, the platform was placed in the already existing navigation bar, taking the place of a messages page (see figure 6.12). Volvo Adapt was estimated to be a primary destination in the application which according to Material Design should be in a navigation bar. The decision to remove the message page from the navigation bar was due to a Material Guideline (see section 4.4.2 Design Guidelines) regarding a navigation bar not having more than five destinations.

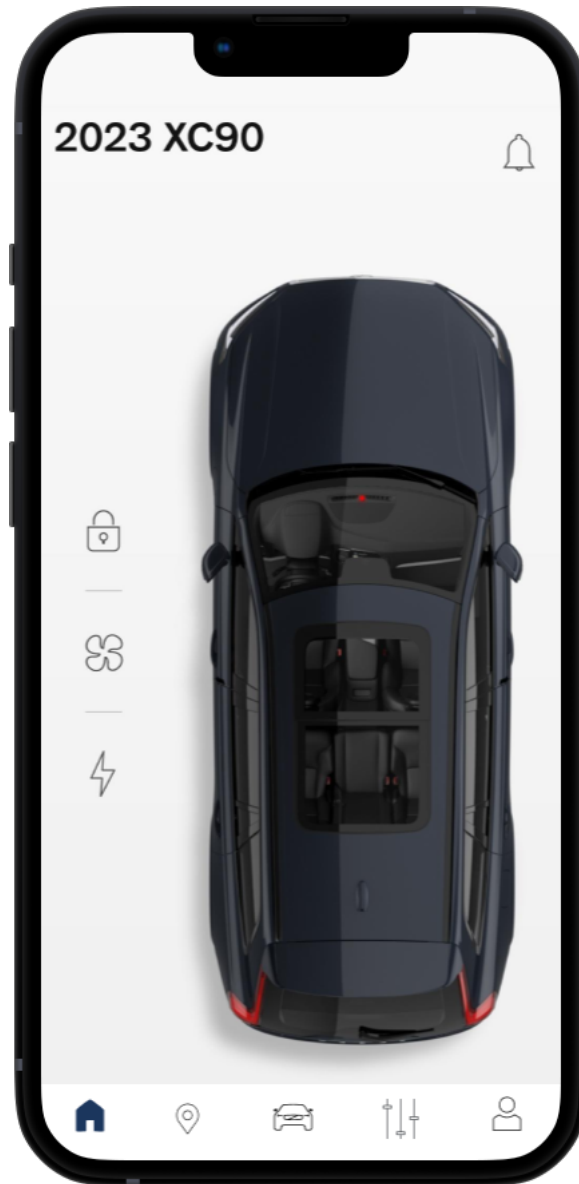


Figure 6.12: Volvo App's home screen with new icon in the navigation bar (second right).

When entering the platform for the first time, the consumer receives an introduction as a pop-up that briefly explains why Volvo Adapt is beneficial for them (see fig. 6.13). This was to give the consumer knowledge about the platform as well as inform about the flexibility the platform provides. The information is always available in the app bar and is located in an information icon (see fig. 6.14).

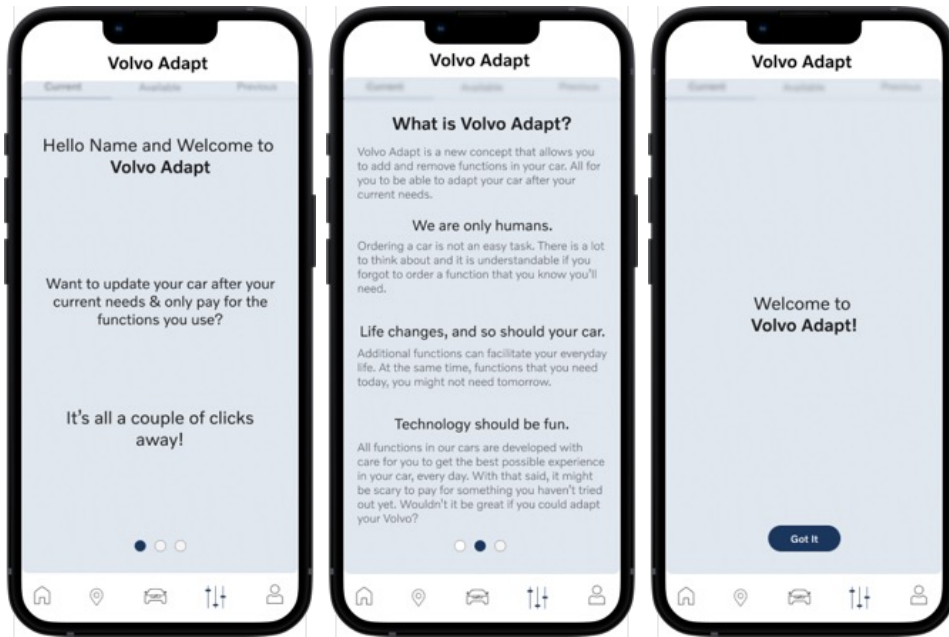


Figure 6.13: Introduction pop-up.

When the consumer presses the button “Got It”, they are sent to the first frame in Volvo Adapt. The platform consists of three tabs that divides the content into *Current*, *Available* and *Previous* (see fig. 6.14). According to Material Design, tabs can be used to switch between different screens of “distinct and related groups of content” [68].

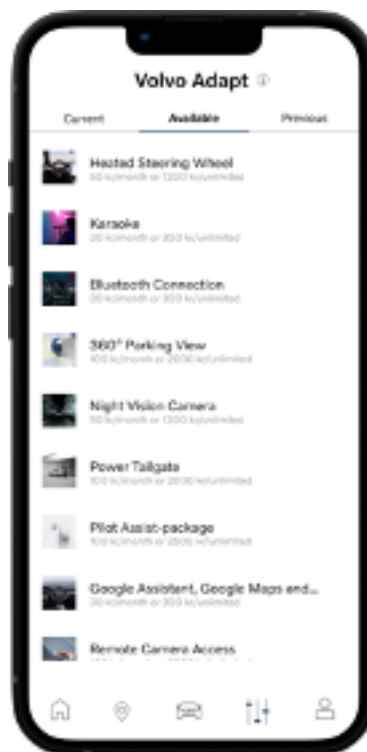


Figure 6.14: Tabs for Current, Available and Previous.

Current contains functions that the consumer owns or has an ongoing subscription to. Available contains functions that are available for the consumer to initiate a subscription to or buy out. Previous contains functions that the consumer previously has subscribed to. Under each tab, a list contains all functions belonging to the respective tab. Each list item (function) contains a headline with the function name, an image to further communicate what the function is and a supporting text. The supporting text at Current shows if the function is owned or subscribed to, at Available the fee for subscribing to it per month and buying it out and for Previous, when the subscription expired. These lists also follow Material Guidelines. Current also contains a textbox in the bottom of the page, informing the consumer about their current total costs/month for their ongoing subscriptions. This was implemented to promote the feeling of control.

Regardless of what tab the consumer is visiting, they can press a list item to see an enlarged image along with information about the function. The rest of the content in those frames depends on if the consumer owns the function, has an ongoing subscription to it or doesn't have it (see fig. 6.15).

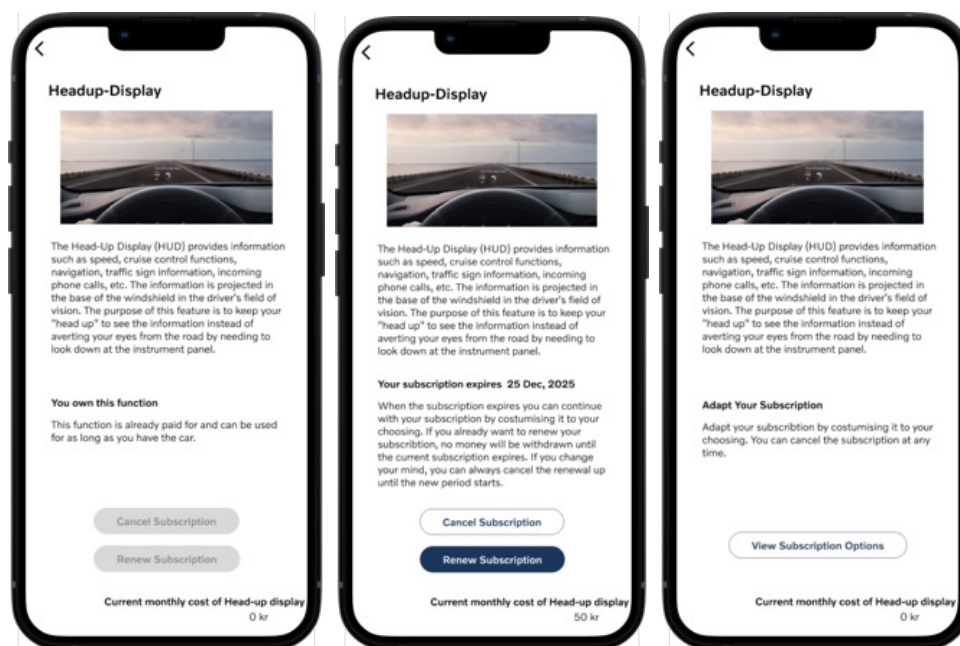


Figure 6.15: The frames for Headup-display. Including if they own the function (right), subscribes to the function (centre) and neither owns nor subscribes to the function (left).

If the consumer does not have the function, they see an informative text relating the possibility to adapt their subscription, the price per month for the function, and a “View Subscription Option”-button. If the consumer has an ongoing subscription on the function, this part is replaced with an informative text regarding this, information about current monthly cost for the function, along with two buttons. The first button can be pressed to cancel the subscription, and the second one to renew the subscription. If the user owns the function, the page contains an additional

informative text, communicating that the function is owned, that they have the function as long as the car is drivable and that the price per month is 0kr/month.

By pressing the button to view subscription options, alternatives for adapting the subscription appears (see fig. 6.16). Using radio buttons, the user can choose to initiate a free trial or subscribe to the function with different options of subscription lengths. They are often used to let a user choose one option when multiple are presented [68]. Free trials are available for all functions to promote flexibility, but no free trials are activated automatically, the consumers must initiate them. This is to avoid them believing that they own the function which, according to previous findings, potentially could affect the consumers perception of soft offers negatively. Along with choosing the subscription length, the consumer can choose if the subscription should have a continuous duration or not through a switch toggle. The switch toggles are used to turn something on or off [68] which in this case is the service duration.

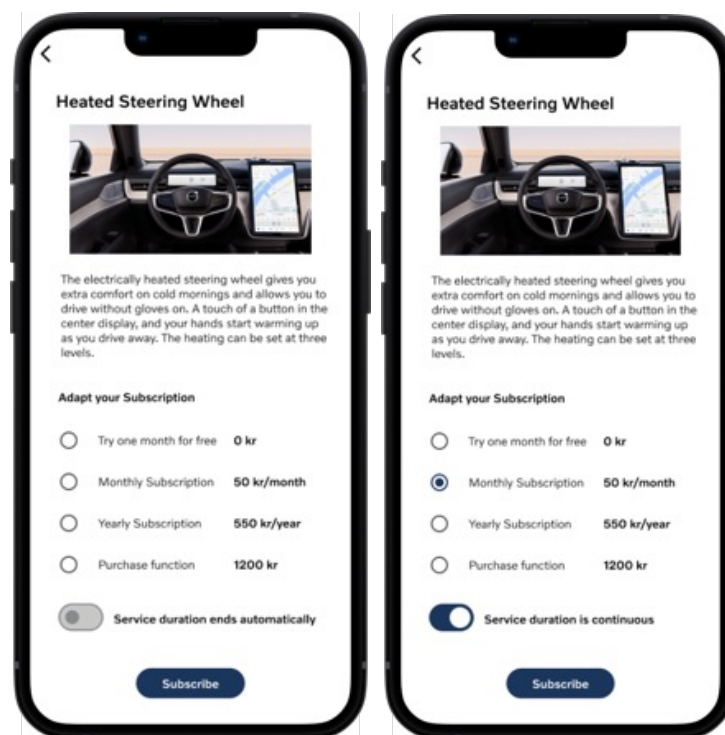


Figure 6.16: The frames for Headup-display and options illustrating no option chosen (left) and monthly subscription with continuous duration (right).

