

Lappeenranta University of Technology
School of Engineering Science
Department of Industrial Engineering and Management

**CONSUMER VALUE FORMATION ANALYSIS IN MOBILITY
SERVICES MARKET**

Master's Thesis
Anton Sutinen

Supervisor: Lea Hannola
Instructors: Samuli Kortelainen & Sonja Heikkilä

ABSTRACT

Author:	Anton Sutinen	
Subject:	Consumer value formation analysis in mobility services market	
Year:	2018	Place: Espoo
Master's Thesis. Lappeenranta University of Technology, School of Engineering Science, Industrial Engineering and Management 83 pages, 12 figures, 17 tables and 1 attachment.		
Keywords:	Mobility as a Service, MaaS, consumer value, consumer need, new service development, mobility market, competitive advantage.	
<p>After new, sharing economy -based business models have landed on Finnish transportation market, car insurance and finance companies have started to feel threatened. The amount of sold car insurance & finance services might drop due to shared cars and due to the trend of questioning car ownership. This behavior disrupts the old way of selling car insurances.</p> <p>Thus, this study ordered by OP Financial Group, focuses on the prescription of new, holistic way of arranging mobility experience: Mobility as a Service (MaaS). MaaS concept is expected to deliver more value than consuming mobility services separately and hence to bring more revenues besides the insurance market.</p> <p>The purpose of this study is first to find out how value is currently perceived by a consumer in mobility services market and by that understanding to formulate the needed prerequisites for a holistic Mobility as a Service –concept. The research includes key mobility players in Helsinki market area, such as mass transit, city bikes, shared cars and taxis. In addition, the private car was also included into the research since its relevance in the mobility field. The review exploits qualitative research method, that was composed from seven pre-structured interview sessions with lead-user consumers.</p> <p>As a result, two critical issues in the mobility field were detected. Firstly, the holistic mobility service experience management is weak, and improvements are needed. This means, that currently the mobility services market is only a bunch of individual services rather than an organized group of players creating seamless mobility experiences. Fixing the existing service quality gaps is important, since not only are they decreasing consumers' willingness to pay for the individual services, but they also represent the competitive advantage of the whole mobility service offering. Secondly, new services are needed. Indirect demand for new services were spotted in situations where consumers had exceptionally bitter attitudes towards current issues in their personal mobility. Possibilities in this field lie in trips that are for transporting someone/something else than the car driver.</p>		

TIIVISTELMÄ

Tekijä: Anton Sutinen	
Työn nimi: Asiakasarvon muodostuminen liikkumisen palvelujen markkinalla	
Vuosi: 2018	Paikka: Espoo
Diplomityö. Lappeenrannan teknillinen yliopisto, tuotantotalouden tiedekunta 83 sivua, 12 kuvaa, 17 taulukkoa ja 1 liite.	
Hakusanat: Mobility as a Service, MaaS, asiakasarvo, asiakastarve, palveluiden kehittäminen, liikkumisen palvelut, kilpailukyky.	
<p>Jakamistalouteen perustuvat palvelut ovat viime vuosien aikana vakiinnuttaneet paikkansa yhtenä osana suomalaisten kulutustottumuksia. OP-pankissa kuluttajatapojen muutokset ovat saaneet pankin ennakoimaan myös oman liiketoimintansa muuttumista. Uhkana on, että tulevaisuudessa kuluttajat jakavat autonsa jakamispalveluiden kautta, mikä heikentää pankille tärkeiden autovakuutusten & -rahoitusten myyntiä.</p> <p>Tämän diplomityön on tilannut OP Financial Group ja tässä työssä tutkitaan kokonaisvaltaista liikkumisen palvelujen konseptia ”<i>Mobility as a Service</i>” (MaaS). Kokonaisvaltaisen liikkumisen palvelun odotetaan luovan asiakkaalle enemmän arvoa kuin yksittäiset liikkumisen palvelut pystyvät luomaan yhdessä. Työn tarkoitus on selvittää, miten hyvin nykyiset liikkumisen palvelut onnistuvat vastaamaan asiakkaiden tarpeisiin ja tunnistaa kokonaisvaltaisen palvelun kannalta kriittisimmät ominaisuudet Helsingin markkina-alueella. Tutkimukseen on otettu mukaan markkinan keskeiset toimijat, kuten joukkoliikenne, kaupunkipyörät, yhteiskäyttöautot sekä taxit. Myös henkilöauton käyttöä tarkastellaan sen suuren merkityksen vuoksi. Tutkimus on toteutettu laadullisesti seitsemällä puolistrukturoidulla haastattelulla.</p> <p>Tulokset osoittavat, että nykyisellään liikkumisen palveluja ei kehitetä kokonaisvaltaisuutta ajatellen. Palvelut eivät muodosta tiivistä ja organisoitua ryhmää, vaan ovat ennemminkin ryhmä yksittäisiä toimijoita. Hallinnan puutteesta johtuen koettuun laatuun muodostuu säröjä, joihin tulisi kiinnittää huomiota. Nämä negatiiviset kokemukset eivät vain vähennä kuluttajien halua maksaa yksittäisestä palvelusta, mutta ne myös edustavat koko liikkumisen palvelukentän kilpailukykyä.</p> <p>Toiseksi, uusille palveluille huomattiin epäsuoraa kysyntää tilanteissa, joissa kuluttajien asenne palvelua kohtaan oli lähes katkera. Näitä tilanteita olivat muun muassa sellaiset matkat, joissa autoa ajavalla oli vain kuljettajan rooli.</p>	

PREFACE

Writing this thesis has meant being part of the fast-growing organization of OP Lab, which start-up -like working culture introduced me to many inspiring business developers. Meanwhile, I've noted the interest towards the concept of MaaS is not only being local, but global, which has turned the subject very fascinating to study on.

Regarding my thesis, I would like to thank first Sonja Heikkilä not only for her guidance and advice but also for her enthusiastic drive towards MaaS development that enabled this study in the first place. Big thanks also to prof. Samuli Kortelainen, whose practical approach has lead this project forward and thanks also for prof. Lea Hannola who reviews this work. I also want to present special thanks to prof. Marjo Kauppinen for her time and the fruitful conversations we had in Roberts Coffee.

Completing the Master's Thesis also means that I will close my studies at LUT and hence leave the student status behind. At LUT, I have got the opportunity to meet people, learn from them and enjoy my time with the strangers that later became my close friends. Thank you for the groovy epic time we had!

Espoo, 20th of December 2018

Anton Sutinen

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Project background	1
1.2	Mobility as a Service	3
1.3	Research questions.....	6
1.4	Structure of the report.....	7
2	SERVICE VALUE FORMATION	9
2.1	Service value perception.....	9
2.1.1	Motives behind buying	9
2.1.2	Perceived value for individual	11
2.1.3	Perceived value is concretized in buying decision	15
2.2	Service value production	20
2.2.1	Orientations in service production.....	20
2.2.2	Value production by holistic service perspective	22
2.2.3	Networking accumulates value.....	27
3	RESEARCH METHODOLOGY	28
3.1	Qualitative research execution.....	28
3.1.1	Data analysis	28
3.1.2	Examined transport modes & complementary services.....	30
3.1.3	Selection of research participants	31
3.1.4	Sampling size.....	33
3.2	Examined mobility market	33
4	VALUE FORMATION IN MOBILITY SERVICES MARKET.....	35
4.1	Value in access to activities.....	35
4.2	Value formation via modes of transport	37
4.2.1	Private car	37
4.2.2	Mass transit.....	39
4.2.3	City bikes	42
4.2.4	Shared car	44
4.2.5	Taxi.....	48
4.3	Value formation via mobile travel applications.....	50

5	DISCUSSION	53
5.1	How consumers perceive value in mobility market?.....	53
5.1.1	Value via fulfillment of traveler needs	53
5.1.2	Willingness to pay more than the ordinary.....	55
5.2	What prerequisites enable a holistic MaaS concept to succeed?.....	60
5.2.1	Service business opportunities.....	60
5.2.2	Service quality gaps	62
5.3	Limitations	66
6	CONCLUSIONS	67
7	REFERENCES	70
	Attachments	75

LIST OF FIGURES, TABLES & GRAPHS

- Figure 1.** Key success factor identification from demand analysis
- Figure 2.** OP's vision of global mobility transformation
- Figure 3.** Three business model archetypes for MaaS
- Figure 4.** Structure of the report summarized
- Figure 5.** Maslow's hierarchy of needs
- Figure 6.** Perceived service quality
- Figure 7.** Core determinants of travel mode choice
- Figure 8.** Widening the concept of core service into core solution
- Figure 9.** Three spheres of value
- Figure 10.** Research process
- Figure 11.** The green characters are describing family movement. The red a student living alone
- Figure 12.** Outsourcing the driver's role

- Table 1.** Different definitions of perceived value.
- Table 2.** Four value types and their division into value dimensions and specific elements
- Table 3.** Example of a value creation framework
- Table 4.** The Attribute Map
- Table 5.** Service quality evaluation criteria
- Table 6.** Data source structure.
- Table 7.** Everyday trips were made for the following activities.
- Table 8.** Freedom & easiness are the core values a private car.
- Table 9.** Value disruptors related to private car usage.
- Table 10.** Public transport provides few more features than a car. It also eliminates value disruptors of a car.
- Table 11.** The role of city bikes is to enable enjoyment of outdoors. It also minimizes total costs and physical work (walking).
- Table 12.** City bike unsuitability.

Table 13. Shared car service facilitates value on many levels and thus has many competitors.

Table 14. Value formation in taxi trip.

Table 15. Energy costs in multi-modal transport are minimized in two ways.

Table 16. Summation of traveler needs in consumer's everyday journeys.

Table 17. Core value and value disruptors. Attributes, that were perceived as very negative, are bolded in red.

Graph 1. Mass transit versus personal car.....	56
Graph 2. Mass transit versus city bike.	57
Graph 3. Mass transit versus shared car.....	58
Graph 4. Taxi versus shared car.	59

1 INTRODUCTION

This Master's Thesis is executed at the department of Industrial Engineering and Management in Lappeenranta University of Technology (LUT) and it is ordered by OP Financial Group. The study aims to define the prerequisites for a holistic “*Mobility as a Service*” (MaaS) concept. This is done by investigating consumer value formation in mobility services market. Consumer value is approached by looking for positive and negative value components, that define the final value-in-use. The study extends to looking variable players in the mobility market and pictures the job-to-be-done for each service. This helps to draw a big picture from the market and see the competitive advantage for the holistic MaaS concept.

1.1 Project background

OP Financial Group is Finland's largest financial services group. It provides services in banking, investment and insurance field, where strategic business segments are in banking, non-life insurance and wealth management. OP employs over 12 000 people and has 3,9 million private customers & 440 000 corporate customers. OP's mission is to promote the sustainable prosperity, safety and wellbeing of their owner-members, customers and operating regions. (OP 2017)

OP LAB, where this report is executed, is OP Group's research & development unit where new products and services are developed and managed. It was established to tackle the innovation problem of being an old incumbent firm and thus for allocating resources more towards new business model identification. The idea is to detect changes in current consumer needs and behaviors, that are framed by megatrends such as digitalization and urbanization. (Luoma 2017)

OP LAB's prospective business areas are in

- Mobility
- Financial technologies & management
- Commerce
- Payment services

As transformation of mobility industry is one of the four business areas, the unit prospects opportunities in the concept of “*Mobility as a Service*” (MaaS). The aim with MaaS is to grow to new business areas, since car consumers may in future prefer access over ownership. This change in behavior disrupts the current business models in insurance and finance. OP’s hunt for gaining competitive advantage is driving the motivation for the study (Figure 1).

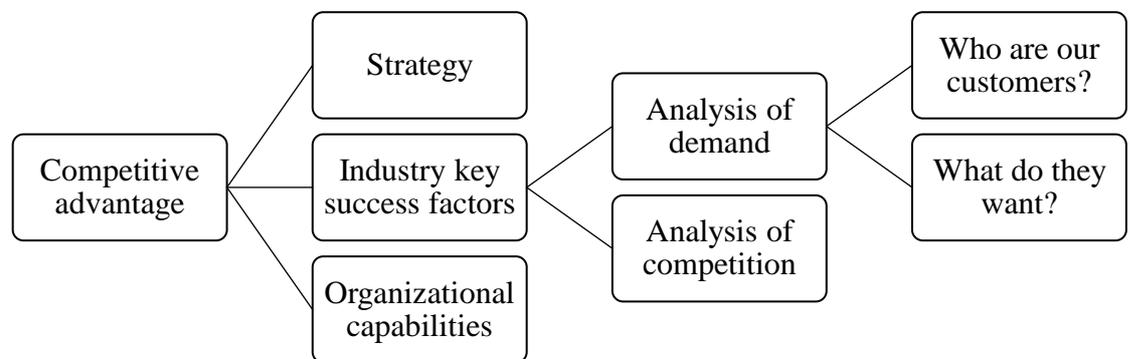


Figure 1. Key success factor identification from demand analysis (adapted from Grant 2015)

So far, OP LAB has launched three services in mobility sector, which aim to provide car experience for those who do not have a car in use. The core idea is to widen the range of mobility services in a way that answers to every need of a customer, which enables efficient lifestyle without a car ownership. The mentioned services are DriveNow, OP Kulku and OP flexible rental car. These will provide mobility with leasing, minute or seasonal based pricing models. Vision is to create services that cover efficiently the different needs for transportation (Figure 2). At the moment, a new pilot service is in development for enabling a holistic MaaS experience with a mobile phone.

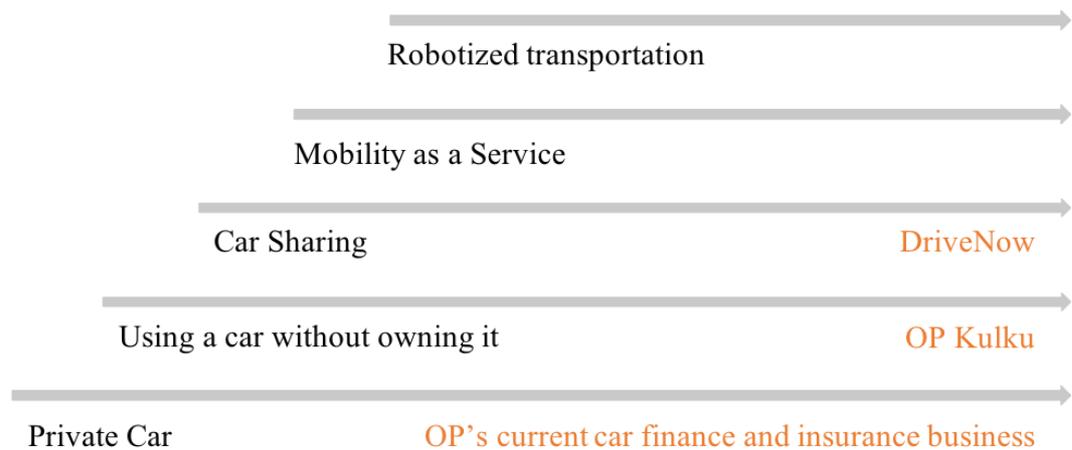


Figure 2. OP's vision of global mobility transformation (adapted from OP 2017)

1.2 Mobility as a Service

From consumer's viewpoint, the field of mobility can be complicated: there might be regional transportation, city bikes, taxis & maybe ride and car sharing services that the consumer was never heard of. Furthermore, the problems in urban cities, such as traffic pollution and congestion, are forcing cities to operate more efficiently. Meanwhile, cars have become more electric & connected. Business models based on connectivity and easy access are now prospered in the field of mobility led exemplarily by housing (AirBnB) & retail (Amazon) industries.

One broader perspective into the mobility system is offered with the concept of *Mobility as a Service*. The concept emerged in Finland in 2014 (Heikkilä 2014) from the need to beat the service level provided by a private car and reorganize passenger transport into a more utilized state. According to Heikkilä (2017), ideal MaaS answers this by providing a mobility ecosystem where multiple transport modes are offering mobility for different needs of a customer, enabling easy access to range of vehicle types and journey experiences.

OP's vision with MaaS (Luoma 2017) is to bundle already existing transportation services like taxis and mass transit with newer types of mobility options, such as car and ride sharing. The key element or enabler in MaaS is technical e-commerce

infrastructure that creates opportunities for doing business around instant access. In MaaS context, instant access is enabled by the versatile use of mobile phones and their applications. It challenges the traditional mobility provider market, since the services are supposed to be booked & available immediately. Due to the exploration of digital services, the transport system consultation firm Catapult (2016) has defined MaaS as:

“Using a digital interface to source and manage the provision of a transport related service(s) which meets the mobility requirements of a customer”

However, there are different ways to produce mobility services, as there exists variations in the level of vertical integration and service variety. MaaS operators are not necessarily owning any physical assets, such as cars or buses, but the focus is on developing one digital ecosystem or interface. This digital approach is called as “The Amazon of mobility” by Arthur D. Little (2014), which is taken as the desired outcome business model for OP Financial Group. The three models of possible MaaS provisions are elaborated more below (Figure 3).

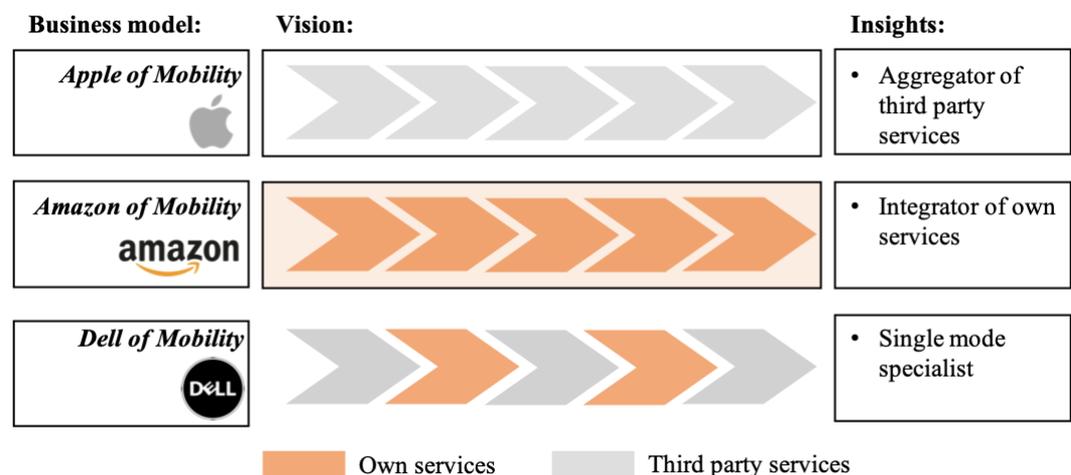


Figure 3. Three business model archetypes for MaaS (adapted from Arthur D. Little 2014)

The first model, “**Amazon of mobility**”, concentrates on integrating third party mobility services under one platform. Value is created through integrating different mobility service providers under this interface, which then is able to provide more comprehensive mobility offering answering both to versatile mobility lifestyles and mobility situations. It aims to include supplementary services, such as information, end-to-end route planning, booking & payment in the same application, to create a “one stop-shop” concept. Currently, the transit smart cards have been one enabler for integrating different traffic modes. However, Arthur D. Little (2014) expects smartphone-based mobility platforms to outperform these systems, since its ability to create more revenues.

