

MaaS Global and Whim: The Future of Transportation

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<p>This study seeks to provide knowledge if MaaS Global and its application Whim is the future of transportation. The goal of this study is to see how the Whim application has already affected transportation in Helsinki and will it in future be the better alternative to private car ownership.</p> <p>The theoretical framework is based on MaaS Global's own articles, speeches at transportation events and research they have made. As well as theoretical books about studying the future, transportation and megatrends.</p> <p>The study was conducted with the help of articles, listening to speeches at events and reading interviews from MaaS Global. Data was gathered through articles from MaaS Global CEO Sampo Hietanen and attending events that Sampo was speaking at.</p> <p>The analytical approach for the research was futures research, a semi-structured/unstructured interview to find out from MaaS Global's employees, what they think and predict the future is for MaaS Global and Whim.</p> <p>The findings revealed that MaaS Global and Whim has challenges to overcome but is prepared for them and working towards making solutions for them.</p> <p>In conclusion MaaS Global has more opportunities than threats and will most probably make the company the future of transportation and changing the mindset of owning your own car to sharing.</p>	
Key words Whim, MaaS Global, application, mobility as a service, future.	

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1 Introduction

In this study the author will discuss if MaaS Global and Whim is the future of transportation. The author will also discuss generally about MaaS Global the application Whim and its effects on the public transportation and for the future.

The company sponsoring this study is MaaS Global. MaaS comes from words Mobility-as-a-Service. MaaS Global brings many types of transportation together under a single application called Whim. MaaS Global was the first MaaS operator and has already had a huge impact on transportation since the cars first become affordable to everyone. MaaS Global and Whim combines transport services such as public transportation, taxis, bikes, cars, and others, under one single application. (Whim 2019.)

The future is something that humans have always been interested in. The future is coming, and we need to be prepared for the changes it has for us and learn about it. When the world and our environment evolve, we need new skills to be successful and for example to take care of our planet. Which is why this study of MaaS Global and Whim being the future of transportation is very important. (Bishop & Hines 2012, 2-3.)

MaaS Global is aiming to replace privately owned cars by offering more an environmentally friendly approach with a combination of rental cars, public transportation, bikes and walking. With the world becoming more and more concerned about the environment and its situation Whim is thinking about the future and how we could pollute less in our everyday lives. The most challenging aspect of MaaS Global and Whim's goal is not only to change old-fashioned transportation service providers to become more modern but also to change the mindset and thinking of owning your own car to sharing.

1.1 Research objective and research questions

The main objective of this study is to see if MaaS Global and Whim is the future of transportation. The objective of this study is also the idea of MaaS

Global and Whim which is that people wouldn't need to own vehicles they need to use but instead use all of them for their individual needs. Whim is designed as all-in-one package where the application suggests the best solution for your intended route using all of its available elements and transportation options. (Korkia 2019.)

Consumers who own their own cars only make use of them for approximately 4% of the time and even then, they are used so rarely they take up a huge proportion of the consumers monthly capital. Mobility-as-a-Service has huge potential and forms a big part of sustainable development. Consumers around the world are looking for a better option to private car ownership. (Korkia 2019.)

When discussing this study, the research question is:

Is MaaS Global and Whim the Future of Transportation and an alternative to private car ownership?

The question is whether if MaaS Global and Whim will be the future of transportation and would customers who use it give up their own private cars just to use one application and share all of its offerings. Are the customers able to change their mindset and thinking from owning to sharing. To get the answer the author will make a research of the future finding out is privately owned cars really an end of an era and is MaaS Global, Mobility-as-a-Service and Whim the next huge thing instead of owning your own car. Also, to find out more the author will make a short interview to find out from MaaS Global's employees' opinion what ideas and predictions they think the future is having for Whim.

To get an answer to this question and to find out if MaaS Global and Whim really is the Future of Transportation the author will use futures research as a method and a semi-structured/unstructured interview to collect data. The interview method used is one-on-one interviews. With these types of interviews, the author will gather precise data with the right questions. The interview will be conversational method where the author can gather data

depending on where the conversation leads. The author will interview three employees of MaaS Global from different departments. There will be some simple questions used on the interview to get as much of the employees' own opinions. With the differences between the departments and employee duties the interview gets an overall picture of how the employees think about the company and the future it most probably is facing.