The platform uses Volvo Cars typography and colours (see fig. 6.17) to stay consistent with the application and promote familiarity.



Figure 6.17: Part of Volvo Brand Palette.

6.4.3.2 Functions

To demonstrate the intended flow, several functions were added into the application as functions already being subscribed to or available as subscriptions. Volvo on Call was added as a current subscription since the intended participants for the test phase already had this as an ongoing free trial. Moreover, the functions added were decided by the authors of this paper and not decision from Volvo Cars. Several functions that currently are available as specifiable options were added under Current as functions the consumer owns.

The functions added under the Available tab were of hardware, software and content to potentially be able to answer the research questions. They were also a mix of functions that are always implemented in Volvo Cars, functions that can be added for a fee when ordering the car (specifiable options), and functions that no cars from Volvo Cars have. The last were created by the authors of this paper (see table 6.8).

Table 6.8: The functions added into Available with categories.

	Hardware	Software	Content
Basic	Power Tailgate	Bluetooth Connection	Navigation through Google Maps
Spec	Heated Steering Wheel, Pilot Assist-Package	Pilot Assist-Package	None available.
New	Night Vision Camera	Remote Camera Access	Karaoke

The informative texts regarding the functions were copied from volvocars.com where Volvo Cars is describing each function [81]. For the functions that were created by the authors of this paper, the belonging informative texts were written as well.

6.5 Test Phase

To be able to answer the research questions posed in this paper, the hi-fi prototype needed to be tested. The methods used were observation and interviews and analysed using thematic analysis. The observations and interviews were held in either English or Swedish, depending on the preference of the participant.

6.5.1 Pilot Tests

The hi-fi prototype (see section 6.4.3 Hi-Fi Prototyping of Volvo Adapt) was shown to two employees at Volvo Cars who in a relaxed environment navigated through it and provided feedback. The first employee navigated in the application projected to an iPhone 13 with the accompanied tasks and scenarios. They wished for it to be possible to not only navigate forward through the information text but also backwards. In addition, they wished for a confirming text when a purchase has been done. A decision was made to implement the first request but not the second. This was to be able to test the result from the focus group discussion regarding simplicity.

The second employee performed the tasks at a desktop without any additional information after the adjustment was made. They discovered an error in the interaction in the platform but had no other comments.

6.5.2 Observations and Interviews

Eight respondents (six men and two women) were gathered with a screening survey directed towards Co Dev-drivers, in the same manner as for the focus group discussions (see section 6.1.4.1 Screening Survey for Focus Group Discussions for explanation and Appendix B for the full survey). The sessions were held on-suit at Volvo Cars Torslanda. The sessions were two parted, consisting of an observation-part, where the participants conducted tasks in the hi-fi prototype of Volvo Adapt (see section 6.4.3) projected on to an iPhone 13 and afterwards were asked questions regarding it, the interview-part. To gather data, the sessions were audio recorded and the interactions were screen recorded during the tasks to allow for later analysis.

To analyse sequences and details, the participants were given nine tasks where there was a “correct” way of conducting those tasks. The use of tasks was foremost used to analyse the design of the app and to extract details and view sequence deviation but was not the sole reason the tasks were used. When creating the prototype, tasks were also considered to ease the navigational interactions that needed to be designed.

The tasks were formulated as scenarios to both discern patterns of usage as well as aid the participants understanding of the prototype. One example of a task was: “You also saw something else that you thought were interesting. On the previous car, your tire got slashed when you parked in the city and would therefore like to check out the function ‘Remote Camera Access’. You only want to try it out and

therefore choose to subscribe to a one-month free trial with the service duration ending automatically.” The full list of tasks with scenarios can be found in Appendix E and the tasks without connecting scenarios are presented together with the result in section 6.5.3.1 Observations. During the observation, the respondents were encouraged to think aloud with no additional probes to do so during the observation.

The following interview contained general questions such as “what did you think about this service?” as well as questions relating to the previously defined categories to examine if the design promoted them. An example of this was: “To what extent do you feel that you were in control, that you were able to choose, over the choice of subscription model?”. The full list of questions can be found in Appendix E.

6.5.3 Thematic Analysis

The results from the observations and the interviews were analyzed separately so that the research questions could be answered independently. Meaning that the actions performed by the participants may not be in accordance with how they viewed soft offers. For example, someone could potentially answer that they experienced the application to be easy to navigate through, but the actions may prove otherwise.

6.5.3.1 Observations

For the observations, the screen recordings were viewed together with the audio recordings to examine how the participants interacted with the prototype. A thematic analysis was carried out and categories were created for each task and marked out according to what level the participants read the information provided, if they navigated correctly or not, and if they completed the task successfully or not. The full list of categories can be found under Appendix F. Below, the result from each task is presented together with a discussion regarding potential reasons behind the participants actions.

Task 1: Navigate to Volvo Adapt and read about it.

During the first task, some participants had difficulties in finding the platform and some of them tried to find it in their profile. Regarding the informational text relating what Volvo Adapt is, six out of eight read through it thoroughly while one skimmed and one skipped it completely.

The navigational issues that arose might be due to it being a new platform that they did not know about. The reason behind them trying to view it in their profile could also be because their Volvo on Call subscription is located there in the current platform. Since the task explicitly was to read about Volvo Adapt, there is a possibility that more participants read the text in the observation compared to if they encountered the platform in another context.

Task 2: Navigate to Head-Up Display and other functions on the list.

Six out of eight participants read about the function and the text regarding them owning the function. Six out of eight also read the names of other functions on the

list and navigated to them. No navigational issues were spotted.

The reason behind them taking part of the information might be because they are using it for the first time. Since they were already on the correct tab, the task was straight forward which may be the reason behind the high success rate of the task.

Task 3: Check out available options but do not subscribe to anything.

Half of the participants read through several functions while half did not. Seven out of eight succeeded in their navigation with no accidental subscriptions to a function.

To complete the task, the only action required was to press the Available tab which possibly is the reason behind the high success rate. The reason behind the differences among how thoroughly they investigated the functions available for subscription might be due to inconsistency in the formulation of the task description. While some explicitly were asked to “check out available options” some were just asked to navigate to the correct frame. Hence, no conclusion should be drawn from this discovery.

Task 4: Navigate to and buy-out Power Tailgate.

All participants succeeded to navigate to the correct frame on the first attempt. The amount of information the participants absorbed varied. Some of them read all available information, some skimmed through it and some went straight to the purchase-part. Six out of eight performed the task correctly but not everyone. One missed to press “subscribe” while still believing that the function was bought, one participant also chose the free trial instead of “purchase function”.

The failures that arouse during this task might be due to it being a one-step process which means that they do not have to confirm their choices. There are also no lock-in that informs the consumer that the purchase is not finished.

Task 5: Navigate to and subscribe to Remote Camera Access with one month free trial where the service duration ends automatically.

All participants navigated correctly to the function but how thoroughly they read the information varied. Six out of eight chose the correct subscription options but not everyone. One participant chose continuous service duration, and one chose to subscribe monthly with continuous service duration.

The errors might partially also be because of it being a one-step process. The text for the toggle button does not seem to be informative enough. Since one participant missed the free trial, a lock-out could be implemented in order to benefit the consumer.

Task 6: Navigate to and subscribe to 360° Parking View Camera with a monthly subscription and continuous service duration.

Three out of eight participants performed reversible navigational errors by searching for the function at the Current-tab before navigating to the Available-tab. Five out

of eight participants did not read the available information regarding the function. There were also some similar errors as for the previous task regarding the switch for continuous service duration.

The errors might partially also be because of it being a one-step process. The navigational issues might be because of a difference regarding where the consumer is navigated to when they press the "back"-icon. If they are only viewing a function in the Available-tab, and then goes back, they are navigated to the Available-tab again. On the other hand, if they purchase or initiate a subscription on a function, they are navigated to the Current-tab where they can view their new subscription added to that list.

Task 7: Navigate to “your” Volvo on Call subscription and read about it.

The same error regarding searching in the wrong tab occurred for this task as well. There was also a difference regarding how thoroughly they read through the information about the function and their subscription. Six out of eight participants did not press the button to read about their options for renewing the subscription.

The errors regarding searching in the wrong tab might be connected to the previous tasks regarding searching at the Available-tab. The information they received from the task might have resulted in a misunderstanding of whether they have an ongoing subscription to that function or not. The reason behind not everyone reading about their renew-options might be because of the priority on the button. Using a first priority-button might communicate that something will happen directly when they press it, leading to them avoiding that button and therefore not navigating to the second page.

Task 8: Navigate to and cancel the 360° Parking View Subscription.

For the task of canceling the subscription, there were no errors among the participants. There was also no reading of the information available about the function.

It seems like opting-out was easy due to it being a one step-process. The task was to cancel a specific function.

Task 9: Navigate to your previous subscriptions.

No errors occurred during this navigational task.

While some participants searched under the wrong tab for Current and Available, none went to previous by mistake meaning that they had no issues finding it when they were asked to navigate to it. Therefore, the names for the tabs Current and Available might not be optimal.

General

Even though the participants were informed that they could ask to get help to navigate, no participant asked for this help.

6.5.3.2 Interviews

The data analysis from the interviews started by conducting transcripts in the same manner as for the focus groups. The transcripts were then reviewed and quotes were highlighted that seemed to be related to pre-defined categories. This was however not conducted in the same manner as for the focus groups. Instead, categories were made both beforehand and iteratively (for a full list of categories, see Appendix G). Below the main findings are presented along with quotes that support each finding. Since several sessions were held in Swedish, quotes from these have been translated in the same manner as for the focus group discussions and the original quotes along with the translations can be found in Appendix H.

What is the general perception of soft offers (after trying the prototype)?

There was still a mix regarding the perception towards soft offers among the participants. Some of them stated that they would enjoy it, mainly because of the flexibility it provides:

P2: "If it will end up being like this, that you can cancel subscription whenever you want, that's also really helpful. Because... yeah... I'm one month away, and I maybe don't need all this features when the car is parked and just cancel them for that month. If I got it monthly of course."

P6: "I think it's nice that you can do it monthly, that you can use it [the function] when you need it and that you don't have to have it all the time. I think that's good."

Those who still seem to harbor negative attitudes or are unsure about soft offers stated that they would choose the "buy-out" option.

P5: "I mean, in real life, I'd probably go with the purchase function, I don't like subscription."

The participants who stated that they were unsure regarding soft offers said that it was dependent on the functions available in the platform.

P1: "Well, it's kind of two-sided. On one hand, it's good to be able to turn something of if you feel like you're not using it, on the other hand... 30kr per month for something that should be in the car can be kind of... disturbing. So it's both."

P3: "So if some function we think it could be everyday use, not dependent on a lot of situations, it can be flexible, we can put it to subscription. Otherwise, if something is super generic, if it hard to find condition where it really is dependent on that, then maybe it's better to put it in the base price."

P8: "As long as its relevant things that your selling, as long as things are not being pushed, I think it's kind of nice. And things that are relevant."

Is there a perception difference between soft offers for hardware, software and content?

For hardware, there is still a mix regarding the participants attitudes towards it. Some of them are not bothered by the functions requiring hardware...:

P4: "Heated Steering Wheel as I said, I might have subscribed to that since it's cheaper to only have it during the winters."

...while others display negative attitudes towards it:

P3: "Power tailgate as well. If... My feeling from a costumer perspective is that if some function is so natural and you can use it every day and then you either let the costumer to buy it or you don't put it as subscription."

P5: "If I have heads-up display on my car, if I have the hardware, I expect it to work."

The participants seem to be open to subscribe to content. The ones stating that they wouldn't want to subscribe to a content-function claimed that the reason behind it is that they wouldn't enjoy that specific function:

P4: "It could be a little bit of gamification".

P5: "I would be happy to pay extra to have Netflix in my car for example."

P6: Regarding not wanting to subscribe to Karaoke "I don't like to sing [laughter]."