Apple of mobility –model is also targeting the same aggregator position, but provides multiple solutions by itself, rather than outsourcing with different vendors. This positioning helps to create a strong brand for seamless mobility experience. With high vertical integration, the customer experience is easy to control and monitor.

The simplest way of providing mobility is doing it “**The Dell-way**”, where mobility is provided through a single mobility mode, such as only offering car sharing or bike sharing etc. Arthur D. Little (2014) argues that these models usually offer disruptive technologies within the concept e.g. drive-in-drive-out models or Near Field Communication (NFC) solutions. Since “the Dell way” can be included in the above business models, OP in principle is aiming towards the Apple & Amazon models.

However, Kulmala (2016) argues that developed public transport systems are the lead innovators in the area of mobility services, since their wide range of mobility transportation systems. It is also the motivation of writing this report: in order to learn consumers’ preferences and behaviors in mobility sector, it is smart to investigate already existing field of transport and to centralize on current customers’ problems. Additionally, in order to picture end-to-end approach, this

paper adds city bikes, taxis and car sharing services under the loop. Due to their assumed major competitor, a private car, also cars are taken under investigation in consumer's value formation process.

1.3 Research questions

The purpose of this paper is to define, which aspects of value are highly important for consumers in mobility service offering and on the other hand, which aspects in service experience are perceived as problematic by consumers. The positive and negative forms of value formulate the prerequisites that mark out the limits for a holistic MaaS concept. With these limits, it is possible to sketch the services that are needed for MaaS. The research questions were set as follows:

- *How consumers perceive value in mobility market?*
 - o What factors are influencing to consumers buying decision when they choose a specific travel mode over another?
- *What prerequisites enable a holistic MaaS concept to succeed?*

1.4 Structure of the report

The report consists of two major parts: literature review & empirical study. Literature review (“**Service value formation**”) is a review on the existing literature about consumer value formation both from perception and production perspectives. Chapter 2.1 describes consumer’s perspective on value formation. Chapter 2.2 approaches value formation from business perspective.

Empirical study (“**Value formation in mobility services market**”) represents and analyzes the results of the qualitative study which studies value formation particularly in mobility market. The structure of the report is summarized in the figure 4 below.

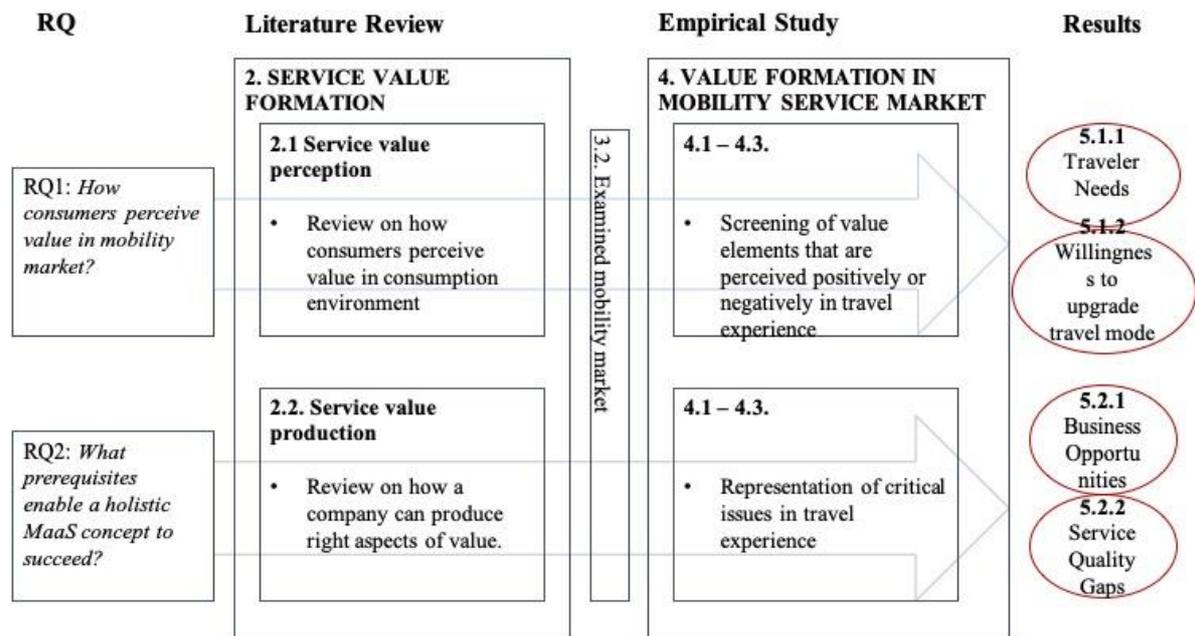


Figure 4. Structure of the report summarized

Research questions set in previous chapter are hence answered by the knowledge gained from both literature review and empirical findings. Results to research question one (RQ1):

How consumers perceive value in mobility market?

are derived by first reviewing literature on the concept of value perception. This introduces the needed theory and concepts and helps to formulate results in empirical part, where prevailing consumer value elements are screened, and decision preferences are represented. To find out answers to Research Question two (RQ2):

What prerequisites enable a holistic MaaS concept to succeed?

, it is required to expand the research lens on consumer travel experience as one entity. This is due to the assumption that company's success is defined on how holistic service offering manages to answer consumer needs. The points, where consumers might need new services or have negative mindset towards services, are the points that this study takes as MaaS concept key success factors.

2 SERVICE VALUE FORMATION

2.1 Service value perception

The purpose of this chapter is to describe how consumers perceive the value in consumption environment. The chapter begins with opening up the needs and motives behind buying that concretize value for the consumer. It continues with clarifying the definition of perceived value and consumer's perception of quality. Finally, the chapter pictures the situation specifically in transportation context by resolving what aspects affect buying decision among alternatives and picture specifically travel mode choice.

2.1.1 Motives behind buying

Why do people consume and why some people have different preferences than others? The definition of human needs covers many sub-categories. People from birth have specific types of needs that are the basic elements to maintain life, such as need for shelter, air and food. When people grow and embrace a position as a member of the group, the needs will also grow. However, the growing environment and consumption environment have a big role for defining which needs is preferred. Henry Murray (Murray 1938, pp. 80) classifies needs relating to social environment into 29 psychogenic needs (e.g. being independent, defending self from criticism & engaging in pleasurable activities). These objections are later on taken as the base of personality tests, such as Thematic Appreciation Tests.

On the other hand, a human need can be classified as utilitarian or hedonic. Utilitarian need is a need that focuses objective's tangible attributes (e.g. amount of sugar in an ice-cream), whereas the hedonic needs emphasizes experiential emotions (the excitement when eating an ice-cream). (Solomon 2009)

Solomon (2009) divides into four specific needs that are exceptionally relevant in consumer behavior. These needs are:

- Need for achievement Value is tied in personal accomplishment
- Need for affiliation Value is tied in social belonging
- Need for power Value is tied in the feeling of control

- Need for uniqueness Value is tied in underlining of uniqueness

One attempt to summarize and prioritize needs has been done by Abraham Maslow (Maslow 1943; Solomon 2009) where he created hierarchical structure for a fixed prioritization of needs (figure 5). Maslow’s hierarchy presents the ultimate goal of a human, that is to gain self-actualization via self-fulfillment. Since the structure is fixed, one must fulfill all the basic needs starting from physical needs before entering the next level in the need hierarchy. The levels from bottom to top are physiological needs, safety, belongingness, ego needs and self-actualization.

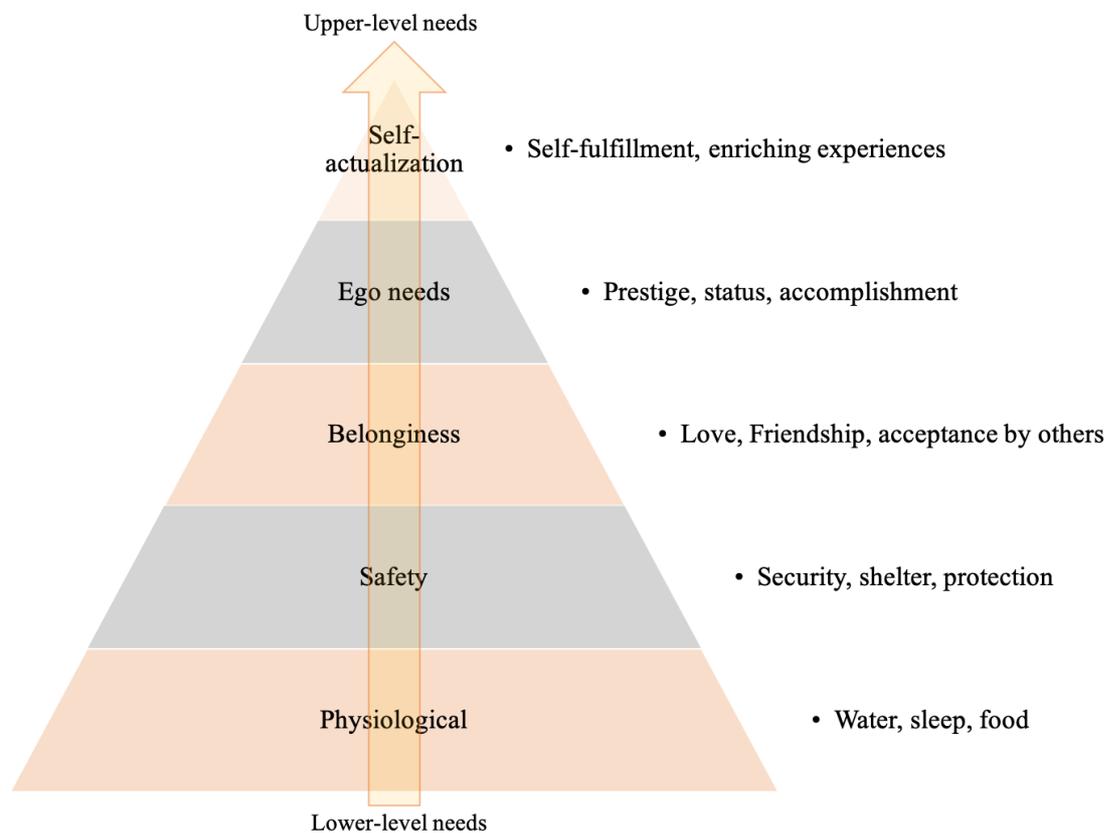


Figure 5. Maslow’s hierarchy of needs (adapted from Maslow 1943; Solomon 2009)

However, the pyramid includes much of inconsistency. There are needs that could be positioned in almost every level. In addition, the levels are culture specific: not in every culture the levels are in same order. Maslow’s pyramid and the hierarchy succeeds only to picture a rough generalization.

The desire for better quality of life drives services consumption. In early 1990's, Porter suggested in *The Competitive Advantage of Nations* that increasing need especially for services arises from:

- a) Greater affluence
- b) Desire for a better quality of life
- c) More leisure time available
- d) Urbanization (resulting in the need for such services as security)
- e) Demographic changes
- f) Socio-economic changes such as dual-career families where parents do not have enough time for everyday household tasks
- g) Rising customer sophistication
- h) Technological changes such as mobile phones & greater automation of service delivery

Afterwards it can be said that Porter estimated right. Service's percentage from US GDP was 70% in 1990, as in 2003 it had risen to 77%. The same kind of development has been noticed (Grönroos 2009; 21) in other developed countries. Porter's notes remain still valid and it can be said that the growing need for services thrives still.

2.1.2 Perceived value for individual

In which ways value is perceived by a customer then? Early attempts to separate value types was done by Holbrook in 1999, when he separated 8 value types that would appear specifically in consumption environment. These 8 value types were *efficiency, excellence, status, esteem, play, aesthetics, ethics, spirituality*. Later, Lapierre (2000) argues that consumer perceived value is tied into the context, whether it is concerning products, services or relationships. Variable definitions of perceived value are existing (table 1). Common for these definitions is that perceived value always means personal, individually experienced calculations, that sums up positive and negative attributes.

Table 1. Different definitions of perceived value.

Mazumdar 1993	<i>“Consumers weigh potential benefits against sacrifices, and this comparison results in perception of value”</i>
Grönroos 2015	<i>“Consumer value is always a subjective entity, which ultimately originate in the mind of individual consumers”</i>
Lapierre 2000	<i>“The difference between the benefits and the sacrifices”</i>
Grönroos 2009	<i>“Value is perceived in consumers’ minds and in the relationship with the service producer while interacting with services, products, information, personal interactions, normalization or other long-term customer relationship elements”</i>

In wide meta-analysis, Smith & Colgate (2007) constructed a framework that divides one big value perception concept into smaller value elements. As Hollbrook (1999) detected 8 elements, Smith and Colgate detected altogether 53 elements. In this review, researchers argue that customer value can be divided into four major types. These four types have their own specific preferences: 1) *Functional/instrumental* value is created when a product fulfills its desired function or has desired characteristics. 2) *Experiential/hedonic* value is created through feelings, experiences and emotions. 3) *Symbolic/expressive* value is created when customers attach to products or give them other psychological meanings. Finally, 4) *cost/sacrifice* value is created when customers are minimizing the costs related in purchase, ownership or the use of a product. As a summary, the elements presented by these categories are gathered in the Table 2.

Table 2. Four value types and their division into value dimensions and specific elements (adapted from Smith & Colgate 2007).

Value type	Value dimension	Value element	
Functional/ instrumental	<i>Appropriate, correct or accurate features, attributes or characteristic</i>	<ul style="list-style-type: none"> • Aesthetics • Quality 	<ul style="list-style-type: none"> • Customizations • Creativity
	<i>Appropriate performances</i>	<ul style="list-style-type: none"> • Reliability • Performance quality 	<ul style="list-style-type: none"> • Service-support outcomes
	<i>Appropriate outcomes or consequences</i>	<ul style="list-style-type: none"> • Strategic value • Effectiveness 	<ul style="list-style-type: none"> • Operational benefits • Environmental benefits
Experiential/ hedonic	<i>Sensory value</i>	<ul style="list-style-type: none"> • Aesthetics • Ambiance 	<ul style="list-style-type: none"> • Aromas • Feel/tone
	<i>Emotional value</i>	<ul style="list-style-type: none"> • Pleasure • Enjoyment • Humor 	<ul style="list-style-type: none"> • Play/fun • Excitement • Adventure
	<i>Social-relational value</i>	<ul style="list-style-type: none"> • Network benefits • Bonding • Personal interaction 	<ul style="list-style-type: none"> • Developing commitment • Responsiveness
	<i>Epistemic value</i>	<ul style="list-style-type: none"> • Curiosity • Novelty 	<ul style="list-style-type: none"> • Knowledge • Fantasy
Symbolic/ expressive	<i>Possession value</i>	<ul style="list-style-type: none"> • Self-concept • Self-worth • Personal meaning 	<ul style="list-style-type: none"> • Self-expression • Social meaning • Symbolism
Cost/ sacrifice	<i>Economic costs</i>	<ul style="list-style-type: none"> • Price • Operating costs 	<ul style="list-style-type: none"> • Switching costs • Opportunity costs
	<i>Psychological costs</i>	<ul style="list-style-type: none"> • Cognitive difficulty/stress • Conflict • Search costs 	<ul style="list-style-type: none"> • Psychological relationship costs • Learning costs • Attachment costs
	<i>Personal investment</i>	<ul style="list-style-type: none"> • Time • Effort 	<ul style="list-style-type: none"> • Energy
	<i>Risk</i>	<ul style="list-style-type: none"> • Personal risk • Operational risk 	<ul style="list-style-type: none"> • Financial risk • Strategic risk

The division into four value types is implying the many ways that customers can appreciate the consumed product or service. However, it seems that there still does not exist common understanding about how value should be divided although the value dimensions and components are appearing more or less the same: In addition to Colgate & Smith (2007), Almquist et al. (2016) separated values by their ability to convey functional, emotional, life changing & social impact aspects. James Lynch (1992) determines three categories for customer satisfaction: Life changing, life enhancing and life maintaining. However, from this study's perspective, it is important that the elements are recognized, and existing breakdown has been done. This viewpoint is embraced in empirical study, when new & existing value elements are screened.

Service quality in perceived value

One element is widely noticed to be perceived more critical than others in every industry; the quality (Grönroos, 1998; Almquist et al. 2016). Products and services must reach a certain level of quality, which no other element cannot replace. Hereafter, other elements are industry specific. The finding is in line with Garvin (1987) who argues that the word quality is so complicated, that it must be chopped into much more smaller entities. Only with this perspective, a company is able to recognize in which areas of quality they are competing in.

What and How: Although customer need guides consumer's expectations towards specific types of solutions, it is not the only criteria for selecting services. Customers have also certain wishes and desires about how they want to be treated by service providers (Grönroos & Tillman 1998). Hence, Grönroos (2009) proposes that perceived quality includes two areas: solution related perspective (what) & process related perspective (how). Christensen emphasizes the importance of the How-perspective and the ability to empathize with the customers' lifestyles in service planning. This creates a unique setting, that is very hard for competitors to just copy-paste. He notes (Christensen 2016, p.9): "*when you see a product or service that nobody has successfully copied, the product itself is rarely a source of long-term competitive advantage*".

Image: The third element of perceived quality is company image. For example, if the customer has already negative image from the service provider, the mistakes and errors have relationally bigger effects. Vice versa, positive company image may forgive some mistakes happened during the service. These three elements: what-perspective, how-perspective and company image are together forming the total perceived quality that customer perceives. Furthermore, Grönroos (2009) adds that the total picture of quality is formed from the gap between customer's expectations and realized service (Figure 6).

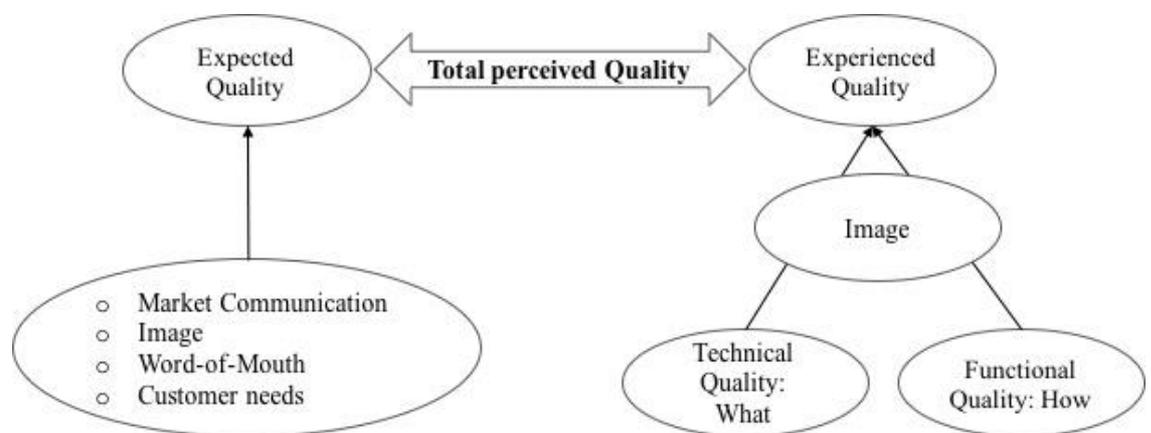


Figure 6. Perceived service quality (adapted from Grönroos 2009)

2.1.3 Perceived value is concretized in buying decision

If consumers were doing buying decisions based on one need, decision making would be simple. In reality, there might exist variable needs influencing at the same time and these needs can be in restriction with others. This causes motivational conflicts, to which humans have developed three kinds of solving techniques (Solomon 2009: pp 96). It means that consumers are motivated to direct their behavior either to reach positive outcomes or to avoid negative outcomes. The three conflicts represent the complexity of decision making, where certainly includes more aspects than fulfilling just one context separated need.

Approach-approach conflict

“Person must choose between two desirable alternatives”

Approach-avoidance conflict	“When person desires a goal, but wish to avoid it same time”
Avoidance-avoidance conflict	“A choice with two undesirable conflicts”

The mentioned conflicts are resulting from psychology and decision-making science, but however it links with current understanding of consumer perceived value. Consumers can perceive value in different combinations, whether it is not clear which perceptions are the most important. However, the following equations (Grönroos 2009, 193) represent the same concept of Consumer Perceived Value (CPV) from five different viewpoints.

$$CPV_1 = \frac{\textit{Episode benefits} + \textit{relationship benefits}}{\textit{Episode sacrifices} + \textit{relationship sacrifices}} \quad (1)$$

$$CPV_2 = \textit{value of transaction} + \textit{or} - \textit{value of relationship} \quad (2)$$

$$CPV_3 = \frac{\textit{Core solution} + \textit{additional services}}{\textit{Price} + \textit{relationship costs}} \quad (3)$$

$$CPV_4 = \textit{Core value} + \textit{or} - \textit{additional value} \quad (4)$$

$$CPV_5 = \frac{\textit{Long term effect on profits}}{\textit{Price} + \textit{relationship costs}} \quad (5)$$

CPV_1 is demonstrating how value is built from both separate episodes or service interactions and experiences that are concerning the whole customer relationship. This means that customer relationship itself contains natural benefits for the customer, which could be for example trust towards service provider or social relationships between customer and service provider. However, the sacrifices component in the denominator demonstrates how every benefit component has a price: episode sacrifices could be payed monetary price and relationship sacrifices thus a small interest rate for made in every bank deposits in banking. (Grönroos 2009)

CPV_2 is basically the same as CPV_1 . Episode's benefits and sacrifices are forming the core solution which emerges in transaction and the relationship benefits & sacrifices are forming the value of the relationship. (Grönroos 2009)

The third perspective (CPV_3) describes value through concepts of core solution & additional services. The core solutions affect the desired outcome, which is perceived in one episode. Furthermore, this episode can include additional services, such as personal care & free meal during a flight. Also, the customer relationship can include additional service, e.g. information and social contacts. The denominator component (price and relationship costs) is the same as in CPV_1 (episode sacrifices + relationship sacrifices). The fifth equation CPV_5 is basically the same as this CPV_3 , but the core solution + additional services component is represented as long term effect on profits for the customer. (Grönroos 2009)

The fourth, CPV_4 , demonstrates value as a summation of core value + or – additional value. Core value represents the benefits gained from core solution in comparison to paid monetary price. Additional value is gained from additional services in comparison to relationship costs. The equation is important for managers since it means that additional value can be either positive or negative. Therefore, the total effect on customers can slip to negative side if the additional services are implying unexpected or profitless relationship costs to customers. Hence, the situation is not concerning about added value, but value reduction. (Grönroos 2009)

Negative value emerges in complicated systems, tricky technology, unfriendly or unskilled employees, incorrect invoices, badly handled reclamations, complicated documentation, long queuing times etc. If these processes are not handled in services mindset, but apathetically, the negative experience can destroy quickly the value built in core solution. Grönroos (2009) argues, that although added value has been for a long time a trendy word in business management, firms have still huge difficulties in understanding of what aspects are adding value for the customer. Added value is thus usually taken as a new, extra issue or part of service. However,

it's not reasonable to add new services into a customer relationship that already contains value disruptors, since these are ruining the core value.

Grönroos (2009; 174) argues that at least four factors are affecting customers negatively, which leads them not willing to pay. First, are the communication problems. The service organization has failed in communicating the benefits to customers and in telling how the increase in convenience or security and decrease in costs benefits them. Reluctance to pay may also appear if the organization has failed in pointing how long-term costs are more important buying criteria than the price. Third factor is lacks in organizations ability to be customer-centric: service offering is not providing the benefits that customers target. Finally, it still might be that the customer is simply not interested in value adding services and wants only the core solutions in cheapest price.

The detection of value disruptors is important tasks in management. As possible value disruptors have been found and removed, customer perceived value increases, and customer relationship strengthens. Afterwards, new value adding services can be added, but it is not necessary. Primarily, the important part is to improve already existing.

Decision making between travel modes

When assessing the common reason for moving even at all and reasons influencing travel mode choices, Stradling (2011) defines travel to be an “expressive activity”, where exists functional, but also emotional components. Stradling also notes (2011) that people differ from their traveling behaviors and choices both on demographic and individual levels. However, people still value comfort and convenience in their travel and make effort in order to reach those goals.

The core determinants for a single travel has been studied by Garling (2005). He argues that there exists always an activity choice, which together with environmental conditions define the travel demand. Hence, the travel demand is

assessed with surrounding transport system. This leads to the comparison of different travel modes and finally to travel decision (Figure 7).

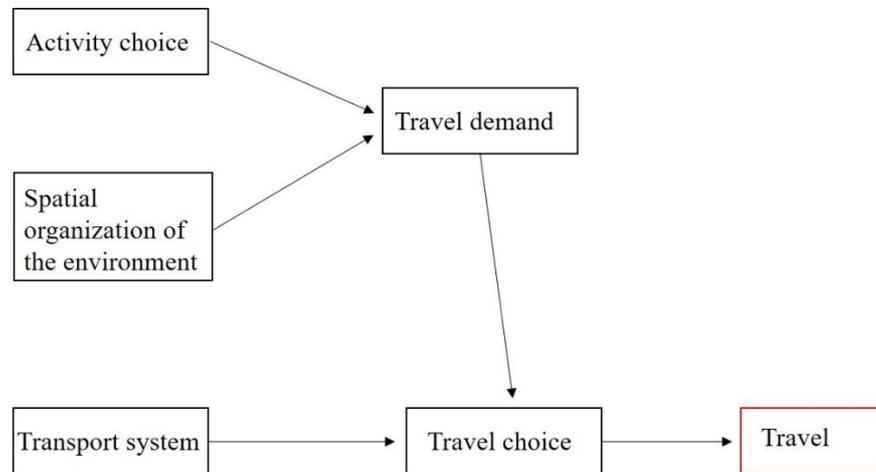


Figure 7. Core determinants of travel mode choice (adapted from Garling 2005)

2.2 Service value production

As the previous chapter managed value perception, this chapter aims to find out how a company can produce right aspects of value. Right aspect in this context means value elements that are valuable for the customer. The chapter assesses value production only from service perspective, which is one of Grönroos' (2009a, p. 27) four strategic perspectives:

- **Service perspective**
- Core product perspective
- Price perspective
- Image perspective

This means taking the attitude that even if the core product is sufficiently well built, it is not enough for gaining longer term competitive advantage. The core service is thought as a necessary prerequisite, but however the company's success is defined how holistic service offering manages to answer consumer needs. The chapter begins with a short preview how orientations to value production has been changed in time and continues with two approaches to develop services: value innovation & quality improvements.

2.2.1 Orientations in service production

The early marketing theories from the beginning of 1900s were centered around delivered goods & the producer. This "goods to market" perspective moved towards consumers in 1950s, when companies started analyzing consumption habits (market to). However, as consumers were still treated only as a one source of resource, it lacked the benefits of collaboration with customers. (Lusch et al. 2007) More contemporary conception of services is described with "*market with*" perspective, where customers are taken part in production and value creation processes. By exploiting this perspective, Lusch et al. (2007) introduce the concept of Service Dominant Logic (S-D Logic). While services were before seen as value adding components for products, S-D Logic presents the hierarchy as the opposite: tangible goods are seen here as a value adding part of a service.

From managerial perspective, the adoption of service dominant logic requires service orientation. Company managers should understand that value creation requires always collaboration between the firm, the customer and also other value-network partners (figure 8). The one-sided conception of value production is hence seen as two-sided, since value is co-created.

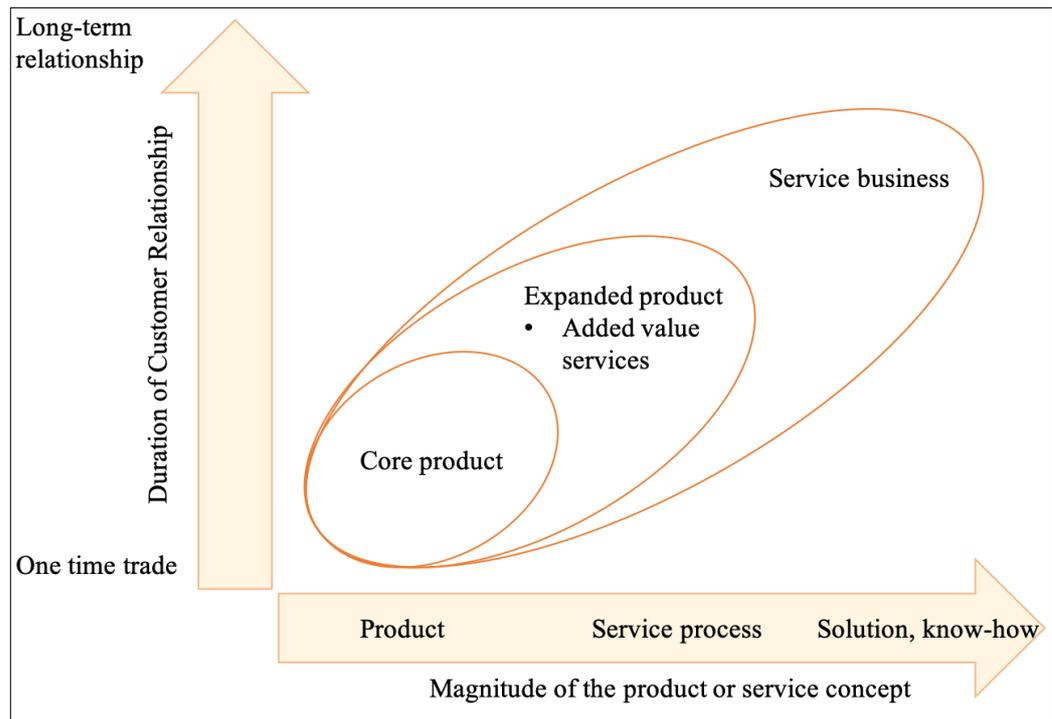


Figure 8. Widening the concept of core service into core solution (adapted from Poikkimäki and Koivisto 2006)

However, Service Dominant Logic has been criticized about its focus on value facilitator rather than the consumer. As Anker et al. (2015, p. 545) summarizes, “*consumer value is always a subjective entity, which ultimately originate in the mind of individual consumers*”. Although S-D Logic concentrates on facilitating value and co-creating it, it lacks the situations where customers are actively & independently creating value without interactions with company agents. This has led to arguments (Heinonen et al., Anker et al. 2015) that there is a need for a third conception: Consumer Dominant Logic. It includes the situation where consumer, not the company, creates the value independently (Figure 9).

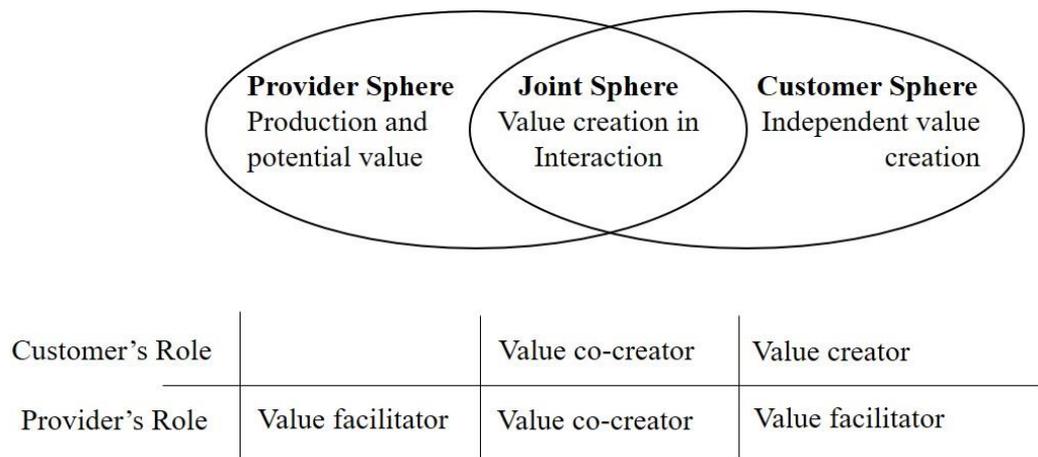


Figure 9. Three spheres of value (adapted from Grönroos & Voima 2013)

This interaction is usually appearing when consumers are acting with a corporate brand but modifying its appropriate identity. (e.g. a situation where consumers are self-leading company Facebook fan pages). Grönroos & Voima (2013) conclude, that the provider never creates value by itself, but rather co-creates it and facilitates it.

2.2.2 Value production by holistic service perspective

However, companies end up competing with their rivals for living space and profitable profits. When they are facing competition, one may want to differentiate from the other in order to keep their profits. Differentiation strategy is detected by Porter (1985) as an enabler of profitable growth. One tactic to differentiate is doing it with strategic innovation.

In mature industries, competitive advantage is likely to emerge from strategic innovation (Grant 2015). This means innovation that changes the current game in the market field and thus becomes the new dominant design. In the very center of strategic innovation is a wholly new business model, that enables access to new industries, new customer segments or present totally new sources of competitive advantage. One way to search new sources of competitive advantage is to look across competitors and complementary products & service offerings that go beyond the bounds of the industry (Kim & Mauborgne 1999). This viewpoint was taken as the base for implementing the empirical study.

Value innovation development

Literature covers a couple of ways to prospect the new sources of competitive advantage. Christensen et al. (2016) present the concept of job-to-be-done, which means that the real driver of value to the customer is the utility that can be obtained from the offering. Christensen (2016) argues that learning different demographics and numbers from the customers is leading companies to a wrong direction: the purpose for a company is not to know the customer personally, but to learn what function the customer wants to perform in a certain circumstance. By tracking down the functions performed, the company can understand more about the use of their offering. With the focus on specific circumstances, the company avoids creating “ideal” solutions that pleases nobody.

Smith & Colgate (2007) represent a framework that helps company managers to split the job-to-be-done into smaller entities. Hence, the job-to-be-done is not only focusing on value’s functional attributes, but also notes the other three value dimensions, which were identified in chapter 2.2. In addition to more precise value categorization, Smith & Colgate (2007) present that a customer perceived value is produced in a company in five areas. These areas are 1) information, 2) product, 3) interactions with employees and systems, 4) purchase and consumption environment & 5) ownership/possession transfer. These areas are based on Porter’s (1985) concept of company value chain activities, which are now looked only from customers point of view. An example of value creation framework is pictured below (table 3).

Table 3. Example of a value creation framework (Smith & Colgate 2007)

Sources of value	<i>Functional/ Instrumental</i>	<i>Experiential/ hedonic</i>	<i>Symbolic/ expressive</i>	<i>Cost/ sacrifice</i>
Information				
Product				
Interactions				
Environment				
Ownership/ possession transfer				

Value creation framework enables managers to decide in which sources of value they aim to compete for conveying the right job-to-be-done attributes. However, this classification does not illustrate if some attributes are more important than others. For this problem, Kim & Maubourgne (1999) developed a value curve analysis, where industry key success factors are plotted to their relative importance in the minds of customers. However, this tool does the importance analysis with numbers, which can be hard to give for certain feelings. Due to these aspects, more powerful tool might be the attribute map presented by MacMillan (2015). The map simplifies the estimation problem in customer needs by verbal evaluation criteria that corresponds consumer reactions. The prioritization is done by evaluating reaction's orientation (positive, negative or neutral) to its intensity (table 4).