It does however seem like software-functions and content-functions are dependent on the participants expectations:

P4: "Remote Camera Access, that one can be included. That could be available as subscription."

P5: "Volvo on call, yeah. Or this remote camera thingy because you know, there is another angle. My mobile... the car needs to be connected to the internet and they need to communicate."

P7: "But those things such as Google, Bluetooth... Yeah, those types. Really. I don't think those should be included."

Is there a perception difference between functions that are always included in a Volvo car, specifiable functions, and functions no Volvo car has?

The participants stated that functions that always are included in a Volvo car should not be available as subscription.

P1: "30kr per month for a function that should be in the car can be kind of... Disturbing."

P4: "Google Assist, Google, Maps, Google Play Store, no. I think those should be included in the car, standard."

P7: "Bluetooth connection, that is also something that you assume is already in the car."

Can the design of soft offers affect how they are perceived?

The categories regarding this research question were based on the previously defined categories. Provided that the result from previously phases is correct, it seems like the design can affect how soft offers are perceived.

TRUST

Regarding trust, it seems like a bit of trust that the participant experience is dependent on the trust the participants feel towards Volvo as a company.

P1: "Since it is a Volvo that stands for it, of course I fully trust it."

However, they stated that trust is also built which seems to be dependent on the time gap between the initiated subscription and when it is available.

P4: "If I press there, I trust that I'll get it. If Volvo now fails the first time I've pressed Karaoke, and goes out to my car and don't have Karaoke, then it will go down to a 1 immediately."

P7: “With time it’ll be good, I believe that. In fact. That you. . . But it’s about building a, what’s it called. . . confidence for, for it. That you see that it works, and also that you don’t have to wait for a long time for it to work.

P3: I can of course try it now but then there’s a disconnection between – I press a button and try it out, but then I forget it, maybe I come back tomorrow and then I don’t have a strong impression like “okay its an amazing function”. But if I can press a button an try it and then the 360 camera just pops up.. rapidly, then maybe it’s a good feedback. I don’t know.

It also seems like some participants had trust in subscriptions in general, leading to them trusting this platform.

P1: “. . . and these kind of things you do daily, really, like in all contexts, order things on your phone or subscriptions or stuff. . . So. . . You are used to that. . . So I don’t see why I wouldn’t trust them.”

P8: “I would say it’s a 7. Or that’s probably arbitrarily to all services I buy. I think I probably trust most of them. So that would probably be independent if it was this I bought or whatever I buy.”

An aspect of building trust could be the implementation of the buy-out option.

P5: “trying one month for free, monthly payment.. and really.. I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you’re forcing me, it’s just a way of financing it basically right.”

FEELING OF CONTROL

The participants overall experienced a feeling of being in control. This seems to be connected to the ease of opting-out:

P1: “You could choose to cancel immediately, as I understood it. Or it, it said ‘now we turned it off’, so that was good.”

P4: “7. I just pressed the button.” (to opt out).

P5: “it was easy. It was just one button click cancellation. Normally its not that easy. . . ” (opt-out)

The option to buy-out also seems to enhance the feeling of being in control:

P5:” trying one month for free, monthly payment.. and really.. I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you’re forcing me, its just a way of financing it basically right.”

The ones discussing a feeling of not being in control seems to have that attitude towards subscriptions in general:

P5:” But the problem is when it comes to subscriptions... these are the offers, I cannot control the offers. I cannot say can you add that thing to your.. like no it’s in the control of Volvo so that the one thing I don’t like about it. If Volvo decides that air purifier should be a subscription then I don’t have much control over it”

KNOWLEDGE

With this platform, the participants understood the concept. They also appreciated

the information text in the beginning.

P4: “Your text in the beginning, I thought it was a little fun and good.”

P7: “Yes but this, like this ‘Get Started’, that was good. It said a short summary about each thing.”

The icon was however a bit unclear.

P2: “Volvo Adapt, this is more like the settings button for... Maybe for the application itself or... change the colour theme or things like that so...” (Icon)

Some names should be adjusted as well, such as it shouldn’t say subscribe if they buy it:

P2:” Okey, so here it says still subscribe. Maybe it should say “purchase”. Or “continue” or something more...”

P5:” But then subscribe is also a weird term because I’m buying it right, this says purchase function. It should say buy.”

The names of the functions might nevertheless not be good enough, nor the names for the subscription options:

P5: “I’m trying really hard to look at it from an eye from someone outside volvo, because BLIS and cross traffic alert, means something to us but I think it will be mumbo jumbo to my wife who doesn’t have this kind of like exposure to the car industry.”

P8: “But the choices are a bit strangely named.” (The subscription options).

FLEXIBILITY

To be able to customise the subscription model was overall appreciated by the participants. There were however some minor issues such as price.

P1: “No but like in this case with a month free trial, or monthly for 30kr, or yearly... I guess that’s a good division. (inaudible) Yes yearly, compared to purchase, yeah... But to be able to start with a few months is really good, to have that option.”

P2: “If it will end up being like this, that you can cancel subscription whenever you want, that’s also really helpful. Because... yeah... I’m one month away, and I maybe don’t need all this features when the car is parked and just cancel them for that month. If I got it monthly of course.”

P5:” trying one month for free, monthly payment.. and really... I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you’re forcing me, its just a way of financing it basically right.”

P8: “like you are used to such arrangements today’s, so that’s nothing weird.”

Regarding flexibility for soft offers in general, some see the value in it... :

P4: “If we speak about ownership then, to own a car, I would think that it’s good for some parts, like what you’ve written so nicely before that you might not think about everything when you buy the car, then you might want to add something from time to time. If I’m going on a long vacation, I might want to add some function.”

P6: “I think it is good that you can do it per month, that you can use it when you need it, don’t need to have it all the time. I think that’s good.”

... while others don't:

P5: "trying one month for free, monthly payment.. and really... I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you're forcing me, its just a way of financing it basically right.", "I mean, in real life, I'd probably go with the purchase function, I don't like subscription."

SIMPLICITY

Based on this study, the participants stated a positive attitude towards the simplicity.

P2: "I think it's really nice, I mean. I could find everything. Yeah, It was very user friendly, I think."

P6: "Yes I think it was good. It was kind of easy to find, like now I took some time the first five minutes, but then it was kind of easy. Mm. And nice that it is so clear. Not too much."

Some of them did however mention that parts of the platform had too much text.

P4: "Sometimes you were allowed to scroll, and it's things like that which I sometimes don't... It was something that you got, was it 360° I had to go in to and... That you like have to scroll up. If you can get this on one side at first, because sometimes it said... I had to scroll up to see the text."

ADDITIONAL FINDINGS

One category of functions seemed to be disliked as subscription options, independent on if they are hardware, software or content or if they are standard in cars, specifiable options or do not exist in Volvo cars at this moment. This category was safety functions:

P1: "Night Vision Camera, that's also... [inaudible] safety, I've never tried it but it should be... That you can see better in the dark. Are you supposed to charge extra even though the sensor is there, that also feels wrong."

P5: "BLIS for example, that's a safety function, it should be included. I mean, it's a Volvo, it should be included. Our brand is safety, so charging extra for that also feels wrong."

Even though the cost of each function and its consequent subscription option is outside the scope of this study, it was mentioned continuously during the observation and interviews. An attempt was made to make the pricing as legitimate as possible by consulting the pricing of them as buy-out options, even so, they were noticed and the participant questioned both if this is the agreed cost of the different subscription options as well as the rationale of the pricing:

P1: "And these prices are they... are these agreed prices or...?"

P3: "from a costumer perspective, it's a matter of how you set up a price. Like here, if yearly subscription and purchase, its not much difference."

Also excluded in the scope of this paper was to whether there should be a payment page or not. In the final prototype, no payment page was included and the feedback that the user got was a change in a button going from "subscribe" to only text

stating “subscribed” with a check mark. This resulted in some confusion among the participants:

P2: "What was not clear, was how the payment would happen."

P3: "Yeah no major issue except for no more conformation about pay... payment. Yeah, that's it."

As mentioned in section 1.2, whether a function should follow the consumer, or the car is not being investigated. Even though the interview questions were not formed to consider this aspect, it was still brought up during the interview with one participant stating:

P2: "It's difficult answer because it's not clear how... How it would work when I change the car. Right, so if I buy it, I would expect it in the next car being equipped with all the sensors and this function would be there."

7

Results

This chapter contains the final result and thereby the answers to the research question “Are Soft Offers a viable option for Volvo Cars?” with belonging sub-questions. When answering the questions, the results from methods conducted in execution (chapter 6) were taken into account. The findings presented are mainly from the focus group discussions (see section 6.2.1.1) and the interviews (see section 6.5.3.2) and follows with a set of guidelines. These guidelines are devised to aid the implementation of soft offers in the automotive industry.

7.1 Perception Towards Soft Offers

Regarding the first sub-question “What is the general perception of soft offers?”, it seems like the perception of soft offers differs among consumers. As shown in the interviews, some are open and believe that it could be beneficial for them, and some are critical and do not want to be forced to use it. Therefore, the following guideline is presented:

Guideline 1: Allow the consumers to specify options in their cars and buy-out functions.

To not affect those who do not want to subscribe to functions in their cars, the option to specify the cars when ordering them should not be removed. By keeping this, the consumers who are having a negative attitude in general towards subscriptions, or soft offers for car specifically, are still able to buy a car from Volvo Cars without feeling forced to initiate subscriptions.

From the interviews, it does however seem like the consumers will be more prompt to choose the option to subscribe if they experience that it economically will be beneficial for them. Therefore, the following guideline is presented:

Guideline 2: Investigate the pricing of subscription/buy-out.

It also seems like consumers are not bothered by information that explains why soft offers not only are good for the company, but also for them. This was also shown in the interviews, which led to the following guideline:

Guideline 3: Be informative and transparent regarding why soft offers are beneficial

for the consumers.

The consumers seem to appreciate information regarding why they could benefit from an arrangement like this. As shown in the prototype (see section 6.4.3) this can even be implemented in the name of a platform.

7.2 Perception Difference in Investigated Categories

Research question 2 and 3 were two attempts to investigate what functions that according to consumers should be offered as soft offers. Research question 2: “Is there a perception difference between soft offers for hardware, software and content?” gave limited results. The result from this report indicates that there are no differences between the perception of software and content functions. For hardware functions however, there could be a difference. Some consumers are disturbed by the sustainability factor of implementing hardware in cars that might not be used which was discussed in the focus group discussions. Some also believe that hardware being “turned on” in a car in exchange for a regular fee could create a feeling of distrust towards the company which for example was discussed in the interviews.

The added research question 3: “Is there a perception difference between functions that are always included in a Volvo car, specifiable options, and functions no Volvo car has?” also gave limited results. As shown in the interviews, the results indicated that there is not a perception difference between soft offers on specifiable functions and functions that no Volvo car has. It does however seem like functions that are always included in a Volvo car should not be offered as soft offers since the consumers experiences it as having to pay extra for functions that they are used to receive “for free” in their cars. Based on this result, and the result from research question 2, the following guideline is presented:

Guideline 4: Investigate thoroughly what functions to offer as soft offers.

Even though this report has tried to identify categories of functions that should and should not be offered as soft offers, additional research is necessary. In addition to previous findings regarding hardware functions and functions that no Volvo car has, the interviews also indicated on the consumers not appreciating to subscribe to safety functions due to it being a part of the Volvo brand.

7.3 The Design of Soft Offers

The last research question: “Can the design of soft offers affect how it is perceived and the willingness to subscribe?” showed that it seems like the design of soft offers can affect how they are perceived among the consumers. There are several factors that according to this report could lead to a more positive attitude towards it. Firstly, gather everything that has to do with soft offers in one place which is the

next guideline:

Guideline 5: Create a platform.

In order to make it simple for the consumers, everything should be gathered in one place. This includes functions that the consumer owns, ongoing subscriptions, and functions available as subscriptions in their cars, along with information about the functions as well as the subscriptions. As shown in the focus group discussions the consumers wished for this type of collected platform.

Along with Guideline 1 regarding keeping the option to buy-out a function, the consumers also seem to appreciate the possibility to adapt their subscription after their needs which was discussed in the interviews. This led to the following guideline:

Guideline 6: Allow the consumers to adapt their subscriptions.

This refers to the consumers being able to choose subscription length as well if the payment should continue automatically or if they must actively renew it.

In the cases where consumers choose to initiate a subscription with automatic continuation, they appreciate when it is easy to unsubscribe. This was discussed in the focus group discussion as well as in the interviews. This resulted in the next guideline:

Guideline 7: Make it easy to opt-out.

The prototype (see section 6.4.3) required the consumer to press one button in order to opt-out from a subscription, which the participants in the interviews appreciated. In addition, the respondents in the focus group discussions stated that their past experiences regarding subscriptions have been that it is not always this easy, creating a fear to opt-in to subscriptions. The process to end a subscription should therefore be easy.

From the interviews (see section 6.5.3.2) and the user journey (see section 6.1.3), it also seems like the process from when the consumer buys or initiate a subscription to a function, to when it is available in the car, should be as short as possible. This led to the following guideline:

Guideline 8: Make the delay between when a subscription is initiated/a function is bought, to when it is available in the car, as short as possible.

To promote a positive attitude towards soft offers, this process should be fast. The consumers do not want to wait for a function to be activated in the car after the purchase is done. They expect it to be automatically activated in the car immediately.

Lastly, in a potential platform, the naming of the functions as well as the buttons should be informative for the consumers to understand what it entails when they initiate a subscription or makes a purchase. This led to the last guideline:

Guideline 9: Consider the names on the functions and the action buttons in the platform.

As mentioned in the interviews, consumers who do not have a lot of knowledge about cars, might not understand what a function is based on its function names. Therefore, naming the functions after their proper function names might not be the most optimal solution. In addition, the observation (see section 6.5.3.1) showed that the names of the subscription length, and the phrases "service duration ends automatically" and "service duration is continuous" might not be informative enough for the consumers to understand. These names should therefore be considered.

8

Discussion

In this chapter, a discussion about the results, the studies and the potential affect it can have is presented.

8.1 Reflection of the Results

The work was heavily based on the categories identified in the focus group discussions, which leads to the guidelines being partially based on them as well. The guidelines are however also connected to the theories presented in section 3. Below, each guideline is presented along with its connection to theory.

Guideline 1: Allow the consumers to specify options in their cars and buy-out functions.

As presented in chapter 7 Results, some of the consumers do not want soft offers to replace “how it works today”. This can be connected to previous experiences regarding subscriptions where they have experienced the sunk cost effect (see section 3.2) and have had ongoing subscriptions that they have not utilized but still felt resistance towards canceling. This might lead to a fear towards initiating new subscriptions.

It can also be connected to previously presented theory regarding mental models (see section 3.5). The consumers can currently have a mental model regarding the process of purchasing functions to a new car, leading to soft offers not fitting this mental model. It is therefore possible that consumers who do not have previous experiences of buying a new car lacks this mental model and therefore could have a more positive attitude towards soft offers for cars in general. Along with this, if subscriptions become more common in the society in general, consumers mental models of purchasing products in general might also change, leading to other expectations when purchasing function in cars.

The option to buy-out functions was also implemented in the hi-fi prototype (see section 6.4.3) which implies that soft offers for cars have not been investigated isolated. Even though the participants discussed functions that they regardless did not believe should be offered as soft offers, there is a possibility that the consumers perception towards the platform would be different if this option did not exist.

Guideline 2: Investigate the pricing of subscription/buy-out.

With the participants mentioning the pricing of the soft offers even though an attempt was made to not draw attention to it, it seems to be an important aspect of soft offers. To say that mental accounting, the perception of spent money [25], is the sole explanation behind these comments is however uncertain. There are two main reasons for this; the participants weren't spending any money, nor is asked how they feel about spending their money and secondly, the study refers to subscriptions, not traditional purchasing which previous studies has been made on as discussed in section 3.1. There could however still be influences of mental accounting on how consumer is going to view soft offers. Mental accounting may be reason that people have expectations. The pre-specified options can be viewed as free IF consumers view subscription in a similar manner as traditional purchases. Even if they have paid for them, they might not view it as having paid for them.

Guideline 3: Be informative and transparent regarding why soft offers are beneficial for the consumers.

As presented in section 3.3, FBM states that behavior is affected by consumers motivation towards an action [29]. To offer the consumers information regarding why soft offers are beneficial for them can therefore lead to motivation towards the concept. This should however not be confused with the dark pattern Confirmshaming (see section 6.3.2), meaning to guilt the consumers to opt-in to subscriptions [3]. It therefore stands to argue that this kind of information should not be guiltning, but rather transparent and informative.

Being transparent with when and when not soft offers are beneficial for the consumers may also decrease the feeling of spent money by the consumers. Shafir and Thaler [25] claims that when a product is not used as planned, it is more likely to be associated with the cost of it than when it is used as planned. To avoid consumer continuously associating soft offers with the cost of them, especially in a negative aspect, it could be beneficial to guide the user when and if they don't need a subscription.

Guideline 4: Investigate thoroughly what functions to offer as soft offers.

Based on previous presented results, it seems like what functions that are presented as soft offers affects the consumers perspective towards soft offers in general. What functions that according to the consumers should be available soft offers differs among consumers, which also could be a result of their mental models (see section 3.5). The results indicates that a feeling of "strangeness" is associated with hardware due to it feeling as a function has been almost removed from their use, or turned off, if they don't have a subscription to that function. Consumers who do not have that knowledge might have another mental model regarding the function and therefore another attitude towards soft offers for that function.

One thing to note is however that there could be a distinction between what the consumers perception of having a function as a soft offer is, and the likelihood that the consumer would initiate a subscription to that function. According to Baek and Kim, consumers are more likely to subscribe to what they perceives as utilitarian

goods [21], such as safety functions for cars, but the consumers expressed a resistance towards subscriptions on such products. A hypothesis based on the result in combination with the presented theory therefore is that consumers in a higher extent would subscribe to safety functions, but it would affect their user experience negatively.

Guideline 5: Create a platform.

The wish and appreciation towards having everything regarding the subscriptions in one place might be connected to familiarity (see section 3.6) regarding how the consumers subscriptions on other things works. For other subscription services, the consumer has a profile on a website or similar where the information about the subscription is located.

Having all subscriptions gathered may result in an increased likelihood of subscription. There seems to be a correlation between utilitarian motives (ease and convenience) and subscription likelihood [10][21] which the results from the focus groups as well as the interviews seemed to indicate towards. Having it in the current Volvo Cars app may further the utilitarian motives by allowing all information relating to their car being in one place.

Guideline 6: Allow the consumers to adapt their subscriptions.

The participants in the interviews stated that they enjoyed the possibility to adapt the subscription model after their desires. This might be connected to FBM's theory regarding ability [29]. By allowing the consumers to adapt their subscriptions, they can create a subscription model that fits their needs. Hence, the adaptable subscription model might create ability towards opt-in to a subscription.

Guideline 7: Make it easy to opt-out.

The participants in the interviews seemed to appreciate the easy opt-out from subscriptions. This can be connected to the statements from the focus group participants regarding previous experiences when opt-outs from subscriptions have been difficult. These experiences could potentially have affected their mental model (see section 3.5) leading to an ease regarding the platform where it was easy to unsubscribe.

Making subscription both easy to opt-in and opt-out may also result in an increased likelihood of subscription due to utilitarian motives. Ease of subscriptions is correlated with increased subscriptions [10] [21] and could be a potential reason behind the positive attitudes from the interviews.

In addition, these previous experiences seem to have caused negative emotions towards subscriptions for some of the consumers which potentially can have created a motivation towards not initiating a subscription.

Guideline 8: Make the delay between when a subscription is initiated/a function is bought, to when it is available in the car, as short as possible.

The consumers expectations that the new functions should be available in the cars immediately might also be connected to mental models (see section 3.5). One participant in the interviews compared soft offers to applications on their smartphone and assumed that they would operate in a similar way.

Guideline 9: Consider the names on the functions and the action buttons in the platform.

The participants in the observations/interviews did not seem to completely understand the subscription options in the platform which might be connected to familiarity (see section 3.6). The platform combines multiple options to adapt the subscription such as subscription length and if the subscription should end automatically when the time period is over or not. The consumers might not be used to this kind of arrangements and there are no standard design guidelines regarding how this should be designed. This implies that a new flow needs to be created which needs to be informative to communicate this arrangement to the consumers.

Even though the study and result are based on the automotive industry, these results might be applicable on other industries as well. Soft offers could be implemented on parts of other technological products that a consumer owns. Based on gathered literature for this report, there is however a research gap in general for how the consumers perceives this kind of subscription. Therefore, this result can be seen as a step towards covering a research gap that goes beyond soft offers in the automotive industry.

8.2 Reflection of the Study Design

The following sections includes discussions regarding the participants in the studies, as well as the prototype used for testing.

8.2.1 The Participants

The focus group discussions as well as the observations and interviews were conducted on participants from the Co Dev-fleet, who are all Volvo Cars employees. This can potentially have affected the results. Firstly, since they are working with cars, they have knowledge about them and the functions in them that people outside the company might not have. In addition, even though some participants uttered that they tried to see it from a non-Volvo perspective (a consumer perspective), their answers are likely to be biased. The participants statements that they would trust soft offers from Volvo Cars can, for example, be affected by their trust towards Volvo Cars as an employee instead of the actual concept. Lastly, since Co Dev drivers have a leasing contract to their cars, they do not own their cars. If soft offers are implemented for cars, it would potentially affect consumers who own their cars in a different way, leading to other needs and wishes.

If these studies were conducted on participants outside Volvo Cars, their views and answers might differ. However, their insights are still valuable as consumers and

as experts since can be considered as both but were treated almost exclusively as consumers. Also treating the participants as experts may have yielded more information. With the results indicating on expectations affecting the perception of soft offers, the participants from these studies might have higher expectations compared to other consumers, leading to them setting higher demands.

Testing on Volvo employees also resulted in not all data being shown in the report. This is due to them partially discussing sensitive information about the company. This affected the level of transparency that were possible to achieve in this report.

Another element that was considered during the formation of the study was the language aspect. The studies were carried out on the language the participants felt most comfortable with, either Swedish or English, to allow for a more comfortable setting and ease in communication for them. Even though it may have resulted in a more accurate data than if they had spoken in a language they are less comfortable with, the analysis of the result may have been affected by it. There were however steps taken to reduce this margin of error such as conducting a systematic translation as recommended by Resch and Enzenhofer [53].

8.2.2 The Prototype

Based on the result, it seems like a platform like this should be implemented in multiple devices. For this report, only a platform in a mobile application was created. In addition, the final study was conducted with the hi-fi prototype (see section 6.4.3) which did not have all navigational functionalities as the application would have if it was implemented and launched as a final product. It also resulted in some technical issues that disrupted some interviews. With the tasks put in scenarios to aid help the user understanding why they are performing a specific task [71], the technical issues may have disrupted the “scenario-illusion” and thereby might have affected the result. Furthermore, how much the participants talked, or used the think-aloud method, varied among them. Barnum [70] claims that the cognitive load that think-aloud have varies among people which may explain the differences in the data generated.

The prototype was also intended to emulate the current Volvo Cars application with an additional platform, there were even participants who mentioned this similarity. The familiarity that the participants noticed during the observation could therefore have an affect compared to either if the platform were designed as too not emulate the Volvo Cars app or if the participants had never encountered the Volvo Cars app. This decision was however made consciously to promote familiarity.

8.3 Ethical Discussion

An ethical aspect that has not been considered during this research is the subject of sustainability. This is specifically of importance when considering hardware and if it is sustainable to manufacture cars with all hardware included that may not ever be used. Possible beneficial sustainability aspects on this subject have not been considered and if automotive companies are to adopt more subscription-based hardware, this subject is recommended to be further examined.