Table 4. The Attribute Map (MacMillan 2015)

	<i>Basic</i>	<i>Discriminators</i>	<i>Energizers</i>
Positive	Non-negotiables	Differentiators	Exciters
Negative	Tolerables	Dissatisfiers	Enrangers Terrifiers Disgusters
Neutral	So-whats	Paraller differentiators	No such beasts

How many value elements to include in service offering then? Business model development in C-D Logic context has been studied by Christensen et al. (2016), who noted that the more value elements are included in value offering, more increases in revenues can be expected. For example, Apple as world's most valuable company (Heimans & Timms 2014), prospers in conveying 11 elements of study's total 30 value elements, which is significantly more than the definition for high scores (conveying 8 or more attributes). Although integrating more value elements seems to lead an increase in revenues, the key issue here is not to apply every element into one product or service. This might be due to the differentiation theory, that declares that firms should differentiate to keep the profits.

Smith & Colgate (2007) propose however, that every value type has to be represented in company's value offering. Yet another perspective in value element prioritization is presented by Kavadias et al. (2016) who argues that every transformative business model success is defined how well the company conveys following six key features:

- Personalization
- Asset sharing
- Closed loop
- Usage based pricing
- Collaborative ecosystem
- Agility

To clarify, with a closed loop process Kavadias et al. (2016) mean a consumption process, where do not exist traditional product disposal but products are recycled. Although the features are pretty general, Kavadias et al. (2016) argue that management should know what a single feature, e.g. personalization, means in their specific industry. This links to the same argument that was opened in chapter 2.1.2.; consumers require a specific level of quality.

Better Quality

In order to picture and measure the perceived quality, Grönroos (2009) has integrated the three quality perspectives (chapter 2.1.2.) into a table (table 5). The solution & outcome related perspective (*what*) is visible in the first part, i.e. Professionalism & skills. The process related dimension (*how*) is pictured in parts 2, 3, 4 & 5. The final dimension, *company image*, is measured through reputation and credibility. Furthermore, Grönroos has added section six (service scape) to highlight the environmental perspective which relates to the process dimension.

Table 5. Service quality evaluation criteria (Grönroos 2009).

1. Professionalism & skills	Customers understand, that the service provider has appropriate knowledge, skills and resources to answer customers' expectations.
2. Attitudes and behavior	Customers feel that service staff pay attention to customers' needs and are willing to resolve problems kindly and spontaneously.
3. Accessibility & flexibility	Customers feel that service provider, the location, opening hours & employees are easily accessible and ready to adapt customers' requirements
4. Reliability	Customers know that in any case, they can rely on service providers promises
5. Ability to normalize errors	If errors emerge, customers understand that service provider takes actions in order to keep situation under control and find other solutions.
6. Service scape	Customers feel that physical environment is supporting positive experience from the service
7. Reputation & credibility	Customers believe that the service provider facilitates value for money and the values are consistent with customers.

2.2.3 Networking accumulates value

When companies are looking for better profits, they might see opportunities in teaming up with other companies. Together these companies might reach new potential customers and bundle up competencies from providing two specific solutions to one holistic solution. This kind of behavior might profit both, since the holistic solution might be impossible to produce by its own due to lack of resources or knowledge. Grönroos (2009) notes, that this generates horizontal and vertical relationships between companies and ties them together in a net. Networking, however, requires trust over the companies. Without trust, companies are not working towards common goal and the net becomes unpredictable.

Although these ecosystems are one key for gaining competitive advantage for holistic approaches, Jan Bosch (2016) proposes that ecosystems can include even competitors. Winning the market competition is based on the ability to establish and evolve ecosystems of different partner types and building relationships by collaboration and co-creation.

3 RESEARCH METHODOLOGY

The aim of this study was to define how consumers see the value in their travels and form prerequisites for servitized travel experience. The study approached this problem by defining first the customer needs in the whole mobility industry and then framed these needs into classified values by the understanding that was gained from literature review. Finally, it was possible to state the major challenges, that occur in mobility sector and name potential services that are needed by consumers. This section describes research strategy used to approach the problem, explains implemented research process and pictures the methods used to gather, collect and analyze empirical data.

3.1 Qualitative research execution

This research is approaching data collection and analysis with a qualitative research method. Qualitative method was chosen because it was noted that more understanding is needed about the phenomenon itself: why do people travel in their everyday life and what are the current pain points in that industry? Is the MaaS service needed in the first place? Qualitative methods, such as an interview, provide a good base specifically for gaining this kind of wider understanding about one phenomenon (Tuomi & Sarajärvi 2009). An interview has also some advantages compared to quantitative methods: the interviewer has an opportunity to correct misunderstandings, clarify wordings and have conversations with the interviewee. Practically, this means giving space for interviewee's thoughts, experiences & feelings. Research process is modelled in figure 10 below.

3.1.1 Data analysis

The content analysis was executed data drivingly, which was then further analyzed by guiding theoretical framework. The theoretical framework works as helping the analysis, but the analysis does not base straightly in the theories. These practices are securing the objective analysis, since data driven analysis alone is extremely hard to implement due the nature of the observation: it is widely accepted (Tuomi & Sarajärvi 2009) that every observation base already in existing theories.

Data in this study was collected via seven interviews. Interview in this context means a personal interview, where interviewer presented oral questions and documented the answers. The interview form used was half-structured, which means that the interview is progressing through certain pre-selected themes and questions, but however, leaves space for expanding from these questions with an open conversation. The pre-selected questions and themes are shown in Appendix 1.

Documentation was done with the help of a recorder. Notes were written after every interview, which helped in the formation of the analysis. Then, a transcription was made by focusing on those notes done after the interview. The complete interview transcriptions were examined by searching phrases that were important for the study. These expressions were then gathered into separate sheet, from which it was possible to classify the phrases into sub-groups by simplifying the phrases with codes.

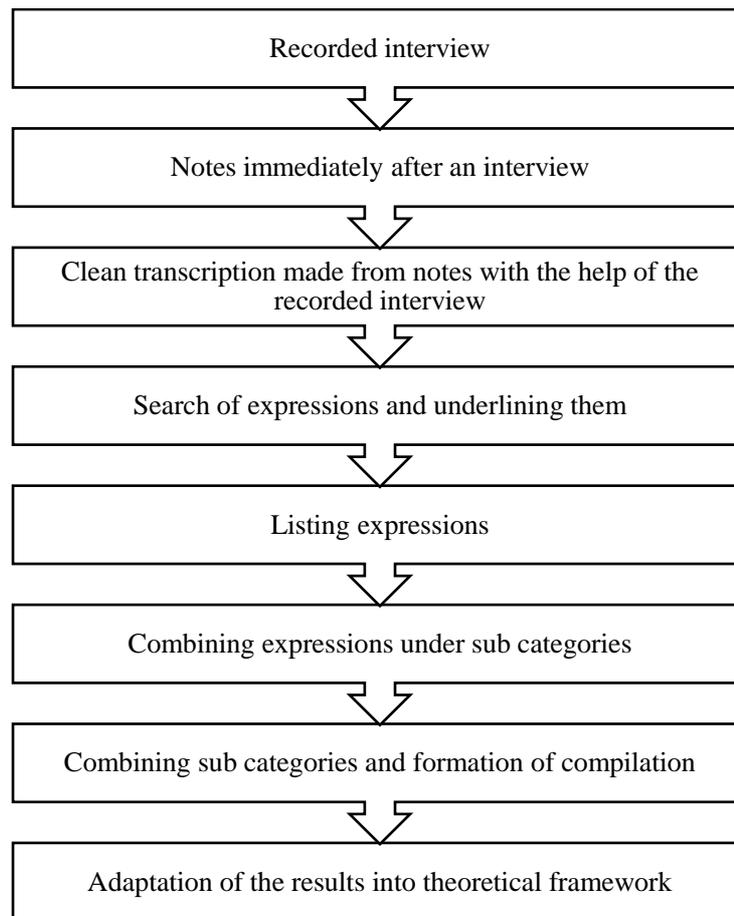


Figure 10. Research process

3.1.2 Examined transport modes & complementary services

In order to uncover how mobility consumers were behaving and consuming services, it is essential to include major mobility providers and different modes of transport in the study. The reviewed modes of transport were mass transit, city bike, taxi & shared car services. Since car sharing is relationally new service in the field with relationally low number of consumers, the study focused to catch the mobility behavior of DriveNow (car sharing service) users. The DriveNow users were thus defined as lead users, who could provide useful information about the mobility industry. In addition, DriveNow is part of OP's mobility services offering, so it was possible to reach more interviewees if needed through DriveNow's customer service. In addition to the aforementioned services, a private car was also taken into the survey, because it was assumed to be a major competitor for other modes of transport. Furthermore, the study was extended to look after complementary

information products and services, that consumers linked strongly in transport modes. With information service, the study means e.g. mobile travel applications, such as Google Maps.

3.1.3 Selection of research participants

This research focused to study lead users, that are kept as pioneers in the field of multimodal consumer transportation. Lead users are providing a good research base in order to develop new service concepts, since they have already invented ways to fulfill their needs in the market, even the service is not developed yet. Car sharing service DriveNow is relationally well known and new service in the mobility field, so it was taken as the base for defining lead-users in the mobility sector. Lead users were thus defined as *“an active mobility services user, who has experience from car sharing service DriveNow. However, a precondition to participate the study was that every DriveNow-user must have had additionally “lots of experience from mass transit, taxi and city bike services & must have had experience from driving either owned or a family car”*. Hence, it was possible to select those DriveNow users that belonged into active movers.

The interviewees were collected with so called snowball data collection method. Initially a couple of DriveNow users were known, but more interviewees were reached after interviewees introduced their friends that were also defined as it was required. The ages of the interviewed persons were varying between 25-41 -years-old and both singles and couples were interviewed. The whole structure of data source is described in table 6. The specific interview place and time was settled together with the interviewee so that it was reachable in 20 minutes from Helsinki city center. The interview places were either a quiet cafeterias or interviewees' homes. As a reward, every interviewee was granted with 60 minutes free driving time with DriveNow. One interview session took averagely 40 min. The real names are changed in this report due to anonymity requirements.

Table 6. Data source structure.

Variable	Interviewee
	<i>N=7</i>
Living area	
City center	3
Suburban	4
Age	
25-35	3
36-45	4
Marital status	
Single	2
In a relationship (living together)	1
Married	4
Economic status	
Student	2
Employed	5
Access to a private car	
Yes	3
No	4

3.1.4 Sampling size

The intention in qualitative research is not to search statistical generalizations. Vice versa, the target is to describe a phenomenon or an event and create a deep understanding about specific behaviors. The target sampling in this report was to gather 10 interviews, but after seven interviews it was noted that answers and same key points were reoccurring in the latest interviews and very few new points emerged in newest interview sessions. Thus, the total number of implemented interviews stayed at seven interviews, which was set as the level of needed saturation.

3.2 Examined mobility market

This section pictures the current situation in mobility market. First a short outlook for examined mobility providers in the market.

Mass transit: Mass transit in Helsinki is provided by Helsinki Region Transport (HSL), that is a joint local authority whose task is to develop and provide smooth, reliable transport solutions to customers' needs. The company supplies bus, tram, metro, ferry and commuter train services, which operate in Helsinki, Espoo, Vantaa, Kauniainen, Kerava, Kirkkonummi & Sipoo areas. HSL also manages ticketing systems and is responsible for the marketing and passenger information systems. In 2016, about 367 million trips were made on HSL transport services. By far, the most popular transport mode was a bus (181.3 million trips), followed by metro (64.1 million trips) and commuter train (63.1 million trips). The system covers over 1400 buses, 24 metros, 94 trams, 70 commuter trains and 4 ferries. (Helsingin Seudun Liikenne 2017)

City bike: Helsinki city bikes are also provided by HSL as a complementary service to mass transit, which aims to encourage everyday cycling, provide health benefits & speed up travels. The service started in May 2016, when the first 500 bikes were left at the stations. The service is managed by Helsinki City Transport (HKL) but implemented by CityBike Finland. Target with bikes is to, According to HSL (2017), each bike was used five to six times per day on average, which correlates

at least 913 000 trips per year altogether. HSL is responsible for the online service including registration, marketing the bikes, information on the availability of the bikes and incorporating the bikes into the Journey Planner. (Helsingin Seudun Liikenne 2017)

Taxi: Taxi Helsinki Oy is Finland's biggest taxi brokerage service. The company provides taxi services all over Metropolitan region 24/7. Taxi Helsinki Oy covers 1335 individual taxies, which provide rides for about 9 million customers. Primarily, the taxies are all under two years old and also presenting newest models and technology. On average, 7,2 million taxi rides are traveled annually. Company's mission is to ensure quality, safety and reachability. (Taxi Helsinki Oy 2017)

Car sharing: DriveNow is a co-operational company by BMW Group & Sixt SE, which offers car sharing services in many European countries. Company's car fleet includes well-equipped BMW & MINI cars. The provided car can be rented from any place and returned wherever within a predefined operation range. Globally, over 875 000 registered customers are using DriveNow-app and web pages to find the cars in the streets. The network covers over 5500 cars in Helsinki, Munich, Berlin, Dusseldorf, Köln, Hamburg, Wien, London, Copenhagen, Stockholm, Brussel, and Milan. Helsinki has 150 cars from the total. The users are authorized to use these cars in which city they want. Full electric BMW i3 models are forming nearly 20% of the total car fleet. (DriveNow 2017)

Car ownership: The development of car ownership has not been following for a specific trend in Helsinki. Car density (cars per thousand residents) has been lower in Helsinki than in other regions from 1990s & in most neighborhoods, carless households are presenting the majority. However, car density has been increasing mostly in regions that have approximately over 15 and under 30 kilometers to Helsinki city center. In September 2016, there were approx. 714 000 cars in Uusimaa households. (Helsinki 2017).

4 VALUE FORMATION IN MOBILITY SERVICES MARKET

This section analyses the results of the empirical data. The section begins with describing consumer travel patterns, where the aim is to picture what kind of travel chains exist in people's lives and why do they even travel in the first place. Next, every transport mode is analyzed separately. This will give a hint of why consumers chose particularly that traffic mode and why do they sometimes are willing to pay more from the same trip.

4.1 Value in access to activities

In interviews, transportation was always mentioned to be linked with executing an activity. The greatest part of lead user's traveling is formed by trips between home and work/university. Interviewees mentioned these trips to be reoccurring in almost every weekday and hence the trips form the main part of the total time spent in weekly mobility. Traveling during working day varies depending on the job position. Most active employed interviewee told to be moving two times a day on average to a business meeting on somewhere else in the city. The interviewed students said they were staying near campus during a day.

Families with kids are confronting a trip to nursery school after working. Kids are taken to and picked up from nursery on every weekday. Every interviewed family mentioned the nursery locating very near to home, so picking up a kid can be easily integrated into own travel chain either by foot or car. However, taking a kid to hobby place was perceived much more painful task. Due to the incompatibility of hobby time and working time, carrying a kid into a hobby place and picking him/her up to home is very tricky to fit into own travel chain. This causes frustration and is perceived as a loss of personal time among parents. However, one parent mentioned that he still enjoyed watching the child playing with other kids. In addition, hobbies are luckily not arranged at every weekday. The division of activities is pictured in table 7.

Table 7. Everyday trips were made for the following activities.

Own activities	Transporting somebody else
<ul style="list-style-type: none"> • A trip to a hobby 	<ul style="list-style-type: none"> • Taking a kid to nursery
<ul style="list-style-type: none"> • A trip to work/school 	<ul style="list-style-type: none"> • Picking up a kid from nursery
<ul style="list-style-type: none"> • A trip to business meeting outside work place 	<ul style="list-style-type: none"> • Taking a kid to a hobby
<ul style="list-style-type: none"> • A trip to grocery store 	<ul style="list-style-type: none"> • Picking up a kid from a hobby
	<ul style="list-style-type: none"> • Carrying groceries home

Meanwhile, students have more free time to use, in which case their mobility after school orientates towards own activities: own hobbies or meetings with friends. Students did not perceive any frustration regarding to these activities. However, both students and employed perceived, that they should aim to integrate a grocery store trip into some else trip during the evening. Figure 11 describes the mobility chains of both separated user groups: single students and employed parents. Every mobility chain begins and ends to home.

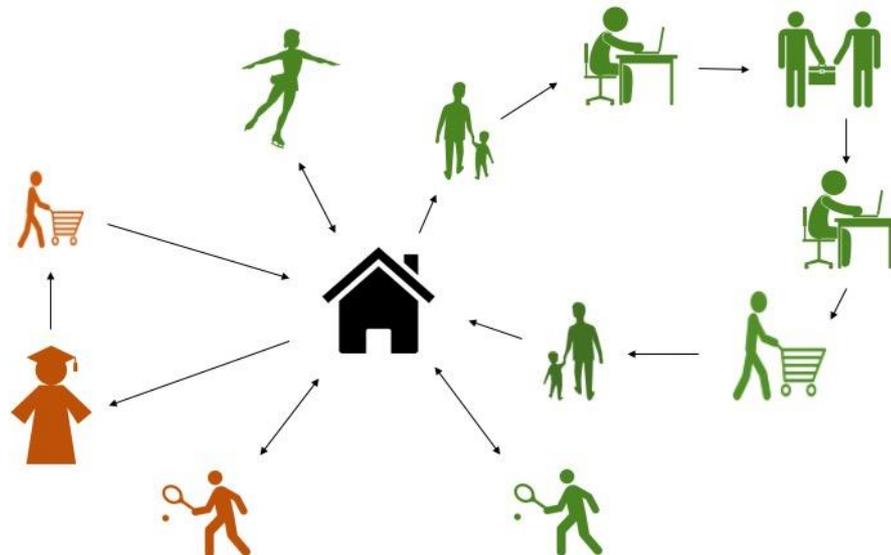


Figure 11. The green characters are describing family movement. The red a student living alone.

4.2 Value formation via modes of transport

The following chapters are opening up the value formed in a single mode of transport from customer's point of view. This is done by identifying different use cases of every transport mode picturing the feelings, emotions and attitudes regarding the vehicle. It is important to identify here why the specific mode of transport is used for the specific activity, and why other modes are not accepted. By this approach, it is possible to detect the overall value & substitute services that are competing against each other in consumer's buying decision process. Furthermore, attention is also paid to why consumers are sometimes willing to upgrade themselves into a more convenient & expensive trip. This gives a hint of possible revenue opportunities for future mobility concept developers. In addition to transportation services, also private car was taken into the study as it was seen as a big competitor for other modes.