Another ethical reflection to consider is the use, or in this case, the lack of use, of dark patterns. With dark patterns being a form of deceptive design [3], the use of them may result in more people opting-in to soft offers, but the deceptiveness this entails is likely not a viable option for Volvo Cars. Since this research is mostly focused on creating a user experience the consumer would want, using dark patterns and tricking consumers to take actions that they do not want to take, is not viable.

Common for design methods are that they often are suggested to be carried out by a group of participants. For this project, the design methods were executed by the authors of this paper, meaning two people. Involving more participants to the design methods could potentially have gathered more ideas and more optimal solutions.

8.4 Future Studies

With no evidence found of this problem space having been properly investigated before, the research gaps the problem space currently have has not been filled in entirely. With this research mainly focusing on opting-in to subscriptions, how to keep consumers in the subscriptions is still unclear. There are also questions unanswered regarding the ownership of the functions as mentioned in section 1.2 Scope and Limitations and section 6.5.3.2 Interviews.

Even though this reported aimed to investigate different categories of functions that could be able as subscriptions, and the consumers perception towards them, further studies are required. It seems like consumers have different expectations regarding what functions that should and should not be offered as soft offers, but exactly what these expectations are, are still somewhat unclear.

As presented in chapter 7 Result, the consumers also expect the functions to be activated in their cars as soon as they have completed a purchase. The guideline is therefore to make this process as quick as possible. This report has not investigated how fast the technology will allow this process to be and a question therefore arises: will “as fast as possible” be fast enough for the consumers? One function was tested in the user journey in a BMW car (see section 6.1.3), and that process went fast enough to be a delight according to the involved participants, but will this be the case with all functions? “Heavier” functions might take longer time to be updated in the car and/or require a restart or reboot of the system which could affect the

consumers perception of soft offers.

One of the limitations in this report includes what will happen when a consumer with ongoing subscriptions on- or purchased functions should follow the consumer or the car (see section 1.2). This was also mentioned in the interviews as a factor that potentially can affect the perception of soft offers. Before implementing soft offers at a car company, this should also be investigated.

9

Conclusion

This chapter includes a conclusion of the research and its research questions.

RQ1: What is the general perception of soft offers?

RQ2: Is there a perception difference between soft offers for hardware, software and content?

RQ3: Is there a perception difference between what is always included in the car, specifiable options and functions that no Volvo car has?

RQ4: Can the design of soft offers affect how it is perceived and the willingness to subscribe?

Regarding RQ1, the general perception towards soft offers do according to this report differ among consumers. While some sees the benefits and states that they believe that they would like it, some are critical towards soft offers for cars and/or subscriptions in general. Even though the report aimed to identify categories of functions that consumers are, and are not willing to subscribe to, RQ2 and RQ3 gave limited results. It seems like functions that are based on hardware, and functions that always are included in a Volvo car are more likely to receive negative responses from consumers. The rest of the presented categories did not result in any differences regarding perception.

Regarding RQ4, the design seems to affect how soft offers are perceived among the consumers. To create a positive perception of soft offers and a willingness to opt-in to a subscription of a function in a car, the following guidelines should according to this report be followed:

GL1: Allow the consumers to specify options in their cars and buy-out functions.

GL2: Investigate the pricing of subscription/buy-out.

GL3: Be informative and transparent regarding why soft offers are beneficial for the consumers.

GL4: Investigate thoroughly what functions to offer as soft offers.

GL5: Create a platform.

GL6: Allow the consumers to adapt their subscriptions.

GL7: Make it easy to opt-out.

GL8: Make the delay between when a subscription is initiated/a function is bought, to when it is available in the car, as short as possible.

GL9: Consider the names on the functions and the action buttons in the platform.

With this report, further knowledge has been attained about the perception towards soft offers in the automotive industry, which potentially also can be applied to other industries. Regardless, a step has taken towards covering the research gap on subscribing to a part of a technological product that a consumer owns. The work has illustrated how consumers perceive soft offers and recommend nine guidelines to strive towards for a positive user experience of opting-in to soft offers. A potential hypothesis has also been introduced about what types of functions automotive companies should take extra caution when offering subscription services; namely hardware and functions that are always included in Volvo cars.

Bibliography

- [1] Dam RF. The 5 stages in the Design Thinking process [Internet]. Interaction Design Foundation; 2016. Cited: 2023-3-11. Available from: <https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process>.
- [2] Wang Z, Yao DQ, Mukhopadhyay S. Optimal dynamic pricing for subscription-based information goods under certain environment. In: Proceedings of 2010 IEEE International Conference on Service Operations and Logistics, and Informatics. IEEE; 2010. p. 29-34.
- [3] Brignull H, Leiser M, Santos C, Doshi K. Deceptive patterns – user interfaces designed to trick you [Internet]; 2023. Cited: 2023-03-20. Available from: <https://www.deceptive.design/>.
- [4] Gray CM, Kou Y, Battles B, Hoggatt J, Toombs AL. The dark (patterns) side of UX design. In: Proceedings of the 2018 CHI conference on human factors in computing systems; 2018. p. 1-14.
- [5] Dark Pattern. Pay to win [Internet];. Cited: 2023-3-20. Available from: <https://www.darkpattern.games/pattern/18/pay-to-win.html>.
- [6] Luguri J, Strahilevitz LJ. Shining a light on dark patterns. *Journal of Legal Analysis*. 2021;13(1):43-109.
- [7] Farlex Financial Dictionary. Soft Offer [Internet];. Cited: 2023-2-02. Available from: <https://financial-dictionary.thefreedictionary.com/Soft+Offer>.
- [8] Encyclo. Soft offer - definition - Encyclo [Internet];. Cited: 2023-2-02. Available from: https://www.encyclo.co.uk/meaning-of-Soft_offer.
- [9] All Business. Definition of hard offer [Internet];. Cited: 2023-2-02. Available from: <https://www.allbusiness.com/dictionary-hard-offer-4964935-1.html>.
- [10] Bray J, Kanakaratne MDS, Dragouni M, Douglas J. Thinking inside the box: An empirical exploration of subscription retailing. *Journal of Retailing and Consumer Services*. 2021;58:102333.
- [11] Mesak HI, Scott CP, Bari A. On the Diffusion of Subscription-Based Services: The Roles of Price, Advertising, and Customers' Defection. *IEEE Transactions on Engineering Management*. 2022.
- [12] Iyengar R, Park YH, Yu Q. The impact of subscription programs on customer purchases. *Journal of Marketing Research*. 2022;59(6):1101-19.
- [13] Volvo Cars. Volvo On Call [Internet];. Cited: 2023-2-06. Available from: <https://www.volvocars.com/se/support/manuals/v90-recharge-plugin-hybrid/2020w17/volvo-on-call/volvo-on-call/volvo-on-call>.

- [14] Volvo Cars. Comfort services with Volvo On Call [Internet];. Cited: 2023-2-06. Available from: <https://www.volvocars.com/en-th/support/manuals/v90/2016w46/volvo-on-call/comfort-services/comfort-services-with-volvo-on-call>.
- [15] Volvo Cars. Safety services with Volvo On Call [Internet];. Cited: 2023-2-06. Available from: <https://www.volvocars.com/en-th/support/manuals/v90/2016w46/volvo-on-call/safety-services/safety-services-with-volvo-on-call>.
- [16] Security services with Volvo On Call [Internet];. Cited: 2023-2-06. Available from: <https://www.volvocars.com/en-th/support/manuals/v90/2016w46/volvo-on-call/security-services/security-services-with-volvo-on-call>.
- [17] Vincent J. BMW starts selling heated seat subscriptions for \$18 a month [Blog from the Internet]; 2022. [cited: 2023-2-02]. Available from: <https://www.theverge.com/2022/7/12/23204950/bmw-subscriptions-microtransactions-heated-seats-feature>.
- [18] Denis M. BMW clarifies its rules around subscription-based heated seats (and it's not quite what you think) [Blog on the Internet]; 2022. [cited: 2023-2-02]. Available from: <https://www.themanual.com/auto/bmw-heated-seats-subscription-rules-clarified>.
- [19] Schmuck A, Plucinsky T, Diianni P. Statement of Clarification Regarding BMW Functions on Demand in the U.S. Market [Internet]; 2022. [cited: 2023-2-02]. Available from: <https://www.bmwusanews.com/newsrelease.do?id=3997&mid=>.
- [20] J D Power. Truth That Transforms;. Cited: 2023-3-02. Available from: <https://www.jdpower.com/business/about-us>.
- [21] Baek H, Kim K. An Exploratory Study of Consumers' Perceptions of Product Types and Factors Affecting Purchase Intentions in the Subscription Economy: 99 Subscription Business Cases. *Behavioral Sciences*. 2022;12(6):179.
- [22] Systems and software engineering — Vocabulary [Internet];. [cited: 2023-3-27]. Available from: <https://www.iso.org/obp/ui/>.
- [23] Kahneman D, Tversky A. Prospect theory: An analysis of decision under risk. *Econometrica*. 1979;47(2):363-91.
- [24] Tversky A, Kahneman D. The framing of decisions and the psychology of choice. *Science*. 1981;211(4481):453-8.
- [25] Shafir E, Thaler RH. Invest now, drink later, spend never: On the mental accounting of delayed consumption. *Journal of economic psychology*. 2006;27(5):694-712.
- [26] Thaler R. Toward a positive theory of consumer choice. *Journal of economic behavior & organization*. 1980;1(1):39-60.
- [27] Thaler RH. *Quasi rational economics*. Russell Sage Foundation; 1994.
- [28] McAfee RP, Mialon HM, Mialon SH. Do sunk costs matter? *Econ Inq*. 2010;48(2):323-36.
- [29] Fogg BJ. A behavior model for persuasive design. In: *Proceedings of the 4th international Conference on Persuasive Technology*; 2009. p. 1-7.

-
- [30] Williams LA, DeSteno D. Pride and perseverance: the motivational role of pride. *Journal of personality and social psychology*. 2008;94(6):1007-17.
- [31] Fanselow MS. Emotion, motivation and function. *Current Opinion in Behavioral Sciences*. 2018;19:105-9.
- [32] Silvia PJ. Interest—The curious emotion. *Current directions in psychological science*. 2008;17(1):57-60.
- [33] Jones NA, Ross H, Lynam T, Perez P, Leitch A. Mental models: an interdisciplinary synthesis of theory and methods. *Ecology and society*. 2011;16(1).
- [34] Andersson J. A conceptual model for analysis of automation usability problems in control room settings [licentiate thesis (on the Internet)]. Chalmers Tekniska Högskola (Sweden); 2010.
- [35] Turner P, Van De Walle G. Familiarity as a basis of universal design. *Journal of Gerontechnology*. 2006;5(3):150-9.
- [36] Johnson EJ, Russo JE. Product familiarity and learning new information. *Journal of consumer research*. 1984;11(1):542-50.
- [37] Gefen D. E-commerce: the role of familiarity and trust. *Omega*. 2000;28(6):725-37.
- [38] Anderson T, Shattuck J. Design-based research: A decade of progress in education research? *Educational researcher*. 2012;41(1):16-25.
- [39] d school. An introduction to design thinking - Process Guide [Pamphlet]; [cited: 2023-2-12]. Available from: <https://s3-eu-west-1.amazonaws.com/ih-materials/uploads/Introduction-to-design-thinking.pdf>.
- [40] Snyder H. Literature review as a research methodology: An overview and guidelines. *Journal of business research*. 2019;104:333-9.
- [41] Wohlin C. Guidelines for snowballing in systematic literature studies and a replication in software engineering. In: *Proceedings of the 18th international conference on evaluation and assessment in software engineering*; 2014. p. 1-10.
- [42] DaSilva J. A guide to competitive analysis for UX design [Internet]. Adobe; 2020. Cited: 2023-4-08. Available from: <https://xd.adobe.com/ideas/process/user-research/guide-to-competitive-analysis-ux-design/>.
- [43] Komninos A. Why you should analyze your competition to design better solutions and how to do it [Internet]. Interaction Design Foundation; 2018. Cited: 2023-4-09. Available from: <https://www.interaction-design.org/literature/article/why-you-should-analyze-your-competition-to-design-better-solutions-and-how-to-do-it>.
- [44] Munro L. Understanding user journey vs. User flow [Internet]. Adobe; 2020. Cited: 2023-3-03. Available from: <https://xd.adobe.com/ideas/process/user-research/user-journey-vs-user-flow/>.
- [45] Fessenden T. Focus Groups 101 [Internet]; 2022. Cited: 2023-02-20. Available from: <https://www.nngroup.com/articles/focus-groups-definition/>.
- [46] Morgan DL. *Focus groups as qualitative research*. vol. 16. Sage publications; 1996.
- [47] Hennink MM, Kaiser BN, Weber MB. What influences saturation? Estimating sample sizes in focus group research. *Qualitative health research*. 2019;29(10):1483-96.

- [48] Focus Groups [Internet]. Interaction Design Foundation; 2016. Cited: 2023-2-21. Available from: <https://www.interaction-design.org/literature/topics/focus-groups>.
- [49] Nielsen J. The Use and Misuse of Focus Groups [Internet]; 1997. [cited: 2023-2-20]. Available from: <https://www.nngroup.com/articles/focus-groups/>.
- [50] Fern EF. The use of focus groups for idea generation: the effects of group size, acquaintanceship, and moderator on response quantity and quality. *Journal of marketing Research*. 1982;19(1):1-13.
- [51] Carey MA, Smith MW. Capturing the group effect in focus groups: A special concern in analysis. *Qualitative health research*. 1994;4(1):123-7.
- [52] Janis I. *Victims of groupthink: A psychological study of foreign-policy decisions and fiascoes*, Hough-ton Mifflin. Oxford; 1972.
- [53] Resch K, Enzenhofer E. Collecting data in other languages—strategies for cross-language research in multilingual societies. *The Sage handbook of qualitative data collection*. 2018:131-46.
- [54] Kowal S, O’Connell DC. Transcription as a crucial step of data analysis. *The SAGE handbook of qualitative data analysis*. 2014:64-79.
- [55] Hanington B, Martin B. *Universal methods of design expanded and revised: 125 Ways to research complex problems, develop innovative ideas, and design effective solutions*. Rockport publishers; 2019.
- [56] Onwuegbuzie AJ, Dickinson WB, Leech NL, Zoran AG. A qualitative framework for collecting and analyzing data in focus group research. *International journal of qualitative methods*. 2009;8(3):1-21.
- [57] Rosala M. Using "How Might We" Questions to Ideate on the Right Problems [Internet]; 2021. Cited: 2023-3-03. Available from: <https://www.nngroup.com/articles/how-might-we-questions/>.
- [58] DesignKit; n.d. Cited: 2023-3-03. Available from: <https://www.designkit.org/methods/3>.
- [59] Interaction Design Foundation. What is Worst Possible Idea? [Internet]. Interaction Design Foundation; 2016. Accessed: 2023-3-04. Available from: <https://www.interaction-design.org/literature/topics/worst-possible-idea>.
- [60] Wilson C. *Brainstorming and beyond: a user-centered design method*. Newnes; 2013.
- [61] DesignKit; n.d. Accessed: 2023-3-11. Available from: <https://www.designkit.org/methods/storyboard>.
- [62] Krause R. Storyboards Help Visualize UX Ideas [Internet]; 2018. Cited: 2023-3-11. Available from: <https://www.nngroup.com/articles/storyboards-visualize-ideas/>.
- [63] Wikström A. *Storyboarding: framing and reframing opportunities in the front-front end of innovation [Dissertation on the Internet]*. Mälardalen University; 2013. Cited: 2023-3-11.
- [64] Lauff CA, Kotys-Schwartz D, Rentschler ME. What is a Prototype? What are the Roles of Prototypes in Companies? *Journal of Mechanical Design*. 2018;140(6).

-
- [65] Coutts ER, Wodehouse A, Robertson J. A comparison of contemporary prototyping methods. In: Proceedings of the design society: international conference on engineering design. vol. 1. Cambridge University Press; 2019. p. 1313-22.
- [66] Buxton W. Sketching user experiences : getting the design right and the right design.; 2007. Available from: <https://search.ebscohost.com/login.aspx?direct=true&db=edsbvb&AN=edsbvb.BV043045086&site=eds-live&scope=site&authtype=guest&custid=s3911979&groupid=main&profile=eds>.
- [67] Volvo Cars. Volvo cars design portal;. Cited: 2023-3-07. Available from: <https://design.volvocars.com>.
- [68] Google. Material Design;. Cited: 2023-3-07. Available from: <https://m3.material.io>.
- [69] Wästerfors D. Observations. The SAGE handbook of qualitative data collection. 2018:314-26.
- [70] Barnum CM. Usability testing essentials: Ready, set... test! Morgan Kaufmann; 2020.
- [71] McCloskey M. Task scenarios for usability testing [Internet];. Cited: 2023-4-03. Available from: <https://www.nngroup.com/articles/task-scenarios-usability-testing/>.
- [72] Van den Haak MJ, de Jong MD, Schellens PJ. Evaluating municipal web-sites: A methodological comparison of three think-aloud variants. Government Information Quarterly. 2009;26(1):193-202.
- [73] Van den Haak MJ, de Jong MD, Schellens PJ. Employing think-aloud protocols and constructive interaction to test the usability of online library catalogues: a methodological comparison. Interacting with computers. 2004;16(6):1153-70.
- [74] Mortensen DH. How to do a thematic analysis of user interviews [Internet]. Interaction Design Foundation; 2021. Cited: 2023-4-03. Available from: <https://www.interaction-design.org/literature/article/how-to-do-a-thematic-analysis-of-user-interviews>.
- [75] Marvasti AB. Analysing observations. The SAGE handbook of qualitative data analysis. 2014:354-67.
- [76] Roulston K, Choi M. Qualitative interviews. The SAGE handbook of qualitative data collection. 2018:233-49.
- [77] Roulston K. Analysing interviews. The SAGE handbook of qualitative data analysis. 2014:297-312.
- [78] European Union. eCall 112-based emergency assistance from your vehicle; 2022. Accessed: 2023-5-11. https://europa.eu/youreurope/citizens/travel/security-and-emergencies/emergency-assistance-vehicles-ecall/index_en.htm.
- [79] Chiesi M, Reh binder K, Öhman J, Helldén M. BMW Soft Offer Experience [Internet]. Volvo Cars Intranet; 2023. Available from: <https://intranet.volvocars.net>.
- [80] Volvo Cars. Förmånsbilar – Care by Volvo Co-Development. Volvo Cars Intranet; 2023. Cited: 2023-5-05. Available from: <https://intranet.volvocars.net/sites/my-employment-se/SitePages/sv/Company-cars-Care-by-Volvo-Co-Development-Sweden.aspx>.

- [81] Volvo Cars. Feature Highlights. Volvo Cars; n.d. Cited: 2023-04-05. Available from: <https://www.volvocars.com/us/cars/c40-electric/features/>.

A

Appendix A: Summary of Subscription Services

This appendix includes a summary of the subscription services provided in the European and American market for premium brands as defined by JD Power. There is a mixture of how a user can subscribe, some are packaged, and some can be subscribed independent of a package. For this summary, whether it’s a package or an independent function is not in the summary but rather all functions that a user has the ability to subscribe to. Furthermore, some packages are included in the purchase for a specific time period whereas others are an upgraded package or function. “Remote Connections” includes, but are not limited to, remote start, remote lock/unlock, roadside assistant, and stolen vehicle locator. For more precise information, please follow the references provided.

Table A.1: Summary of subscription services provided by premium brands in the European and American market.

Automotive Company	Hardware	Software	Content	Free trial length on initial package	Source
Acura		Remote Connections, Wi-Fi Hotspot	Alexa	3 years	Acura. (n.d). AcuraLink The Next Generation. https://owners.acura.com/AcuraLink/nextgeneration/
Alfa Romeo					<i>No info available.</i>
Audi		Connect PRIME, Connect PLUS, Basic Wi-Fi, Natural Voice Recognition, Wi-Fi Hotspot. & Weather	News, Amazon Alexa & Amazon Music		Audi. (n.d). Discover what's possible with Audi connect. https://www.audiusa.com/us/web/en/inside-audi/innovation/audi-connect.html

A. Appendix A: Summary of Subscription Services

Table A.1: Summary of subscription services provided by premium brands in the European and American market (continued).

Automotive Company	Hardware	Software	Content	Free trial length on initial package	Source
BMW	Steering Wheel Heating, High Beam Assistant, Driving Assistant Plus	BMW Drive recorder, Adaptive M Suspension, Traffic Camera Information, Parking Assistant Professional	Real Time Traffic Information, USB Map Update, Connected Booster-package, Iconic sound sport	None/ 1 month/ 3 months	BMW. (n.d). BMW Connected Drive. https://www.bmw.se/sv/shop/ls/cp/connected-drive
Cadillac		Remote connections, Cadillac Smart Driver, Wi-Fi unlimited data	Alexa, SIRIUSXM	8 months	Cadillac. (n.d). Connected Services. https://www.cadillac.com/ownership/vehicle-technology/connected-services
Genesis		Remote Connections		5 years	Genesis. (n.d). Genesis Connected Service. https://www.genesis.com/ca/en/owners/digital-services/genesis-connected-services.htm
Infiniti		Remote Connections, door-to-door navigation, Wi-Fi hotspot	SIRIUSXM	5 years	Infiniti. (2022). How to stay connected [Brochure]. https://www.infinitiusa.com/content/dam/Infiniti/US/vehicle-brochures/2023/2022-infiniti-intouch-brochure-en.pdf
Jaguar		Remote Connections, Online pack and Wi-Fi Hotspot	Online pack, Connected navigation	3 years	Jaguar (n.d). Your InControl Subscriptions. https://www.jaguar.co.uk/ownership/incontrol/touch/subscriptions/index.html
Land Rover		Remote Connections, Online pack and Wi-fi Hotspot	Online pack, Connected navigation	3 years	Land Rover. (n.d). Your InControl Subscription. https://www.landrover.co.uk/ownership/incontrol/touch/subscriptions/index.html
Lexus		Remote Connections, Last mile guidance, Wi-Fi		10 years	Lexus. (n.d). Lexus Link Connected Services. https://www.lexus.co.uk/owners/about-my-lexus/lexus-link-connected-services
Lincoln					<i>None.</i>

Table A.1: Summary of subscription services provided by premium brands in the European and American market (continued).

Automotive Company	Hardware	Software	Content	Free trial length on initial package	Source
Mercedes-Benz	Acceleration Increase	Exellence-package, Navigation-package, Guard 360° Package. Fjärrstyrning och navigationstjänster, In car-office, Enternatinment-package, Fjärrstyrd pakreringsassistent	Exellence-package, Remote-package, Navigation-package.	3 years	Mercedez-Benz (n.d.) Välkommen till Mercedes me Store. https://shop.mercedes-benz.com/sv-se/connect/?_ga=2.22389883.1364662903.1683880080-665658556.1683880080&_gl=1*5vakq1*_ga_*NjY1NjU4NTU2LjE2ODM4ODAwODA.0Q0YZ92E6R*MTY4Mzg4MDA3OS4xLjEuMTY4Mzg4 Mercedes-Benz. (n.d.) Acceleration Increase. https://shop.mbusa.com/en-us/connect/pdp/acceleration-increase/709
Polestar		Polestar Connect		Unclear.	Polestar. (n.d). Polestar Connect. https://www.polestar.com/se/manual/polestar-1/2021/article/Polestar-Connect/
Porsche		Remote connections, In-car Wi-fi hotspot, active lane keeping, Porsche Dynamic Light System Plus, Porsche InnoDrive, Porsche intelligent range manager.		3 years	Porsche. (n.d). Porsche Connect - your digital co-pilot. https://www.porsche.com/usa/connect/ // Porsche. (n.d). Porsche Connect Store. https://connect-store.porsche.com/us/en?model=taycan_2022
Tesla		Standard Connectivity, Premium Connectivity	Premium Connectivity	From 30 days to 8 years.	Tesla. (n.d). Connectivity. https://www.tesla.com/support/connectivity

A. Appendix A: Summary of Subscription Services

Table A.1: Summary of subscription services provided by premium brands in the European and American market (continued).