4.2.1 Private car

Private car is usually used as a primary mode of transport when traveling outside city centers. Specifically, the key capability mentioned was the sense of freedom that a private car succeeds to convey: with a car, a person is able depart and arrive whenever & almost wherever he/she wants. This capability is perceived as a very pleasant attribute. One family told more about this freedom with an example: *“Car is an overpowered vehicle for weekend trips, as we travel to Joensuu once in a month. We don't have to care about schedules and traveling is also smooth in Joensuu where public transport services don't operate as well as in Helsinki”*. Although Helsinki might offer an excellent customer experience with its traffic services, cities are not equal with their transportation systems. There is a lot of uncertainty linked to other cities, where a car brings trust into this problem.

The majority of interviewed car users are using cars for implementing free time activities, such as berry picking, golfing and Ikea shopping. Usually in these kinds of trips, there tends to be burden involved: a golf bag, furniture or a possible bucket of berries. The car, therefore, does not amuse people only for the sake of temporal independence, but also has the role of carrying carcasses conveniently from one

place to another. For a one car user, a car includes “*also a whole life boarded*”, which means, in particular, the presence of personal belongings wherever he/she moves. The concept of a car's role as a personal stock is quite radical, as it will also explain why shared cars have difficulties to meet the value of a car.

A third important perspective for car usage is its ability to cause attachment. The study did not show why people had that attachment, whether it was caused by the driving or the car itself. However, the nature of the attachment is described by the sentences “*I am quite attached to my car, I don't actually know why*” & “*For Arto, cars have always been a source of passion, although the car brings always costs*”. Thus, a car is clearly attracting for other than economic reasons.

Table 8. Freedom & easiness are the core values a private car.

	Finding	Original expression in Finnish
Activity related requirements	- A need to carry luggage	- <i>Omassa autossa on koko elämä takapenkillä, ja siellä voi olla kaikenlaista kamaa.</i>
Need for self-realization	- Desire to feel free and independent	- <i>Omassa autossa on se vapaus. Voi lähteä vaan eikä tarvi miettiä mitä toi maksaa yms. Vähentää tietynlaista stressiä.</i>
	- Desire to express self-image via travel mode	- <i>Artolle noi autot on ollu aina sellanen intohimoinen juttu.</i>
Minimization of negative aspects	- Minimization of journey time out of downtown	- <i>Käytän omaa autoa siithe et käyn pelaa golffii, tai ajan jonneki kauemmas. Voit sillon lähtee ja tulla ihan millon haluat.</i>

Willingness to pay for an upgrade

Willingness to pay for a mobility service was noticed to be increasing when interviewees traveled across downtown area. Downtown areas are making car parking a big challenge as cheap parking space is small in relation to the number of

cars. Hence, parking a car in the city center would cost financially disproportionately, which forces motorists to use other means of transport. Therefore, the car in the center is no longer the source of a careless trip, but on the contrary, it adds personal stress to payments that are time bound. Mainly, interviewees told to replace the car usage by public transport, as it performs the required service level well enough and a single journey is achieved in the cheapest way possible compared to the fuel price.

Table 9. Value disruptors related to private car usage.

	Finding (negative)	Original expression in Finnish
Minimization of negative aspects	- Minimization of journey time in downtown	- <i>Omal autol ei voi tulla [keskustaan], koska pysäköinti on mahdotonta. Joukkoliikenne on sit kuitenkin lähes ovelta ovelle.</i>
	- Total economic costs minimization	- <i>Omalla autolla jos menee keskustaan, nii parkkeeraus maksaa enemmän ku se matka. Sama parkkeeraus rumba [kuin DriveNow:lla], mutta omasta lompakosta pois.</i>

4.2.2 Mass transit

Since mass transit offers very low price-scales, no services were mentioned to be competing with mass transit when that was asked straight. However, interviewees mentioned walking and cycling as parallel/competing transportation modes. Generally, the job-to-be-done for mass transit was perceived to provide transportation across downtown area, which was experienced as successfully implemented. Interestingly, a car was not mentioned as a mass transit competitor despite the cheap gasoline price for the car. This might be explained by the negative attitudes towards car use in city center. Mass transit was experienced as the solution for private car 's value disruptors in downtown, both to parking & price problems.

The hard users were pleased about mass transit's low price, which enabled them to implement their urban lifestyle well. Common to the answers considering how well the mass transit succeeds, is particularly this fitting to lifestyle and mobility situation: when the everyday travels are considering trips under downtown area, people were easily pleased with mass transit. These people had their life organized in downtown, and no repetitive needs to travel outside were mentioned. Due to the low price, they were also willing to forgive things that otherwise would have irritated (such as presence of other people, swinging, noise, heat and odors).

Mass transit can provide some functions that are not possible with a private car, walking or cycling. In these cases, transportation under alcohol impact was stressed in every interview. The other key capability is transportation provision when people have moved into a different place during the day. Compared to a car, mass transit has therefore an asset of carelessness that arises from free movement apart from the point of arrival. This aspect provides no need to worry about moving and transferring private car or a cycle at all. As the third capability, bus lanes were mentioned to lure to use mass transit. Since the city has congestion especially in the beginning and ending of working time, a trip with a bus can prove to be quicker than a car.

However, in two interviews there were really strong opinions about why interviewees avoided mass transit use. Waiting on buss/tram stops was perceived very frustrating. In addition, these two interviewees had also passionate attitudes towards their own cars, showing the attachment and possession value to a car. For these two travelers, it seemed to be only a question of attitude to not to use mass transit options.

Table 10. Public transport provides few more features than a car. It also eliminates value disruptors of a car.

	Finding	Original expression in Finnish
Activity related requirements	- Need to travel under alcohol impact	- <i>[Valitsen joukkoliikenteen], jos oon sattunut nauttimaan jotain, enkä oo enää ajokunnossa.</i>
Minimization of negative aspects	- Minimization of journey time in downtown	- <i>Dösäl pääsee ajelee omia reittejä. Pääsen parissa minuutissa steissille, Kampin terminaaliin, ja sporaan duuniin [ruuhkista puhuttaessa].</i>
	- Minimization of worries	- <i>Ja jos vaihtaa paikkaa, nii ei tarvi murehtia sitä paikkaa mihin sen pirssin jätti.</i>
	- Minimization of total economic costs	- <i>Joukkoliikenteen käyttö on nyt tosi isoa, koska maksan opiskelijahintaa. 27€/kk.</i>

Willingness to pay for an upgrade

There are situations, when mass transit users are willing to pay for other transport mode. Constant traffic stops make the journey feel slow, causing annoyance. Especially in journeys taking more time than 15min, this factor becomes a bit more important. As an example, one interviewee said that he “*chooses DriveNow often when he travels 2-3km outside the center*”. This way, the continuous stops of the tram disappear, and it feels that the journey is proceeding. The second irritating factor influencing willingness to pay was changing a vehicle to another, as “*changing traffic mode is always laborious*”. Common to these upgrade decisions is that they are both aiming to minimize waiting time, either on the stop or in the vehicle. Waiting for something is perceived as a very negative factor, as it feels that journey won’t proceed.

External, negative factors, such as poor weather is also affecting to the decision to upgrade from mass transit. Many of the interviewees have started the DriveNow service in a situation which have included rain. These decisions were born when

mass transit users were waiting on a tram stop or either heading to wait for the tram. When the waiting aspect was combined with poor weather, users started to look for other mobility options. The service disruptor is hence the uncertainty about if there is waiting and walking in the rain and how much. The willingness to pay -decision was the result from the combination of two negative factors relating to mass transit. In addition to the two, also drunkards were mentioned to be perceived as very negative.

Interviewees did not mention DriveNow as a competitor for mass transit, but they clearly upgraded their mass transit service into DriveNow service. Hence, there is a restriction between perceived competitor and a real service competitor. DriveNow succeeds to minimize few negative aspects emerged in mass transit, which is defining its competitive advantage. In any case, DriveNow's role in these service level upgrades was to act as a complementary service during times of negatively affecting attributes in mass transit.

4.2.3 City bikes

City bikes are differing a lot from other transportation services, since cycling was always linked to outdoor life or sporting. Due to this aspect, the use of bike was mainly limited to points of good weather. During rain, bikes were not perceived as an option. Particularly good summation for the service usage is interviewee's description: "*[cycling] is an option only if I have enthusiasm to enjoy outdoors*". Sentence "*to have enthusiasm to enjoy outdoors*" is already so positive that cycling in the open air itself, increases the value for the service user. Hence, city bike customers pay for the opportunity to enjoy good weather and fitness.

City bikes are perceived mostly as mass transit's competitor, although both city bikes and mass transit are offered by the same service provider HSL. The pricing model for bikes was observed to be a greatest factor for starting the bike use. The price for one season (25€) was perceived as "*ridiculously cheap*". Thus, cycling was considered always as an option when bike racks were seen during the journey. City bikes are operating hence as a good complementary service for mass transit,

since they offer additional experiential value to mass transportation. In addition, bike use is more independent than mass transit use. In this sense, city bikes could steal consumers among mass transit service users during good weather.

Table 11. The role of city bikes is to enable enjoyment of outdoors. It also minimizes total costs and physical work (walking).

	Finding	Original expression in Finnish
Need for self-realization	- Desire to enjoy outdoors while traveling	- <i>[Pyöräilen], jos mul on intoa pyöräillä</i>
Minimization of negative aspects	- Total economic cost minimization	- <i>Sehän on naurettavan halpa [hinta].</i>
	- Total physical work minimization	- <i>Aina kun näkee sen pyörän [kävellessä], niin mieltii, että tarvisinko mä tollasta nyt.</i>

However, city bike service alone could not answer the variable needs that people have relating to mass transit. This is due to bike usage's dependency from tolerable weather. Additionally, few other faults were detected. Firstly, two interviewees were not willing to use city bikes at all due to its dangerous aspect. High speed combined to cars and people masses can easily lead to a collapse, which would "require a helmet at least". As city biking usually happens spontaneously, people are not equipped with a helmet. Secondly, biking causes sweating, which is not desirable in situations where people have to represent themselves. Thirdly, one interviewee made also difference with city bike and personal bike. According to him, the dense positioning of bike racks is crucial for the service usage: "I don't use city bikes as there are no bike racks near to my working place. I'm lazy and minimize walking".

Table 12. City bike unsuitability.

	Finding (negative)	Original expression in Finnish
Minimization of negative aspects	- Total physical work minimization	- <i>Koska työpaikan lähellä ei ole pysäkkiä, niin en pysty palauttaa sitä [pyörää] järkevästi.</i>
	- Outdoor time minimization	- <i>Pyörä on vaan hyvällä kelillä.</i>
	- Minimization of threats	- <i>En halua ajaa ihmisten ja autojen seassa. Joku voi kolata milloin vain. Turvallisuuskysymys.</i>

4.2.4 Shared car

Interviewees perceived shared cars to be straight competitors for taxis. The travel experience in these two services is similar, as both trips are made in a car. However, as mentioned in chapter 5.2.2, the first experience from shared car services was usually started by upgrading from planned mass transit trip, showing again discrepancy between perceived competitor and realized competitor. Business model in shared car concept drops the price apparently low enough to lure customers also from mass transit, which positions shared car service closer to mass transit than taxi experience. The people who have upgraded are looking for to minimize waiting time, having better rain cover, security from drunkards and the improved sense of control in comparison mass transit.

In the interviews, it was strongly emphasized that driving with DriveNow is associated with the feeling of "being pioneer". The car sharing service is relatively new for consumers in Finland and it can help consumers to create self-image as a person who uses new services and persons living finger on the pulse. In addition, pioneering also means communicating the pioneering to others: the fact that a customer can explain what DriveNow is to other consumers, already brings value to the DriveNow user, according to interviewees. This component became very strong only in the DriveNow service, while speaking about other services, the need

did not emerge. For example, business meetings require consumers to be particularly representative, so it is important that they do not reach the target "*for example with a Fiat*". The need for representation is therefore not merely self-evident, but different situations create more pressure for person's need for representativity. On the other hand, one interviewee also mentioned that "*driving with Nissan would not bother if the price was half cheaper*". This proves the firstly mentioned aspect of DriveNow being competitor for mass transit.

The value created in the service use is largely experiential, since the business model enables consumers to "*Drive BMW models that would not otherwise be possible to drive*". In this aspect, the DriveNow car is a parallel subject to a private car, which in this case possibly cannot produce the same kind of feeling than brand new BMW or MINI. These people are fascinated about better driving experience and testing the novelty value of that specific car. Furthermore, as parking with a private car is disproportionately expensive in downtown, the capability to park without paying with shared cars is a great advantage. Thus, it seems that a shared car can also compete with a private car with some levels. However, it was strongly clear in every interview that a shared car service, as affairs stand, cannot be compared with a private car ownership.

Table 13. Shared car service facilitates value on many levels and thus has many competitors.

	Finding	Original expression in Finnish
Minimization of negative aspects	- Outdoor time minimization	- <i>Sää ja tavaramäärä vaikuttavat siihen kynnykseen ottaa DriveNow auto. Se, että kävelee sateessa laukkujen kanssa, niin on perseestä.</i>
	- Waiting time minimization	- <i>Mieluummin ajan autoa, kun odottelen. Se odottelu ärsyttää eniten. Se on syy, miks valitsen DriveNow:n ratikan sijaan.</i>
	- Total economic cost minimization	- <i>On se nyt halvempi ku taxi.</i>
Need for self-realization	- Desire to express self-image	- <i>MiniCooper ja BMW ovat mun lempibrändit! Kun mä ajan niin oon sillain et jeejee, ajan tällast hienoo autoo.</i>
	- Desire to test the novelty value of a new car	- <i>On se iso syy, et saa testata eri autoja. Pystyy ajaa Bemarimallei mitä ei oo ikinä ajanu. Ei muuten oo mahdollisuutta.</i>
	- Desire to feel free and independent	- <i>Vaikka tästä menee kyllä (busseja) 5-10 välein, mutta sielläpä saat pyöriä omassa rauhassa, eikä tartte olla muitten tahissa.</i>
Activity related requirements	- Need to experience social belonging	- <i>On siinä oma viehätys, että se afterwork alkaa suoraan siitä konttorilta. Että jos vertaa siihen, että bussissa istuu 1 [henkilö] tuolla ja 3 seisoo jossakin.</i>

Willingness to pay for an upgrade

It is essential for DriveNow service that the car is near. The interviewees mentioned their willingness to walk up to 300m to the nearest car, but for the most part they assumed cars to be within 100m-200m radius. This implies that DriveNow cars are expected to be accessed in a very short time window from the emerged need for transportation. However, many interviewees were unsatisfied with the operation of the service, which prevented many times the successful upgrading from mass transit usage. Especially, ending the service usage, which is finding a parking space, is a very serious problem. According to three interviewees, the time consumed for searching a parking lot may take nearly ten minutes, which often cannibalizes the value created compared to public transport. This is interesting, since the average time spent in a DriveNow car is close to 20 minutes and ten minutes from this would be already a half. However, there might be differences in the perceived time and actual surpassed time, which implies that the meaning of stress that emerges from that parking lot hunt is significant.

In any case, the service is priced on a minute-by-minute basis: every minute consumed will increase the price of the service, which will increase stress. It was observed that finding a parking lot is such a major obstacle for DriveNow, that some of the interviewed travelers already discarded DriveNow from potential travel options. In other words, the service lacks a critical function. No maps are provided for seeing the parking spaces, where DriveNow is allowed to park free from charge.

Secondly, the position of car sharing is still unclear in the transportation service field. Carless customers emphasized that they would have demand for a car when traveling to Ikea, since carrying bigger furniture is impossible without a car. For this purpose, however, the service is badly suited due to time-bound pricing. Interviewee's description "*The price increases to some 50 euros [during an Ikea trip], really disproportionate!*" is narrating almost a bitter attitude towards a minute-priced car. So far, the Ikea trips are therefore very difficult for carless consumers to carry out. DriveNow's inapplicability to answer to the needs causes frustration and purposeful demand & interest in carless drivers.

Some of the carless travelers said that they also use DriveNow very rarely to travel within the city. These passengers are not usually ready to increase the price for a more comfortable trip, for example because of the rain. Thus, the benefit of DriveNow is almost at the extreme limits of whether consumers want to pay the price of the service for the benefits it offers.

One of the car drivers argued that *"all the extra cost is extra"*. This means that currently a personal car fills its tasks so well that there is no need for other forms of service. And even if there is interest, the financial budget for mobility is not wanted to be increased. Interestingly, however, it was seen among the motorists that the shared vehicles had the potential to compete with family's second-car: *"If I would have the need for a second car in family, then I would seriously consider DriveNow as an option"*. The cost of owning of two cars is already so high that a successful car sharing service for this purpose would be well suited.

4.2.5 Taxi

Taxies are selling worry-free and ease for consumers. Taxi customer has always an opportunity to depart and arrive to any place at any time. This aspect of care-freeness is summarized well in one interviewee's expression *"the greatest advantage with taxies is the certainty of its arrival. You know they will come and get you right door to door"*. Taxi's ability to convey care-free trips is especially important in journeys where consumers are not willing to be late from the targeted arrival time. Therefore, it is consistent that a trip to airport was commonly mentioned as a stereotype for taxi journey. Mainly the occasions where taxies are used were compared to trips that are also made by Drive Now and private car. Hence these two were set as the perceived competing modes of transport.

In all except one interviews, consumers admitted that taxi is not part of their personal everyday mobility options. Taxies can be used a lot, but they are usually ordered for business occasions, when the payer is the employer. In these cases, the price is not a question if a business trip with a taxi is a settled habit in the company.

According to the interviews, the decision to get a taxi for personal trips is depending on whether private car was not in use or not wanted to be used & how big is the need to get asap from place A to B. In the interviews, the size of the need for taxi was always reflected through the process of excluding other mobility services out. It was mentioned that taxis provide needed comfort and freshness (which excluded bikes), very exclusive reliability (excluded particularly mass transit, but other services too) and the capability to transport under alcoholic impact (excluded Drive Now). It seems that the buying decision with a taxi is always last in consumer's mobility comparison hierarchy and limited to situations where the disadvantages derived from other traffic modes are preventing their use.

However, taxi still has its own feature as vehicle for experiencing team spirit. Especially people going out in the evening told to enjoy the closed space where other random passengers are not in. Thus, there is an opportunity to speak with a louder voice, snack to partner sitting beside and secure the short distance between every person in the group.

Table 14. Value formation in taxi trip.

	Finding	Original expression in Finnish
Minimization of negative aspects	- Total physical work minimization	- <i>Jos on juhlat ja sillon korot. Sillon haluut päästä ovelta ovelle.</i>
	- Minimization of worries	- <i>Suurin kilpailuetu takseilla on se varmuus siitä et se tulee. Tiedät, et pääsee oven eteen.</i>
	- Minimization of journey time	- <i>Taxi valitaan, jos oma auto ei oo käytettävissä ja pitäis nopeesti päästä.</i>
Need for self-realization	- Desire to express self-image	- <i>Jos meen tapaa pankinjohtajia, niiden halua että mikään fiat sinne vie.</i>
Activity related requirements	- Need for social belonging	- <i>Tilataksi on isommalla porukalla hyvä juttu. On se kiva olla yhes siin.</i>

4.3 Value formation via mobile travel applications

During the interviews concerning mass transit, interviewees mentioned the necessity of mobile travel applications. Before and during the journey, consumer has to make a number of choices, such as choosing a route and an optimal time of departure & finding a stop. Travel applications are used especially for minimizing this kind of cognitive effort, since they create a number of alternatives for the passenger.

The mentioned travel apps were Google Maps, Moovit & ReittiGPS. Every interviewee was aware that many travel apps existed in the market and emphasized the usage of their app every time when they traveled with mass transit. Below is pictured the classified competitive advantages of the three applications that were mentioned.

Google Maps	Possibility to use the application wherever. Is not tied into a specific city
Moovit	Provides very pleasant user experience
ReittiGPS	Shows real time location for service vehicles

The users of Moovit and ReittiGPS were interested about temporal route optimization with mass transit. One user of Google Maps emphasized that she always makes temporal comparisons between walking, cycling, car and mass transit options, since they are available only in Google Maps. The Google Maps is widening the available travel mode comparison field from mass transit alone and hence represents a certain MaaS solution without paying process.

In addition, applications can also minimize uncertainty factors. One interviewee stated that he really enjoys when he can see the location of the desired vehicle and its progress on the map in his cell phone with ReittiGPS. With real-time location information, the service increases consumer's ability to make decisions about whether he should wait on the stop or change the mode of transport. Waiting on the stop is still perceived as a bad thing, was the travel application there or not.

Travel applications were not in the center of focus for DriveNow users. DriveNow usage was however linked strongly to its own DriveNow application, but that is because DriveNow service is built around the application usage (booking, payment & door unlocking). However, DriveNow's application does not include route navigation and all interviewees except two were not using the navigation system of a car. This seemed to be a trust and usability issue. These interviewees used Google Maps instead, because "*it is just easier*". Maps & navigation were perceived seriously important, since it was perceived to minimize the risk of getting lost, which on the other hand would increase costs in minute-priced DriveNow.

The interviewees did not emphasize the importance of mobile applications for taxi and city bike services. This may be due to the fact that there are few uncertainties in both services: with taxi, the previously mentioned strength is that they can be fully trusted. In the use of the city bike, self-steering and self-pacing were mentioned as strengths: bike stops are located all over the city. Furthermore, potential car-related applications were not mentioned, and the use of private car was associated with very strong sense of time control throughout the journey. Altogether, the importance of a travel application seems to be emphasized in those cases where possible uncertainties emerged. Table 15 below recaps the points that arose while interviewees came up with justifications for their app usage.

Table 15. Energy costs in multi-modal transport are minimized in two ways.

	Finding	Original expression in Finnish
Minimization of cognitive effort	- Information to ease the selection of fastest vehicle	- <i>Katon, [Google Mapsista] että kannattaako mun mennä pyörällä bussilla vai autolla. Ja sit jos nopein on pyörä, niin meen sillä.</i>
	- Information about real-time location and direction	- <i>Ei käytetä [auton] navigointisovellusta, mutta omasta puhelimesta kyllä, koska se on nopeampi käyttää kuin selailla auton viidakosta.</i>
	- Information about length of a walking trip	- <i>Käytän Moovittia aina kun menen. Katon et mis on lähin pysäkki.</i>
	- Information about length of waiting time	- <i>Katson aikataulut sovelluksesta. En tykkää seisoa bussipysäkillä, joten lähen viimesellä mahdollisella.</i>
Minimization of uncertainty	- Real time information about vehicles movement in the city	- <i>Se just mistä tykkään tässä applikaatiossa on se, että jos pitää johonkin ratikkaan ehtiä nii se näyttää sen sijainnin, että okei, nyt se on lähtenyt liikkeelle.</i>

5 DISCUSSION

This section sharply summarizes the main results related to each research question:

- *How consumers perceive value in mobility market? (RQ1)*
- *What prerequisites enable a holistic MaaS concept to succeed? (RQ2)*

5.1 How consumers perceive value in mobility market?

The previous chapter 4 sorted positive and negative value elements that are relevant in consumer travel experience and in travel mode choice. Next, all elements are resorted into one table. The following chapter 5.1.2 elaborates reasons that affected consumers to upgrade their travel mode.

5.1.1 Value via fulfillment of traveler needs

Travelers' buying decision is based on how well the specific vehicle performs among traveler's journey priorities in relation to other traffic modes. Consumer's priorities are always the sum of his/her feelings on specific circumstances, but often the priorities are reoccurring. For example, the trip from gym to home is usually set by mass transit, since cheap price with fast connections enable comfortable trip. Consumers' needs are thus strongly tied in consumer's activities and thus the reason why people move is based on executing this activity. However, priorities may change if internal or external factors influence to the person. For example, the study spotted a need for starting the journey off fast when returning from gym *at night*, since waiting on the tram stop in the dark was perceived uncomfortable. This is due to the feeling of insecurity, which affected the upgrade of journey type. More about these upgrades in chapter 6.1.2.

Based on the results, following findings were made: the requirements set by the activity, minimization of negative aspects and the need for self-realization are defining the consumer priorities in which the mode of transport must have to answer. All spotted needs and desires can be set as subcategories for the aforementioned (table 16 below).

Table 16. Summation of traveler needs in consumer’s everyday journeys.

Activity related requirements	<ul style="list-style-type: none"> - Need to carry luggage - Need to travel under alcohol impact - Need to experience social belonging
Minimization of negative aspects	<ul style="list-style-type: none"> - Minimization of total economic costs - Minimization of physical work - Minimization of waiting time - Minimization of journey time in downtown - Minimization of journey time in con-urbanities - Minimization of outdoor time - Minimization of threats - Minimization of worries - Minimization of travel planning <ul style="list-style-type: none"> ○ Minimization of cognitive effort ○ Minimization of uncertainty
Need for self-realization	<ul style="list-style-type: none"> - Desire to feel free and independent - Desire to express self-image via travel mode - Desire to enjoy outdoors while traveling - Desire to test the novelty value of a new car

5.1.2 Willingness to pay more than the ordinary

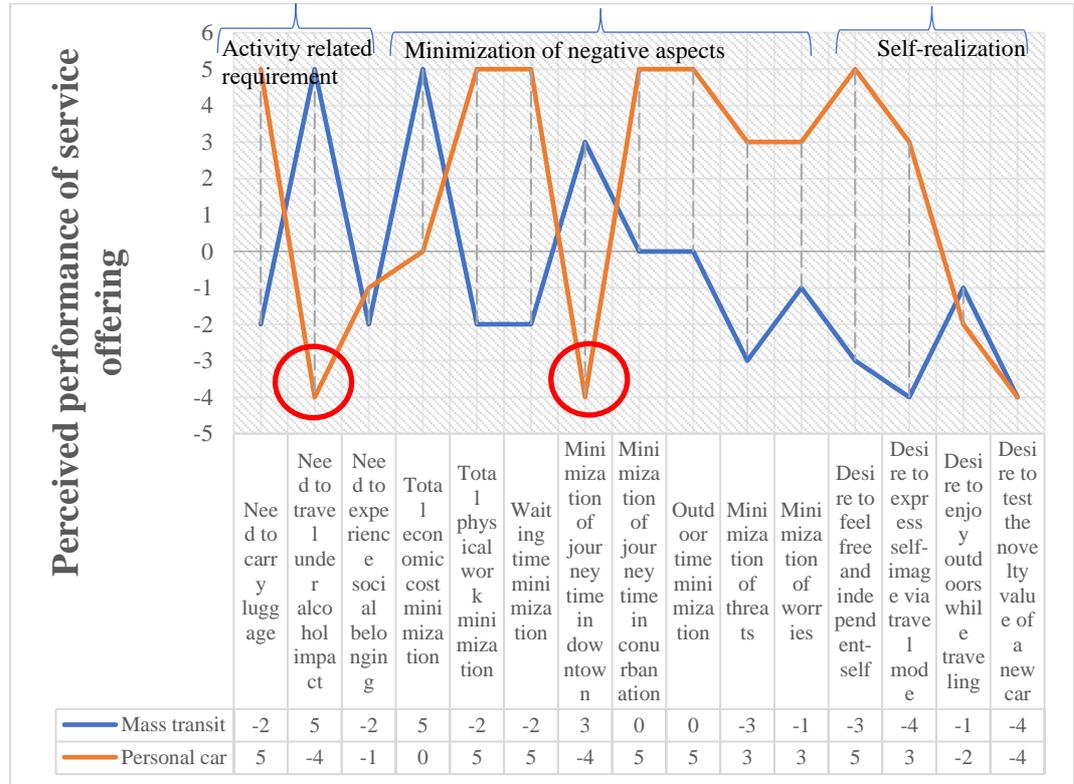
It can be noted that there are several factors which are influencing into consumer's decision to upgrade the trip into a more expensive vehicle from the vehicle that they usually take for this activity. A differentiator/more expensive service increases the service experience in those spots, where the cheaper service clearly fails.

In the following, every transport mode is analyzed towards their realized competitor. The analysis is done with value curve -method, which was developed by Kim & Maubourgne in 1999. The positioning and comparison between different value attributes was done with lifting the feels and tones from the interviews straight after an interview. Hence, the bigger picture about every need, activity requirement and desire were formed little by little.

Car succeeds outside city centers

The biggest value in a personal car was its ability to convey freedom and independence. Cars had role in transporting self, but also for others (kids) as well. However, in a city center, this critical task was noted not to be realized properly and thus caused reluctance to use car in city center. Car's value was disrupted by the parking lot expenses and worries about parking as general, which turned the perceived value negative. Hence, value perceived in a private car is varying a lot depending if it was used in city center or in suburban area. Graph 1 presents attributes, which caused the consumers to change their travel mode. The higher the number in the graph, the higher is the vehicles ability to fulfill customer needs. Vice versa, the lower the number, the lower score vehicle got from consumers by suitability. In the graph, it is interesting to look at the points where the cheaper mode failed and more expensive mode succeeded well. These points were the points that customers saw critical in specific situations and hence those are circulated with red.

Graph 1. Mass transit versus personal car.



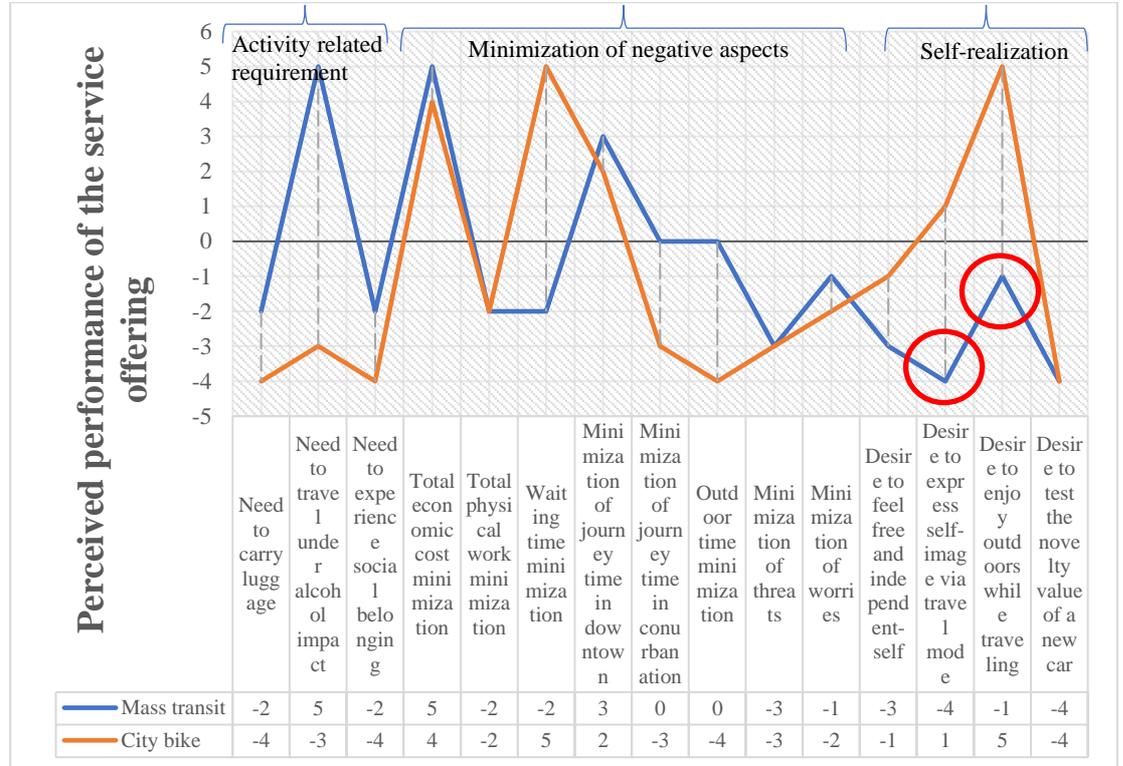
Services thrive in city center

The mobility services in examined city can be set in a hierarchy by their price. The hierarchy from lowest to highest cost is:

1. City bikes
2. Mass transit
3. Shared car
4. Taxi

Due to weather’s variability, city bikes were not taken as one fundamental travel option, but more as optional travel mode for different moods. Their role in the market is to bring additional value by enabling self-realization, that is not possible with mass transit. Interviewees highlighted aspects such as, desire to enjoy outdoors & desire to express self-image.

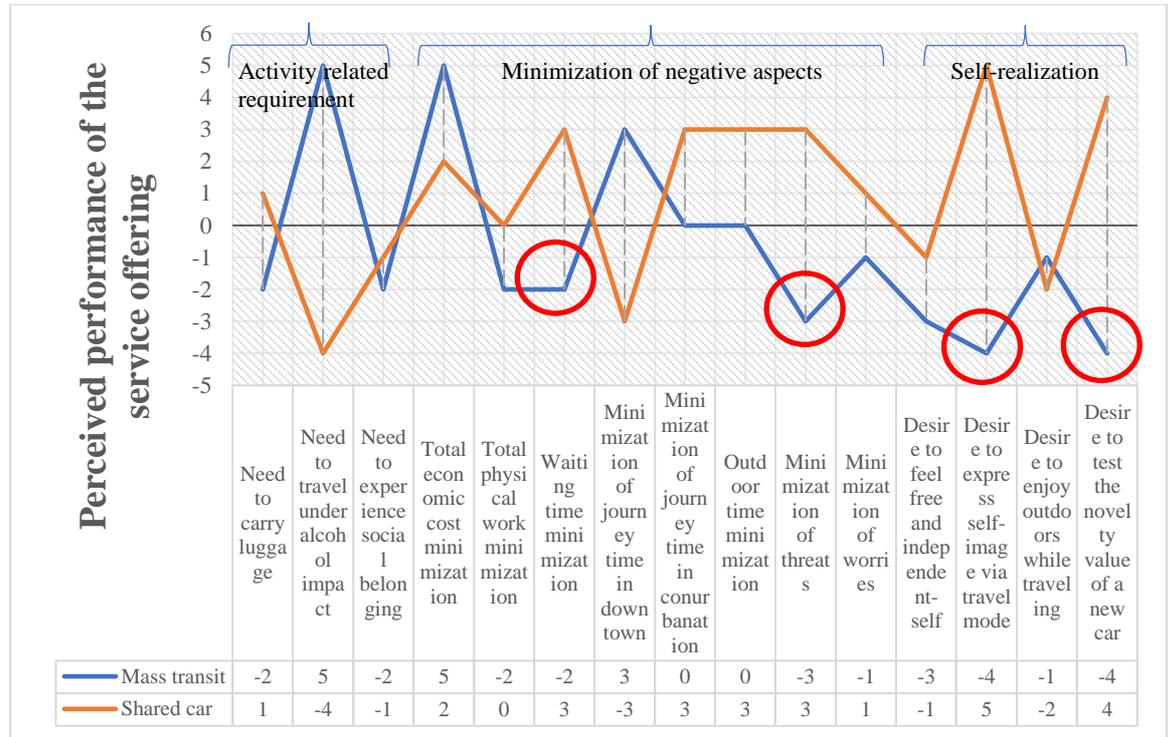
Graph 2. Mass transit versus city bike.



The mass transit was clearly suffering from the lack of control. However, travel applications reduce energy costs that are required for planning travel chains and the uncertainty that comes with the lack of total control. These applications increase mass transit’s competitive advantage by bringing more sense of control to the travel experience, which reduce the need for upgrading the service type.