Automotive Company	Hardware	Software	Content	Free trial length on initial package	Source
Volvo Cars		Remote Connections		4 years	VolvoCars. (29 March, 2022). Abonnementang. https://www.volvocars.com/se/support/topics/article/2b2c09edb287f84bc0a8015168896f0f Volvo Cars. (May 16, 2022). Volvo On Call. https://www.volvocars.com/se/support/manuals/v90-recharge-plug-in-hybrid/2020w17/volvo-on-call/volvo-on-call/volvo-on-call Volvo Cars. (July 23, 2018a). Comfort services with Volvo On Call. https://www.volvocars.com/en-th/support/manuals/v90/2016w46/volvo-on-call/comfort-services/comfort-services-with-volvo-on-call Volvo Cars. (July 23, 2018b). Safety services with Volvo On Call. https://www.volvocars.com/en-th/support/manuals/v90/2016w46/volvo-on-call/safety-services/safety-services-with-volvo-on-call Volvo Cars. (July 23, 2018c). Security Services with Volvo On Call. https://www.volvocars.com/en-th/support/manuals/v90/2016w46/volvo-on-call/security-services/security-services-with-volvo-on-call

B

Appendix B: Screening Survey

This appendix contains the screening survey that was sent out to CoDev drivers for the focus groups discussions and the observations/interviews. Fields marked with [] contains information that was different for the different surveys.

Introduction text

"Hi CoDev driver,

We are two students **conducting our Master Thesis regarding soft offers** (subscription services) relating to car services. We would appreciate your insights.

Some of you who answer this survey will also be **invited to [a group interview / an interview]** on-site in Gothenburg in the coming weeks.

Please submit your answer latest on [date].

Thank you for taking your time to answer this short survey.

Kind regards,

Madeleine Chiesi
Klara Rehbinder"

Questions

Question 1: Which CoDev car do you drive? (one choice from a list)

Question 2: What is your age? (one choice)

- 25 years or younger
- 26-30 years
- 31-40 years
- 41-50 years
- 51-60 years
- 61 years or older

Question 3: What is your gender?

- Woman
- Man
- Non-binary/other
- Rather not say

Question 4: Which of the following **subscription-based services** do you currently use, or have used in the past year? (multiple choices)

- Streaming service for movies or series (Netflix, Disney+, Viaplay etc)
- Physical magazine (Newspaper or journal)
- Online magazine (Newspaper or journal)
- Computer software (Adobe, Microsoft etc.)
- Food or supplies (Hello Fresh, GlossyBox, Coffee, Books etc.)
- Other (free text)

Question 5: Would you be willing to **participate in an on-site [focus group discussion/interview]** at Volvo in Gothenburg the coming weeks? The interview would last about 1 hour. (one choice)

- Yes
- No

Additional question for focus group discussions: Question 6: Which of the following time slots... ?

- date, time
- date, time
- date, time
- ...

C

Appendix C: Questions for Focus Group Discussions

The following appendix contains the information and questions for the focus group discussions.

Establishing common ground for software, hardware and content:

Content = Netflix/Spotify

Software = iPhone updates or Microsoft package

Hardware = Hello Fresh, Glossybox or leasing of car/machines

1. What is your experience regarding these three types of subscriptions?
 - Have you ever unsubscribed to any of these types of subscriptions? Why/Why not?
 - How would it make you feel if you got a free trial period on one of the subscription types? Would it change anything?
 - Have you ever tried one of these subscriptions before you started paying for it?

2. Is there anything that you believe one should/should not be able to subscribe on?
 - Why/why not?

3. If we put these three different types in a car context, does that change anything?
 - Content = Games & Entertainment
 - Software = Real time map information and updates
 - Hardware = Pilot assist, heated seats or 360 camera

4. How do you feel about owning or subscribing to different parts in your car?

5. Is there some functions or feature in your car that you don't use, respectively, couldn't manage without it.
 - Is there a feature or function in your car that you wish you had that you currently don't?

6. Scenario 1: You just bought a car and now have the option to subscribe to a variety of functions. You go to the website with your login and browse the features available for subscription and find one that you like. You have the option to choose

the length of it, a month free trial, one month, three months, a year or unlimited (buy-out) with more discount the longer the subscription length. Once the subscription period is over, you receive a notification that the function is no longer available in the car. To continue the subscription (unless you chose unlimited), you go to the website again and can now choose between, one month, three months, a year or unlimited.

- What do you like or dislike about this service?

7. Scenario 2: You own a car and now have the option to subscribe to a variety of functions. You receive a notification in the fall through the designated app for your car stating "Colder times are approaching. Would you like to subscribe to Heated Steering Wheel?". When you open the notification, you read more about the function Heated Steering Wheel and can choose to subscribe to it monthly or unlimited (buy-out) and you chose to subscribe to it monthly. When it's spring you receive another notification stating "Warmer times are approaching. Would you like to pause your subscription for Heated Steering Wheel?". When you open the notification, you can choose to either pause/unsubscribe or buy the function (unlimited).

- What do you like or dislike about this service?

D

Appendix D: Quotes from Focus Group Discussions

The following appendix contains the original quotes in Swedish from the focus groups that were analysed with a consensus matrix.

Original quote

“Ibland så får jag känslan att gratisperioden är uppbyggt för att nästan lura en att bli kvar på något sätt”

English translation

“Sometimes I get the feeling that the free period is built to almost fool one to stay in it in some way.”

Original quote

“Plötsligt ser man att något har dragits från kontot liksom, okej... Vad va det där?”

English translation

“All of a sudden you see that something has been withdrawn from the account like, okey... What was that?”

Original quote

“Jag hade många kompisar som bara ”vad f*n ska jag med den till? [...] då har man ju inte fått vad värdet är egentligen.”

English translation

“I’ve had many friends who were like “what the h*ll should I use that for? [...] then you have not understood what the worth is.”

Original quote

“Köper du... Eller tror du att du köper funktionen så ska du ju alltid ha funktionen och inte behöva betala för den i efterhand.”

English translation

“If you buy... Or believe that you buy the function, you should always have the function and not have to pay for it afterwards.”

Original quote

“...det ska ju vara enkelt också. Annars struntar man ju i det.”

English translation

"It should be simple as well, otherwise you won't bother with it."

Original quote

"Men då kan jag också tänka att när man sen ska välja nästa bil att "det där som jag testade i förra leasing-avtalet, det vill jag verkligen ha i nästa" liksom."

English translation

"But then, I can also think that when you are choosing your next car that 'the thing that I tried during the last leasing-contract, I really want that in my next one'."

Original quote

"Det är en sån där som man har vant sig vid, den ska bara finnas."

English translation

"That is one of those that you have gotten used to, it should just be there."

E

Appendix E: Tasks and Questions from the Observations/Interviews

This appendix contains the tasks and questions for the observations/interviews.

Tasks

The first task we want to ask you to complete is navigating to Volvo Adapt and read about it.

Now that you've read, you are a bit curious and want to check out the head up-display. You are also free to look at others on this list.

You're also a bit curious about the available options for upgrading your car, you go check them out but decides not to subscribe to anything just yet.

You have now decided that you really want the power tailgate, so you decide to buy that function.

You also saw something else that you thought were interesting. On the previous car, your tire got slashed when you parked in the city and would therefore like to check the out the function "remote camera access". You only want to try it out and therefore choose to subscribe to one month free trial with the service duration ending automatically.

You want one final thing, the 360-parking view camera. A few months per year you park a lot in the city which you will now do for a couple of months. You therefore want to subscribe monthly with a continuous service duration.

You were also a bit curious about Volvo on Call, you check it out but decides to not renew your subscription just yet.

It's now been 4 months since you started subscribing to the 360 camera and would like to take a break from it. You therefore choose to cancel your subscription.

You now want to take a look at your previous subscriptions.

Interview questions

What did you think of this service?

What did you think of the design?

How often do you use the Volvo Cars app?

Knowledge:

How do you feel about the information relating to the subscription model provided in the application?

Can you give a brief explanation of what this service is?

Can you explain what you subscribed to?

Feeling of Control:

To what extent do you feel that you were in control, that you were able to choose, over the choice of subscription model?

Scale of 1-7 were 1 is not at all and 7 complete control. Why this number?

To what extent do you feel you were in control over cancelling and joining a subscription?

Scale of 1-7 were 1 is not at all and 7 complete control. Why this number?

Simplicity:

How would you describe the design of the opt-in and the opt-out? Can you give some examples on if any designs and interactions were difficult or easy to use?

Trust:

To what extent would you trust the model provided? Scale of 1-7 were 1 is not at all and 7 trust completely. Why this number?

Can you explain the difference between owning a function and subscribing to a function with this model in mind?

Flexibility:

What do you think about the different options regarding subscription length, continuous payment etc?

What options did you have in customising the subscription? How did it feel to customise the subscription?

Expectations:

Out of all the options given, is there a function, or functions, that you do not want to subscribe to? Why?

Out of all the options given, is there a function, or functions, that you would want to subscribe to? Why?

Can you think of a function, that is not on the list of options, that you wished were on it?

F

Appendix F: Template of Task Categorisation

The following appendix contains the categories from the analysis of the observations.

Task x: Task Information								
	p1	p2	p3	p4	p5	p6	p7	p8
1 Information								
1.1 Reading all information								
1.2 Skimming through information/Reading parts of information								
1.3 No reading of information								
2 Success/Fail to navigate								
2.1 Success to navigate on first attempt								
2.2 Success to navigate after more than one attempt								
2.3 Fail to navigate								
3 Completion of task								
3.1 Success to complete task on first attempt								
3.2 Success to complete task after more than one attempt								
3.3 Failure to complete task								

Figure F.1: Template of task categorisation.

G

Appendix G: Thematic Analysis Categories

The following appendix contains the categories from the analysis of the interviews.

1 What is the general perception of soft offers?

1.1 Positive attitude towards soft offers

1.2 Negative attitude towards soft offers

1.3 Unsure attitude towards soft offers

2 Is there a perception difference between soft offers for hardware, software and content?

2.1 positive attitude towards hardware

2.2 negative attitude towards hardware

2.3 positive attitude towards software

2.4 negative attitude towards software

2.5 positive attitudes towards content

2.6 negative attitudes towards content

3 Can the design of soft offers affect how it is perceived?

3.1 Like a design feature

3.1.1 Knowledge

3.1.2 Control

3.1.3 Simplicity

3.1.4 Trust

3.1.5 Flexibility

3.2 Dislike a design feature

3.2.1 Knowledge

3.2.2 Control

3.2.3 Simplicity

3.2.4 Trust

3.2.5 Flexibility

3.3 Unsure about a design feature

3.3.1 Knowledge

3.3.2 Control

3.3.3 Simplicity

3.3.4 Trust

3.3.5 Flexibility

4 is there a perception difference between what is always included in the cars, specifiable options and functions no Volvo car has?

- 4.1 Positive attitude towards always included functions
- 4.2 Negative attitude towards always included functions.
- 4.3 Positive attitude towards specifiable options
- 4.4 Negative attitude towards specifiable options
- 4.5 Positive attitude towards never no option
- 4.6 Negative attitude towards never no option
- 4.7 Unsure of a function

5 Outside scope

- 5.1 Pricing
- 5.2 Volvo Cars app usage
- 5.3 Interesting comments
- 5.4 Ownership of functions
- 5.5 Payment

H

Appendix H: Quotes from the Observations/Interviews

The quotes are presented in the same order as they are presented in the report. For participant P1, P4, P6, P7 and P8, the direct Swedish quote is accompanied with the English translation.

P2: "If it will end up being like this, that you can cancel subscription whenever you want, that's also really helpful. Because... yeah... I'm one month away, and I maybe don't need all this features when the car is parked and just cancel them for that month. If I got it monthly of course."