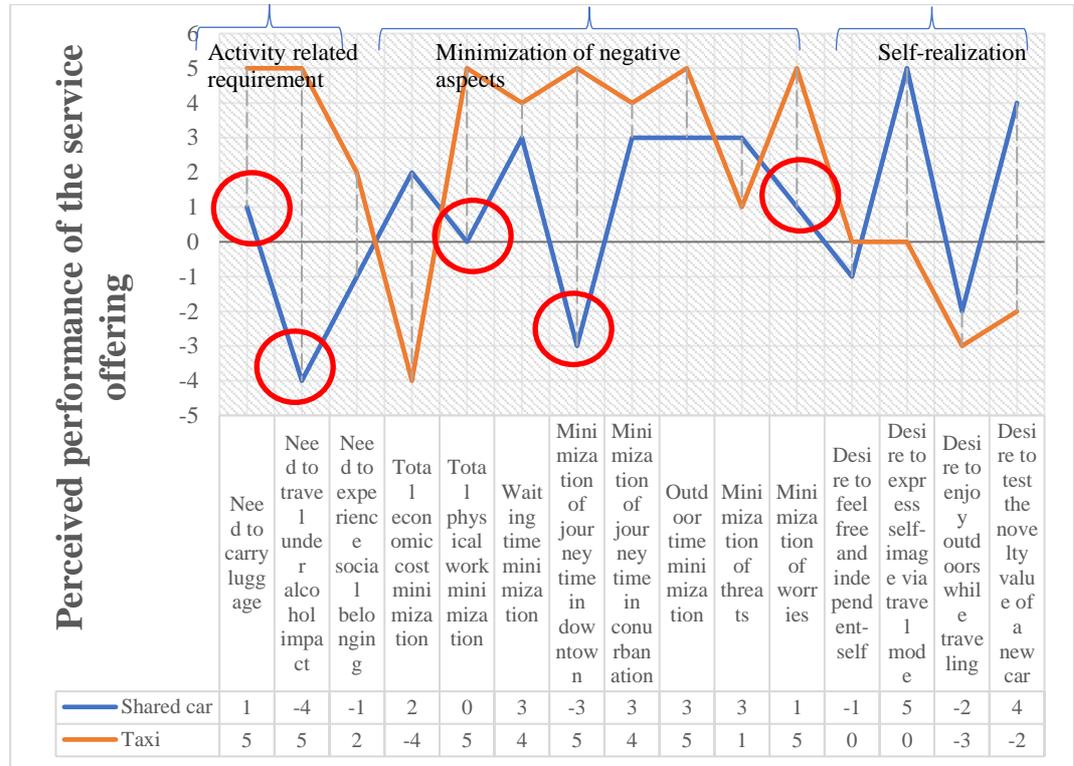
The travel changes from mass transit to shared cars were clearly upgrades. Although mass transit users thanked the cheap price, it could not convey security as much as intimate DriveNow car. The security aspect was really important specifically at dark. DriveNow succeeded also to convey the feeling of continuous trip, which removed the hated attribute in mass transit: waiting. Additional value DriveNow brought with self-realization aspects, such as desire to express self-image and desire to test new cars (Graph 3 below).

Graph 3. Mass transit versus shared car.



Upgrades to a taxi were made by the same reason: the demand for 100% reliability. Even though the difference in “minimization of worries” is small between taxi and a shared car, the customer requirement was many times 100% reliability, which outperforms shared cars. No questions are left for any distraction. By general, the decision to buy taxi trip was born after the interviewee eliminated every other vehicle type out. No other service could in these cases deliver such a worryless experience. The worryless aspect realizes in the maximum minimization of negatively perceived aspects (Graph 4 below).

Graph 4. Taxi versus shared car.



5.2 What prerequisites enable a holistic MaaS concept to succeed?

This study identified eight activities in consumer everyday life, that were controlling the repetitive mobility patterns. Activities, such as schooling, working, grocery shopping, meetings and different actions that demand transporting somebody else, are the reasons, when interviewees were pondering why they move at all. These eight activities were set as the starting point for defining a holistic mobility service. Each of the activities must be supplied with some kind of mobility option that answers well enough to consumer demands. The study identified problems, which causes customers to be not pleased with current solutions. These problems can be divided into service quality gaps & service business opportunities, which indicate needs for developing totally new services. Next, business opportunities and service quality gaps are presented.

5.2.1 Service business opportunities

This chapter gathers the notable business opportunities, that arose from direct or indirect demand in the interviews.

1. Release time from being in a vehicle

As seen in table 7, activity-based mobility patterns can be divided into journeys for own activity and journeys for transporting somebody else. Trips related to own activities require the traveler to execute the journey, while the second, transporting trip, does actually not. When studying family's travel chain, it was noted that transporting a child on and off the hobby place was perceived very difficult task to fit into parent's travel chain: a separate round-trip is needed on early evening for taking a child to hobby, which after the training requires a second round-trip for carrying the child off. The journeys are therefore separate and cannot be combined with parent's own commute returning.

One solution to this problem would be abandoning parent's driver role and outsourcing it to someone else. Outsourcing child hobby transportation would bring significant time savings to parents, as only one hobby day's carrying takes

practically the rest of parent's free time in the evening. The situation emerged in the interviews where the family had two children, and both would do a few times a week. Time savings would hence be equivalent to four evenings on a week. The saving for a parent is significant and since there was noted indirect demand, this business opportunity could be worth of further investigation.

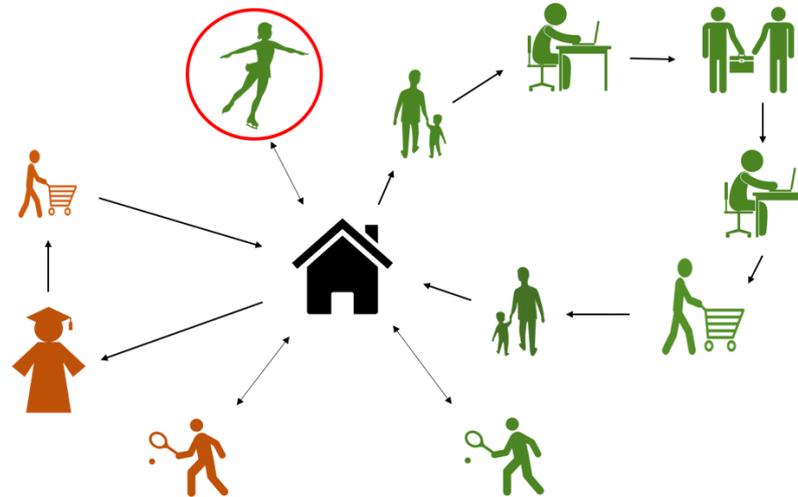


Figure 12. Outsourcing the driver's role.

The second noted type of carrying is related to kids' nursery school trips. However, as this transportation was perceived easy to combine to own travel chain, no direct or indirect demand was emerged. This was due to the fact that nurseries were locating on a walking distance from home, which means that buying the transportation for this would be useless.

The third noted trip that concerned carrying was a shopping trip to grocery store. However, this study did not investigate how shopping is perceived by the consumer. The shopping activity itself can or cannot create value for the customer, although the purpose of the trip is carry the groceries home.

2. Differentiate pricing models for car sharing services

The bitter attitudes of the carless interviewees were surprising. The bitterness was due to DriveNow's unsuitability for journeys where carless consumers would definitely need a car. The interviewed carless specifically mentioned the Ikea trip, where the journey requires not only easy transportation of goods but also the natural flexibility of the car waiting outside on the parking lot. DriveNow's cars are not suitable for this need by the interviewees, as the booking of cars for a few hours would cost disproportionately. As another example, one carless interviewee mentioned the weekend breaks, where she had been pondering what would it cost to rent DriveNow car over a weekend. Currently, renting a car for a weekend is perceived so expensive that it is not often considered in practice. Also, the bureaucracy of other car rental services is horrifying. The situation gives a hint of how important it has been for car sharing services to enable online communication and information options. When consumers are able to perform the booking and payment immediately, they perceive immediate increase in the ease of use.

The key factor in order to attract carless consumers would be hence the flexibility in pricing among service operators. In the aforementioned examples, the minute-based pricing is producing so big costs, that the journeys are thus left unimplemented. In order to be able to generate a holistic Mobility as a Service, the service should include more than minute-rate pricing models for using cars.

5.2.2 Service quality gaps

The study identified four situations that are affecting very negatively into consumer's service experience. Although many critical expressions were found in the interview transcriptions, the attitudes towards these four points were seen significantly important than others. The strongly negative perceived service quality gaps reduced, or even completely abolished, the use of the service. These frustration points should be prioritized for MaaS solutions since they not only increase traveler experience but together represent big part of value that the whole transportation ecosystem offers. Those points are represented next.

The biggest problems were overwhelmingly with car sharing, when car parking problems reduced the use of the service clearly. Consumers also assumed that DriveNow's application would provide more information about potential parking spots, which would ease cognitive efforts of spotting the right type of parking areas & uncertainty about if the lots were available for use.

Secondly, a strong negative service experience arose in the price of a taxi service, which was considered too expensive to use. This was the reason why taxis were always set last in consumer's transport mode comparison hierarchy and why DriveNow succeeds to lure customers from taxis' customer segments. The service quality gap may not be easy to fulfill, since every taxi must have a personal driver that costs. However, it provides an opportunity for sharing economy business models, which can provide more competitive pricing.

Thirdly, some interviewees refused to use city bikes due to safety problems. These interviewees would always set the requirement for helmet, which is not usually available since city bikes are used spontaneously. The aspect of safety is question of if there is room for improvement in the cycling infrastructure & safety accessories, that could be provided for users.

Finally, mass transit is perceived as a very slow transport mode when the journey lasts more than 2 kilometers. If the situation was combined with other lightly negative aspects such as rain or drunkards, the service usage was many times abandoned. User experience could be enlightened by adding something that increases feeling of safety, such as monitoring. The feel of slowness in mass transit can barely be improved without new business model development for these kinds of longer trips.

The travel applications, which emerged with mass transit interviews were operating only as a support element for transport mode decision making. Since consumers are already using these applications, it would be logical to integrate all payment &

booking processes under one application. However, interviewees did not strongly complain about the fragmentation of payments and bookings except in one interview; the interviewee explained why the barrier to use a shared car is much lower than renting a car from car rental service. The point was concerning more about the bureaucracy of car rentals than the difficulty of paying in everyday travels.

Challenges of variable mobility services are described in table 17. Here, the value disruptors have been divided into two levels by the intensity. Strongly negatives are bolded in red, which asks for actions towards service quality development. These points woke up intensive feelings in the interviews: usually perceived as “very irritating”. It is notable, that the customers were not ready to “forgive” these negative factors to service provider. However, the negative factors marked with black were not causing that much annoyance. The following table 17 presents every transport mode’s core value with its value disruptors.

Table 17. Core value and value disruptors. Attributes, that were perceived as very negative, are bolded in red.

		Core value	Value disruptors
Mobility as a Service	Private car	<ul style="list-style-type: none"> - Possibilities - Enabler of active life - Freedom & independence 	<ul style="list-style-type: none"> - The lack of cheap parking space in downtown - Commercial parking is very expensive
	Mass transit	<ul style="list-style-type: none"> - Cheap offering for every mobility in downtown 	<ul style="list-style-type: none"> - Feeling of slowness in longer journeys - Lack of control - Poor weather has negative effect on perception - Lack of personal space
	City bike	<ul style="list-style-type: none"> - Enjoying outdoors - Enjoyment 	<ul style="list-style-type: none"> - Lacks in safety - Inconvenient during bad weather
	Shared car	<ul style="list-style-type: none"> - Improved control to mass transit - Proposition of being pioneer - Everyday luxury 	<ul style="list-style-type: none"> - Difficulties in finding a free parking lot
	Taxi	<ul style="list-style-type: none"> - Certainty - Ease 	<ul style="list-style-type: none"> - Perceived too expensive
	Apps	<ul style="list-style-type: none"> - Minimization of uncertainties - Minimization of cognitive effort 	

5.3 Limitations

The limited number of seven interviews may form the biggest limitation for this study. It was noted that answers and same key points were reoccurring in the latest interviews and very few new points emerged in newest interview sessions. This referred that the information gained by new interviews would not increase the level of new information. Thus, seven interviews were then set for the level of saturation.

Always when implementing qualitative study there is a bias between interviewer's targets and the points that could be neutrally lifted from the transcribed text. This problem was acknowledged and thus, transparency in the empirical text was one target in the implementation phase of the empirical part formation.

6 CONCLUSIONS

This section draws conclusions that describe sharply what can be said about the research problem based on the results.

Holistic mobility service experience management is weak, and improvements are needed. The major problems related to transportation are concerning service quality gaps, which are decreasing the willingness to pay from the individual services. The improvement of those gaps is important since one individual service represents the holistic mobility service offering and if one piece of the chain is weak, it influences negatively to the perception of the rest. The development of a network of mobility services would require lots of control in order to manage the quality gaps in different firms. The solution could be vertical integration. With vertical integration, companies can ensure that every piece of service is seamlessly working together without discrimination.

Control of the network could be managed by HSL: The services in city are now organized around HSL. Where HSL fails, a new service is established for fulfilling customer requirements. In the end, this could be only a question of improving the customer experience in public transport systems. However, as a public and governmentally supported actor, HSL probably cannot produce high-price solutions, which leaves space for others. Here is a huge business opportunity for HSL: as it can't directly provide high-price solutions, it can integrate other services into its own platform without directly selling the services. Therefore, being in the platform would exploit every actor as the sales of their service would probably boost due to increased visibility.

However, public transport's dominant position in the field can also be the barrier for development. As it was seen in empirical results (chapter 5.2.1.), private car usage was enhanced by smaller regional transportation systems that were not as good as in Helsinki. At the same time, governmental transportation still dominates the transportation field with cheap prices, enabling a huge barrier for more efficient

peer-to-peer car sharing services for example. This conflict makes private sector service development very challenging.

Possibilities for providing “Mobility as a Service” lie in the trips that are for transporting somebody/something else than the person himself/herself.

Particularly, if these needs are repetitive, a new service can partially remove the time that has been spent in the vehicle, which people perceived as heavy duty in the long-term. The question is about how much people are ready to pay for their own free-time. In the study, this aspect was interpreted as “highly important”.

For a company, it is anyhow crucial to identify the right service production approach: it is unnecessary to sell a holistic service offering for a customer that aims clearly to gain only the core solution at cheapest price. Same way, firms, who understand holistic needs of the customers have great opportunities for competitive advantage creation. It is important also to note that additional value is not always increasing consumer value perception. At worst, the additional value can be experienced as negative, when there is a chance for it to cannibalize the core value from the service. Hence, there is a need for segmenting customers into groups by their priorities (identified consumer needs in table 16) via quantitative study.

Ultimate MaaS model may include vehicles that still require driver, since consumers feel self-realization when they take the control.

It was interesting to note, that the feeling of self-realization was very well conveyed by three transport modes: private car, shared car and city bikes. Common for these platforms is that people are in total control of their trip wherever they move. These transport modes were also the platforms where people felt that they are reflecting themselves through the vehicle. With a shared car, it was strongly linked to being pioneer. With a city bike, it was linked with a desire to express own sporty personality. Personal car in turn reflected self-image, although the underlying reason was left unclear. Hence, the complete pooling of mobility needs would require also situations where customers are also acting as drivers. Otherwise, the feeling of 100% control is not achieved.

Future research

This study focused around perceived consumer value in and between transport modes. The future research could direct more to study on how interviewees' activities are dividing geographically. Studying this might show the reasons why particular services were chosen to be consumed and how their location influenced to the decision to consume particularly that service. This could tell if some important services for consumers were totally dismissed due to their tricky placement and could leave a hint of how to arrange MaaS more holistically: bringing the services near customer, for example.

This study succeeded to picture the points where people demand for better quality or better performance. However, there is no sign of a certain guideline, that can be applied to every consumer's decision making regarding the transport mode choice. Activity-related requirements, negative aspect minimization and desires do not have the same role among consumers' decision making and thus the forming of framework of mobility decision making is difficult. People have different activities and they aim to minimize different attributes. The need that is a critical aspect for one traveler, might not be so important to other. Thus, every attribute might have their positive and negative meaning that is experienced individually. It is thus evident, that more people with different life activities, different priorities and desires might be useful in the future for investing the potential for the MaaS concept. The findings could be combined with quantitative study that draws the results into a big scale, which clarifies the importance of the findings in this study.

7 REFERENCES

Almquist, E., Senior, J. & Bloch, N. (2016). The Elements of Value, *Harvard Business Review*, Boston.

Anker, T.B., Sparks, L., Moutinho, L. & Grönroos, C. (2015). Consumer dominant value creation: A theoretical response to the recent call for a consumer dominant logic for marketing, *European Journal of Marketing*, vol. 49, no. 3/4, pp. 532-560.

Arthur D. Little (2014). The Future of Urban Mobility 2.0: Imperatives to shape extended mobility ecosystems of tomorrow urban ecosystems for tomorrow.

Online. Accessible at:

http://www.uitp.org/sites/default/files/members/140124%20Arthur%20D.%20Little%20%26%20UITP_Future%20of%20Urban%20Mobility%202%200_Full%20study.pdf [Accessed 7.4.2017]

Bosch, J. (2016). Speed, Data, and Ecosystems: The Future of Software Engineering, *IEEE Software*, vol. 33, no. 1, pp. 82-88.

Catapult (2016). Mobility as a Service: Exploring the opportunity for Mobility as a Service in UK. *Online*. Accessible at: https://ts.catapult.org.uk/wp-content/uploads/2016/07/Mobility-as-a-Service_Exploring-the-Opportunity-for-MaaS-in-the-UK-Web.pdf [Accessed 10.5.2017]

Christensen, C.M., Hall, T., Dillon, K. & Duncan, D.S. (2016). Know Your Customers' "Jobs to Be Done", *Harvard Business Review*, Boston.

DriveNow 2017. Tietoa meistä. *Online*. Accessible at: <https://www.drivenow.com/fi/fi/about>

Garling, T. (2005). Changes of private car use in response to travel demand management. *Traffic and transport psychology: theory and application*. In G. Underwood (Ed.), Oxford.

Garvin, G.A. (1987). Competing on the eight dimensions of quality. *Harvard Business Review*.

Grant, R.M. (2015) *Contemporary strategy analysis*, 7 th edn, John Wiley & Sons, Chichester, West Sussex.

Grönroos, C. and Tillman, M. (1998). *Nyt kilpaillaan palveluilla*. Helsinki: WSOY.

Grönroos, C. (2009). *Palvelujen johtaminen ja markkinointi*. Helsinki: WSOYpro.

Grönroos, C. and Voima, P. (2013). Critical service logic: making sense of value creation and co-creation, *Journal of the Academy of Marketing Science*, Vol. 41 No. 2, pp. 133-150.

Heimans, J. & Timms, H. (2014). Understanding "New Power", *Harvard Business Review*, Boston.

Heikkilä S. (2014). Mobility as a Service – A Proposal for Action for the Public Administration. *Master's Thesis*. Aalto University. Espoo.