Original quote

P6: Jag tycker det är bra att man kan göra per månad, att man kan använda den när man behöver den, måste inte ha den hela tiden, det tycker jag är bra.

English translation

P6: "I think it's nice that you can do it monthly, that you can use it [the function] when you need it and that you don't have to have it all the time. I think that's good."

P5: "I mean, in real life, I'd probably go with the purchase function, I don't like subscription."

Original quote

P1: Alltså det är väl lite två-sidigt. Ena sidan är det ju bra att kunna stänga av något om man känner att man inte använder det, å andra sidan så.. 30 spänn i månaden på någon grej som borde finnas i bilen kan vara lite sådär... störande. Så det är både och

English translation

P1: "Well, it's kind of two-sided. On one hand, it's good to be able to turn something of if you feel like you're not using it, on the other hand. . . 30kr per month for something that should be in the car can be kind of. . . disturbing. So it's both."

P3: "So if some function we think it could be everyday use, not dependent on a lot of situations, it can be flexible, we can put it to subscription. Otherwise, if something is super generic, if it hard to find condition where it really is dependent on that, then maybe it's better to put it in the base price."

Original quote

P8: så länge det är relevanta saker man säljer på, så länge det inte är saker som pushas, så tror jag att det är ganska nice. Och saker som är relevanta.

English translation

P8: "As long as its relevant things that your selling, as long as things are not being pushed, I think it's kind of nice. And things that are relevant."

Original quote

P4: "Heated steerig wheel som jag sa, den hade jag kanske prenumererat på för att det är billigare att bara ha den på vintern."

English translation

P4: "Heated Steering Wheel as I said, I might have subscribed to that since it's cheaper to only have it during the winters."

P3: "Power tailgate as well. If... My feeling from a costumer perspective is that if some function is so natural and you can use it every day and then you either let the costumer to buy it or you don't put it as subscription."

P5: "If I have heads-up display on my car, if I have the hardware, I expect it to work."

Original quote

P4: "Det skulle kunna va lite gamification"

English translation

P4: "It could be a little bit of gamification".

P5: "I would be happy to pay extra to have Netflix in my car for example."

Original quote

P6: "jag gillar inte att sjunga, haha."

English translation

P6: Regarding not wanting to subscribe to Karaoke "I don't like to sing [laughter]."

Original quote

P4: Remote Camera Access, den kanske kan va med. Den kan man prenumerera på.

English translation

P4: "Remote Camera Access, that one can be included. That could be available as subscription."

P5: "Volvo on call, yeah. Or this remote camera thingy because you know, there is another angle. My mobile... the car needs to be connected to the internet and they need to communicate."

Original quote

P7: "Men just såna här grejer som google, blåtand, ja det är väl det typ. Egentli-

gen. De tycker jag inte ska va med."

English translation

P7: "But those things such as Google, Bluetooth... Yeah, those types. Really. I don't think those should be included."

Original quote

P1: "30 spänn i månaden på någon grej som borde finnas i bilen kan vara lite sådär... störande. "

English translation

P1: "30kr per month for a function that should be in the car can be kind of... Disturbing."

Original quote

P4: "Google Assist, Google Maps, Google Play Store, näe, tycker jag ska va med i bilen, standard."

English translation

P4: "Google Assist, Google, Maps, Google Play Store, no. I think those should be included in the car, standard."

Original quote

P7: "Bluetooth connection, det är någotnting som man också förutsätter att det finns redan i bilen."

English translation

P7: "Bluetooth connection, that is also something that you assume is already in the car."

Original quote

P1: "Eftersom det är Volvo som står för det, så är det ju klart att jag litar på det fullt ut."

English translation

P1: "Since it is a Volvo that stands for it, of course I fully trust it."

Original quote

P4: "Om jag trycker där så litar jag ju bara på att jag får den. Om Volvo nu misslyckas första gången jag har tryckt i karaoke, och går ut i bilen och inte har karaoke, då åker den ju ner på 1 direkt."

English translation

P4: "If I press there, I trust that I'll get it. If Volvo now fails the first time I've pressed Karaoke, and goes out to my car and don't have Karaoke, then it will go down to a 1 immediately."

Original quote

P7: "Med tiden så kommer det bli bra, det tror jag på. Faktiskt. Just att man.. Men det handlar om att bygga en, vad heter det, confidence för, för det. Att man set att det funkar, och att man inte behöver vänta länge heller för att det ska funka."

English translation

P7: "With time it'll be good, I believe that. In fact. That you... But it's about building a, what's it called... confidence for, for it. That you see that it works, and also that you don't have to wait for a long time for it to work.

P3: I can of course try it now but then there's a disconnection between – I press a button and try it out, but then I forget it, maybe I come back tomorrow and then I don't have a strong impression like "okay its an amazing function". But if I can press a button an try it and then the 360 camera just pops up.. rapidly, then maybe it's a good feedback. I don't know.

Original quote

P1: "å sånt här gör man ju dagligen egentligen, alltså i andra sammanhang, beställer grejer på mobilen eller abonnemang eller grejer... så det... det är man ju van vid. Så jag ser inte varför jag inte skulle lita på dem."

English translation

P1: "... and these kind of things you do daily, really, like in all contexts, order things on your phone or subscriptions or stuff... So... You are used to that... So I don't see why I wouldn't trust them."

Original quote

P8: "det skulle jag nog säga är en sju. Eller det är nog godtyckligt till alla tjänster köper. Jag tror jag litar nog på de flesta. Så det hade nog varit oberoende om det hade varit det här eller vad jag än köper."

English translation

P8: "I would say it's a 7. Or that's probably arbitrarily to all services I buy. I think I probably trust most of them. So that would probably be independent if it was this I bought or whatever I buy."

P5: "trying one month for free, monthly payment.. and really... I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you're forcing me, it's just a way of financing it basically right."

Original quote

P1: "Man kunde ju välja med att avsluta med en gång, vad jag förstod. Eller det, den sa ju " nu stängde vi av den" så det kändes ju bra."

English translation

P1: "You could choose to cancel immediately, as I understood it. Or it, it said 'now we turned it off', so that was good."

Original quote

P4: "Jag tryckte bara på knappen."

English translation

P4: "7. I just pressed the button." (to opt out).

P5: "it was easy. It was just one button click cancellation. Normally its not that

easy... ” (opt-out)

P5:” trying one month for free, monthly payment.. and really... I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you’re forcing me, its just a way of financing it basically right.”

P5:” But the problem is when it comes to subscriptions... these are the offers, I cannot control the offers. I cannot say can you add that thing to your.. like no it’s in the control of Volvo so that the one thing I don’t like about it. If Volvo decides that air purifier should be a subscription then I don’t have much control over it”

Original quote

P4: "Er text i början tyckte jag va också lite rolig och bra."

English translation

P4: “Your text in the beginning, I thought it was a little fun and good.”

Original quote

P7: "Jo men den första där, såhär den ”kom igång”, den va ju bra. Stod ju lite såhär kortfattat om varje grej."

English translation

P7: “Yes but this, like this ‘Get Started’, that was good. It said a short summary about each thing.”

P2: “Volvo Adapt, this is more like the settings button for... Maybe for the application itself or... change the colour theme or things like that so...” (Icon)

P2:” Okey, so here it says still subscribe. Maybe it should say “purchase”. Or “continue” or something more...”

P5:” But then subscribe is also a weird term because im buying it right, this says purchase function. It should say buy.”

P5: “I’m trying really hard to look at it from an eye from someone outside volvo, because BLIS and cross traffic alert, means something to us but I think it will be mumbo jumbo to my wife who doesn’t have this kind of like exposure to the car industry.”

Original quote

P8: "Däremot så är ju valen lite underligt benämnda."

English translation

P8: “But the choices are a bit strangely named.” (The subscription options).

Original quote

P1: "Nej men som i det här fallet då med en månad gratis, eller månadsvist för 30 kr, eller årsvis... det är väl en bra uppdelning. [inaudible] aa yearly, jämfört med

purchase aa... men att börja med några månader är ju jättebra att kunna ha det som möjligheten."

English translation

P1: "No but like in this case with a month free trial, or monthly for 30kr, or yearly. . . I guess that's a good division. [inaudible] Yes yearly, compared to purchase, yeah. . . But to be able to start with a few months is really good, to have that option."

P2: "If it will end up being like this, that you can cancel subscription whenever you want, that's also really helpful. Because... yeah... I'm one month away, and I maybe don't need all this features when the car is parked and just cancel them for that month. If I got it monthly of course."

P5:" trying one month for free, monthly payment.. and really... I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you're forcing me, its just a way of financing it basically right."

Original quote

P8: "alltså man är så van vid sånna upplägg nu för tiden så att det är inte något konstigt."

English translation

P8: "like you are used to such arrangements today, so that's nothing weird."

Original quote

P4: "Om vi pratar ägande då, att äga en bil, så hade jag tyckt att det vore bra i vissa delar, typ som ni hade skrivit så fint här innan att man kanske inte tänker på allt när man köper bilen, då vill man kanske lägga på någon funktion lite då och då. Ska jag åka ut på en lång semester så kanske jag vill lägga på någon funktion."

English translation

P4: "If we speak about ownership then, to own a car, I would think that it's good for some parts, like what you've written so nicely before that you might not think about everything when you buy the car, then you might want to add something from time to time. If I'm going on a long vacation, I might want to add some function."

Original quote

P6: "Jag tycker det är bra att man kan göra per månad, att man kan använda den när man behöver den, måste inte ha den hela tiden. Det tycker jag är bra."

English translation

P6: "I think it is good that you can do it per month, that you can use it when you need it, don't need to have it all the time. I think that's good."

P5:" trying one month for free, monthly payment.. and really... I really like that we have the purchase function there. That thing made me happier about the whole thing. You know its not like you're forcing me, its just a way of financing it basically right.", "I mean, in real life, I'd probably go with the purchase function, I don't like subscription."

P2: "I think it's really nice, I mean. I could find everything. Yeah, It was very user friendly, I think."

Original quote

P6: "Ja, jag tyckte det va bra. Det var ganska lätt att hitta, alltså nu tog jag lite tid de första 5 minutrarna, men sen va det ganska lätt. Mm. Och snyggt att det är tydligt. Inte för mycket."

English translation

P6: "Yes I think it was good. It was kind of easy to find, like now I took some time the first five minutes, but then it was kind of easy. Mm. And nice that it is so clear. Not too much."

Original quote

P4: "Ibland fick man scrolla, och det är sånt som jag tycker ibland då inte... Det var ju någon man fick, va det 360 jag fick gå in i och...? Att man måste liksom scrolla upp. Om man kan få det på en sida först, för ibland då så stod det den hära, att jag måste scrolla på att se costen."

English translation

P4: "Sometimes you were allowed to scroll, and it's things like that which I sometimes don't... It was something that you got, was it 360° I had to go in to and... That you like have to scroll up. If you can get this on one side at first, because sometimes it said... I had to scroll up to see the text."

Original quote

P1: "Night vision camera det är väl också, [inaudible] säkerhet, jag har aldrig testat det men det borde ju vara det... att man ser bättre i mörkret. Ska man ta extra betalt för det fast sensorn sitter där, det känns också fel."

English translation

P1: "Night Vision Camera, that's also... [inaudible] safety, I've never tried it but it should be... That you can see better in the dark. Are you supposed to charge extra even though the sensor is there, that also feels wrong."

P5: "BLIS for example, that's a safety function, it should be included. I mean, it's a Volvo, it should be included. Our brand is safety, so charging extra for that also feels wrong."

Original quote

P1: "och de här priserna är de liksom... tänkta att de ska bli dem eller...?"

English translation

P1: "And these prices are they... are these agreed prices or...?"

P3: "from a costumer perspective, it's a matter of how you set up a price. Like here, if yearly subscription and purchase, its not much difference."

P2: "what was not clear, was how the payment would happen."

P3: “yeah no major issue except for no more conformation about pay... payment. Yeah, that’s it.”

P2: “It’s difficult answer because it’s not clear how... How it would work when I change the car. Right, so if I buy it, I would expect it in the next car being equipped with all the sensors and this function would be there.”