Heinonen, K. & Strandvik, T. (2015). Customer-dominant logic: foundations and implications, *Journal of Services Marketing*, vol. 29, no. 6/7, pp. 472-484.

Helsingin Seudun Liikenne (2017). Annual report 2016. *Online*. Accessible at: <https://vuosikertomus.hsl.fi/2016>

Helsinki 2017. Liikenteen kehitys Helsingissä 2016. *Online*. Accessible at:
<https://www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/julkaisu-05-17.pdf>

Holbrook M. (1999). *Consumer Value: A Framework for Analysis and Research*. Psychology Press. pp. 12.

Kavadias, S., Ladas, K. & Loch, C. (2016). The transformative business model: how to tell if you have one, *Harvard Business School Press*.

Kim, W.C. & Mauborgne, R. (1999). Creating new market space, *Harvard Business School Press*, UNITED STATES.

Kulmala M., Varjola M. (2016). MaaS Maanläheisesti: Paikallisliikenneliiton vuosikokous 10.3.2016. *Online*. Accessible at:
http://www.paikallisliikenneliitto.fi/liitteet/VK2016_Mika_Varjola_Mika_Kulmala.pdf [Accessed 7.4.2017]

Lapierre, J. (2000). Customer-perceived value in industrial contexts. *Journal of Business & Industrial Marketing*, 15(2/3), pp.122-145.

Luoma, Kristian (2017). Head of OP Lab. *Interview*. Espoo 8.8.2017.

Lusch, R.F., Vargo, S.L. & O'Brien, M. (2007). Competing through service: Insights from service-dominant logic, *Journal of Retailing*, vol. 83, no. 1, pp. 5-18.

Lynch, J. (1992). *The psychology of customer care*. Houndmills, Basingstoke, Hampshire. Macmillan.

MacMillan I., (2012). The attribute map: part one. *Online*. Accessible at: <https://executiveeducation.wharton.upenn.edu/thought-leadership/wharton-at-work/2012/06/attribute-map-1> [Accessed 25.7.2017]

Maslow, A., (1943). A theory of human motivation. *Psychological Review*, 50(4), pp. 370-396.

Murray, H.A. (1938). Explorations in personality. Oxford, England: Oxford Univ. Press.

Mazumdar, T. (1993). A value-based orientation to new product planning. *Journal of Consumer Marketing*, 10(1), pp.28-41.

OP Financial Group (2017). OP Year 2016. *Online*. Accessible at: <https://www.pohjola.fi/media/liitteet?cid=-2057&srcpl=3&srcpl=3> [Accessed 10.11.2017]

Poikkimäki, J. and Koivisto, T. (2006). Uusien liiketoimintamahdollisuuksien strateginen innovointi, Helsinki: VTT. *Online*. Accessible at: <https://www.vtt.fi/inf/pdf/tiedotteet/2006/T2355.pdf>

Porter, M. E. (1985) Competitive advantage: creating and sustaining superior performance. New York: Free Press, cop. 1985.

Porter, M. E. (1990). The Competitive Advantage of Nations. *Harvard Business Review*. No. 2. 73–93.

Smith, J. and Colgate, M. (2007). Customer Value Creation: A Practical Framework. *The Journal of Marketing Theory and Practice*, 15(1), pp.7-23.

Solomon, M.R. (2009). Consumer behavior: buying, having, and being, 8.th edn, Prentice Hall, Upper Saddle River, N.J.

Stradling, S. (2011). Travel Mode Choice. *Handbook of Traffic Psychology*. 485-502. 10.1016/B978-0-12-381984-0.10034-7.

Taxi Helsinki Oy (2016). Yritysesittely. *Online*. Accessible at:
<https://taksihelsinki.fi/yritys/yritysesittely/>

Tuomi, J. and Sarajärvi, A. (2009). Laadullinen tutkimus ja sisällönanalyysi. Helsinki: Tammi.

Attachments

Attachment 1. *Pre-selected interview questions: consumer perceived value in everyday mobility services ecosystem.*

Perustiedot

- Vastaajan ikä
- Vastaajan elämäntilanne (esim. opiskelija, työssäkäyvä yms.)
- Vastaajan parisuhdetila
- Vastaajan elinalue
- Kuinka monta matkaa teet päivässä, ihan millä tahansa kulkuvälineellä?
 - o Entä viikossa?
- Mikä on matkojen tarkoitus?
 - o Monia eri tarkoituksia samalla matkalla?
- Ovatko matkat hyvin toteutettavissa joukkoliikenteellä?
- Mitä kaikkia kulkuvälineitä sä sitten käytät?
 - o Mitä et käytä? Tai käytät hyvin vähän?

Yhteiskäyttöauton käyttö

- Tuleeko sulle heti mieleen joitakin asioita, jotka ärsyttävät DriveNow-palvelussa?
 - o Kuinka paljon ärsyttää?
 - o Ootko silti tyytyväinen saamaasi kokonaispalveluun vai vältteletkö palvelua juuri tän takia?
 - o Onks toiset ärsyttävät asiat vahvempia tunteita kuin toiset?
 - Voiko joitakin epäkohtia ymmärtää/antaa anteeksi?

Product:

- Minkä kulkuvälineiden kanssa DriveNow kilpailee samoista matkoista?
 - o Minkä kans ei?
 - o Eli mitkä kulkuvälineet ovat sun mielestä DriveNow auton kilpailijoita?

- Mitkä on mielestäsi pääsyyt, että sä valitset matkaan DriveNow:n, etkä omaa autoa?
 - o Syyt, että käytät DriveNow:n autoa etkä kaupunkipyörää? Miksi?
 - o Syyt, että käytät DriveNow:n autoa etkä taxia? Miksi?
 - o Syyt, että käytät DriveNow:n autoa etkä joukkoliikennettä? Miksi?
- Onko joku ominaisuus, joka palveluun ”olisi saatava”? Vai tarvitseeko lisätä sun mielestä mitään?
- Mikä DriveNow autolla matkaamisessa on sun mielestä paljon kivempaa kuin kilpailijoilla/muissa liikkumisen muodoissa?
 - o Mitkä asiat ovat paljon paremmin & millä asioilla on vain pieni merkitys?

Information:

- Minkälaisia juttuja hoidat puhelimella DriveNow matkoihin liittyen?
 - o Miksi se puhelin **on / ei ole** palvelun käyttämisessä niin tarpeellinen?
- Kuinka spontaanisti DriveNow matkatarpeet syntyvät?
- Millainen rooli on navigointisovelluksella DriveNow-autoilussa?
- Onko tiedon saaminen tehty sun mielestä helpoksi? Ja miksi se on/ei ole helppoa?

Interactions:

- Kuinka sulavasti DriveNow:lla matkustaminen sun mielestä sujuu?
- Mites omalla autolla ajaminen yleensäkin? Koetko sen stressaavaksi vaiko mielihyvää tuottavaksi?
 - o Entä drivenow auto? Tekeekö se eroa?
- Mitä ajattelet siitä, että DriveNow palvelussa ei ole kuskia?
- Minkälainen rooli DriveNow:lla on matkaketjussa?

Purchase & Consumption environment:

- Mitä mieltä olet DriveNow autosta kulkuneuvona? Nyt siellä on tarjolla BMW & MiniCooper autoja.
 - o Millainen fiilis matkaamisesta tulee?

- Lisäisikö joku auto sinun palvelunkäyttöä?
- Onko autolla väliä?
- Mitkä tilanteet ovat aiheuttaneet epämukavan olon?
 - Miten tämä on vaikuttanut matkustushalukkuuteen?
- Miten parkkipaikan löytäminen vaikuttaa oman auton käyttöön?
 - Entä DriveNow auton käyttöön?
- Miten paljon huono sää vaikuttaa siihen, menetkö DriveNow:n turvin vai et?
 - Käytätkö jotain toista liikkumisen muotoa silloin?
- Miten suuri vaikutus on sillä, että palvelu tarjoaa hyvän ilmapiirin seurustella toisen/ muiden ihmisten kanssa?

Ownership/Possession transfer:

- Liikkumisen palvelua verrataan monesti omaan autoon.
 - Voiko DriveNow:n auton rinnastaa jo ihan omaan autoon?
- Mitä oma auto noin yleensä ottaen sinulle merkitsee?
 - Miten DriveNow onnistuu tässä omaan auton rinnastamisessa?
- Autoilijana, oletko eniten
 - Intohimoinen autoilija
 - Jokapäiväinen Rationaalinen autonkäyttäjä vaiko
 - Vapaa-ajan autonkäyttäjä?
 - Kuinka kiintynyt olet autoon noin yleensä?
 - Entä DriveNow autoon?
- Koetko että se, paljonko maksat, on sopiva hinta siitä matkasta?
 - Mikä painoarvo on palvelun hinnalla?
- Onko DriveNow sulle imagotekijä?

Joukkoliikenteen käyttö

- Tuleeko sulle heti mieleen joitakin asioita, jotka ärsyttävät DriveNow-palvelussa?
 - Kuinka paljon ärsyttää?
 - Ootko silti tyytyväinen samaasi kokonaispalveluun vai vältteletkö palvelua juuri tän takia?

- Onks toiset ärsyttävät asiat vahvempia tunteita kuin toiset?
 - Voiko joitakin epäkohtia ymmärtää/antaa anteeksi?

Product:

- Minkä kulkuvälineiden kanssa joukkoliikenne kilpailee samoista matkoista?
 - Minkä kans ei?
 - Eli mitkä kulkuvälineet ovat sun mielestä joukkoliikenteen kilpailijoita?
- Mitkä on mielestäsi pääsyyt, että sä valitset matkaan joukkoliikenteen, etkä omaa autoa?
 - Syyt, että käytät joukkoliikennettä etkä kaupunkipyörää? Miksi?
 - Syyt, että käytät joukkoliikennettä etkä taxia? Miksi?
 - Syyt, että käytät joukkoliikennettä etkä DriveNow:ta? Miksi?
- Onko joku ominaisuus, joka palveluun ”olisi saatava”? Vai tarvitseeko lisätä sun mielestä mitään?
- Mikä joukkoliikenteellä matkaamisessa on sun mielestä paljon kivempaa kuin kilpailijoilla/muissa liikkumisen muodoissa?
 - Mitkä asiat ovat paljon paremmin & millä asioilla on vain pieni merkitys?

Information:

- Minkälaisia juttuja hoidat puhelimella joukkoliikenteeseen liittyen?
 - Miksi se puhelin **on / ei ole** palvelun käyttämisessä niin tarpeellinen?
- Kuinka spontaanisti joukkoliikenteen matkatarpeet syntyvät?
- Millainen rooli on navigointisovelluksella?
- Onko tiedon saaminen tehty sun mielestä helpoksi?
 - Ja miksi se **on/ei ole** helppoa?

Interactions:

- Kuinka sulavasti joukkoliikenteellä matkustaminen sun mielestä sujuu?
- Millainen rooli joukkoliikenteellä on matkaketjussa?

Purchase & Consumption environment:

- Mitä mieltä olet bussista kulkuneuvona?
 - o Junista?
 - o Metrosta?
 - o Raitiovaunusta?
 - Matkaatko jollain kulkuneuvolla pelkän fiiliksen vuoksi?
- Mitkä tilanteet ovat aiheuttaneet epämiellyttävän olon?
 - o Miten tämä on vaikuttanut matkustushalukkuuteen?
- Kuinka tärkeäksi koet, että on mahdollisuus olla jollain tavalla ”tuottelias” matkan aikana?
- Miten paljon huono sää vaikuttaa siihen, menetkö joukkoliikenteen turvin vai et?
 - o Käytätkö jotain toista liikkumisen muotoa silloin?
- Miten suuri vaikutus on sillä, että palvelu tarjoaa hyvän ilmapiirin seurustella toisen/ muiden ihmisten kanssa?

Ownership/ possession transfer:

- Koetko että se, paljonko maksat, on sopiva hinta siitä matkasta?
 - o Mikä painoarvo on palvelun hinnalla?
- Onko joukkoliikenne sulle imagoitekijä?

Kaupunkipyörän käyttö

- Tuleeko sulle heti mieleen joitakin asioita, jotka ärsyttävät kaupunkipyöräpalvelussa?
 - o Kuinka paljon ärsyttää?
 - o Ootko silti tyytyväinen saamaasi kokonaispalveluun vai vältteletkö palvelua juuri tän takia?
 - o Mitkä asiat nousevat vahvimmin esille?
 - Voiko joitakin epäkohtia ymmärtää/ antaa anteeksi?

Product:

- Mitkä kulkuvälineet ovat sun mielestä kaupunkipyörien kilpailijoita?
 - o Eli minkä kulkumuotojen kanssa se kilpailee samoista matkoista?
- Mitkä on mielestäsi pääsyyt, että sä valitset matkaan kaupunkipyörän, etkä omaa autoa?
 - o Syyt, että käytät kaupunkipyörää etkä joukkoliikennettä? Miksi?
 - o Syyt, että käytät kaupunkipyörää etkä drivenow:ta? Miksi?
 - o Syyt, että käytät kaupunkipyörää etkä taxia? Miksi?
- Onko palveluun liitettävissä joku ominaisuus, joka ”olisi saatava”? Vai tarvitseeko lisätä sun mielestä mitään?
- Mikä kaupunkipyörillä matkaamisessa on sun mielestä paljon kivempaa kuin kilpailijoilla/muissa liikkumisen muodoissa?
 - o Mitkä asiat ovat paljon paremmin & millä asioilla on vain pieni merkitys?

Information:

- Minkälaisia juttuja hoidat puhelimella DriveNow matkoihin liittyen?
 - o Miksi se puhelin **on / ei ole** palvelun käyttämisessä niin tarpeellinen?
- Kuinka spontaanisti pyörämatkat syntyvät?
- Millainen rooli on navigointisovelluksella?
- Onko tiedon saaminen tehty sun mielestä helpoksi? Ja miksi se **on/ei ole** helppoa?

Interactions:

- Kuinka sulavasti kaupunkipyörällä matkustaminen sun mielestä sujuu?
- Koetko, että pyöräily olisi tuotteliasta?
 - o Kuinka vahvasti sä tunnet näin?
- Minkälainen rooli kaupunkipyörällä on matkaketjussa?

Purchase & Consumption environment:

- Mitä mieltä olet kaupunkipyörästä kulkuneuvona?
 - o Millainen fiilis siitä tulee?
- Mitkä tilanteet ovat aiheuttaneet epämukavan olon?
 - o Miten tämä on vaikuttanut matkustushalukkuuteen?
- Miten paljon huono sää vaikuttaa siihen, menetkö kaupunkipyörän turvin vai et?
 - o Käytätkö jotain toista liikkumisen muotoa silloin?
- Miten suuri vaikutus on sillä, että palvelu tarjoaa hyvän ilmapiirin seurustella toisen/ muiden ihmisten kanssa?

Ownership/ possession transfer:

- Miten koet pyörien aikarajoitteet?
- Koetko että se, paljonko maksat, on sopiva hinta siitä matkasta?
 - o Mikä painoarvo on palvelun hinnalla?
- Onko kaupunkipyörä sulle imagotekijä?

Taxit

- Tuleeko sulle heti mieleen joitakin asioita, mitkä ärsyttävät taxi-palvelussa?
 - o Kuinka paljon ärsyttää?
 - o Ootko silti tyytyväinen saamaasi kokonaispalveluun vai vältteletkö palvelua juuri tän takia?
 - o Mitkä asiat nousevat vahvimmin esille?
 - Voiko joitakin epäkohtia ymmärtää/ antaa anteeksi?

Product:

- Minkä kulkuvälineiden kanssa taxi kilpailee samoista matkoista?
 - o Minkä kans ei?
 - o Eli mitkä kulkuvälineet ovat sun mielestä taxin kilpailijoita?
- Mitkä on mielestäsi pääsyyt, että sä valitset matkaan taxin, etkä omaa autoa?
 - o Syyt, että käytät taxia etkä kaupunkipyörää? Miksi?

- Syyt, että käytät taxia etkä DriveNow:ta? Miksi?
- Syyt, että käytät taxia etkä joukkoliikennettä? Miksi?
- Onko joku ominaisuus, joka palveluun ”olisi saatava”? Vai tarvitseeko lisätä sun mielestä mitään?
- Mikä taxilla matkaamisessa on sun mielestä paljon kivempaa kuin kilpailijoilla/muissa liikkumisen muodoissa?
 - Mitkä asiat ovat paljon paremmin & millä asioilla on vain pieni merkitys?

Information:

- Minkälaisia juttuja hoidat puhelimella taxi-matkoihin liittyen?
 - Miksi se puhelin **on / ei ole** palvelun käyttämisessä niin tarpeellinen?
- Kuinka spontaanisti taximatkatarpeet syntyvät?
- Millainen rooli on navigointisovelluksella
- Onko tiedon saaminen tehty sun mielestä helpoksi? Ja miksi se **on/ei ole** helppoa?

Interactions:

- Kuinka sulavasti taxilla matkustaminen sun mielestä sujuu?
- Mikä on taxikuskin merkitys siinä palvelukokemuksessa?
- Miten taxi sun mielestä eroaa drivenow:sta?
- Minkälainen rooli taxilla on matkaketjussa?

Purchase & consumption environment:

- Mitä mieltä olet taxista kulkuneuvona?
 - Millainen fiilis siitä tulee?
- Mitkä tilanteet ovat aiheuttaneet epämukavan olon?
 - Miten tämä on vaikuttanut matkustushalukkuuteen?
- Miten paljon huono sää vaikuttaa siihen, menetkö taxin turvin vai et?
 - Käytätkö jotain toista liikkumisen muotoa silloin?
- Miten suuri vaikutus on sillä, että palvelu tarjoaa hyvän ilmapiirin seurustella toisen/ muiden ihmisten kanssa?

- Käytätkö jotain tiettyä palvelua juuri tähän tarkoitukseen?
- Matkustatko vain tietyllä taxikuskilla / taxifirmalla?
 - Miten se on erilainen?

Possession:

- Taxit tulevat hyvin nopealla varoitusajalla verrattuna muihin liikkumisen palveluihin. Mikä merkitys tällä on?
- Koetko että se, paljonko maksat, on sopiva hinta siitä matkasta?
 - Mikä painoarvo on palvelun hinnalla?
- Onko taxi sulle imagotekijä?