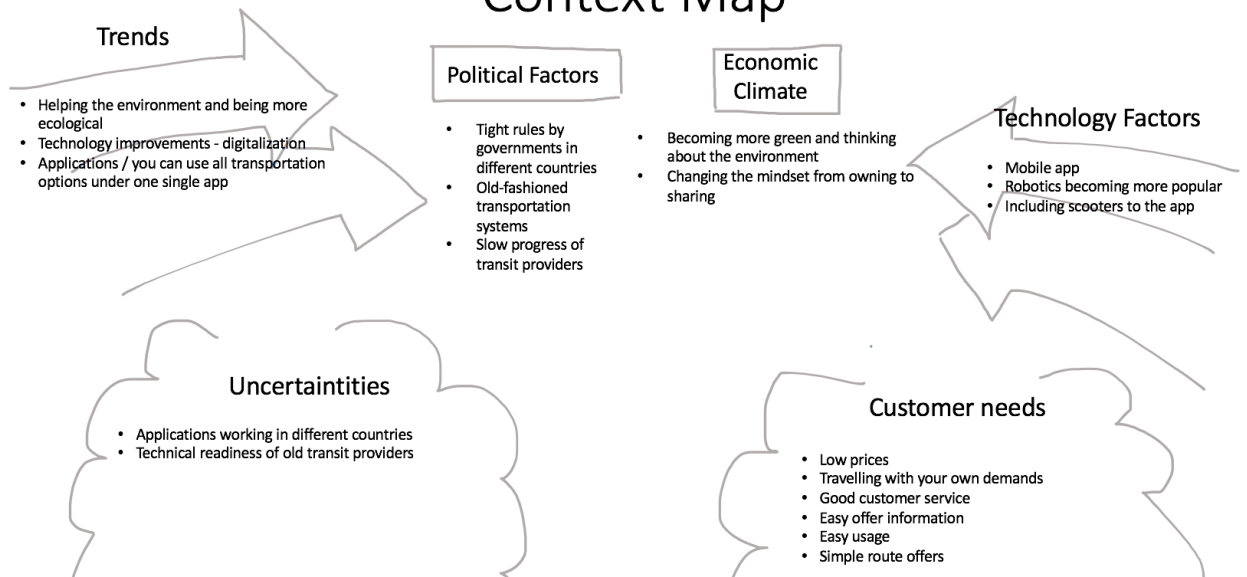
2 MaaS Global Strategy and Markets

MaaS Global's core value proposition at the moment is a service promise which means that it will deliver mobility on demand. Sampo Hietanen (CEO) thinks that the customers of Whim must trust the platform and MaaS Global must control supply to meet the demand all the time. Whim was first launched in Helsinki in 2017 and has expanded to Antwerp, Vienna, Greater Tokyo, Singapore and Birmingham. Hietanen has told that MaaS Global is also aiming to build an ecosystem to open to all kinds of relationships and adopting a first mover philosophy working actively in Singapore. The main idea of it is that customers would have access to many mobility modes under one source and that the customers could change the source across the borders. To get this moving it takes a lot of hard work for bringing the local transit provider onboard. To get the local transit provider onboard usually is easier through the city government level rather than through the regulations. (The Short History of Whim 2018.)

MaaS Global's target is to launch in 60 new geographies in the next five years. The goal is to focus more on user acquisition to grow and continue with the product development. Even if MaaS Global haven't yet expanded to Asia and to the U.S. as said in 2018 they have made a great impact towards it. Most Whim users use the pay-as-you-go plan and 10% are subscribers. MaaS Global's plan is to align with annual revenue per customer which the car companies generate through car leasing and brings value and an option to private car owning. (The Short History of Whim 2018.)

The author of this report has used context map to demonstrate MaaS Global's trends, political factors, economic climate, technology factors, uncertainties and customer needs. Through the context map the author offers a bold view of MaaS Global and Whim. (Management Tools 2018.)

Context Map



Picture 1. MaaS Global Context Map. (Gray D. 2010.)

The author of this report has also used Lean Canvas to show a full picture of MaaS Global's Customer Segments, Problems, Revenue Streams, Solutions, Unique Value Propositions, Channels, Key Metrics, Cost Structures, and Unfair Advantages. Customer Segments show us who is MaaS Global's actual customers and who would be the ideal ones. From problems the author understands what actual issues MaaS Global has. As soon as we are able to understand MaaS Global's problems and challenges we start to find the solutions for them. (Maurya 2012.)

The Lean Canvas

Project: MaaS Global
and Whim

Date

Iteration no.:

<p>Problems</p> <ul style="list-style-type: none"> - Having different apps to different services in transportation - Paying every transportation option separately - Paying for your own car 	<p>Solution</p> <ul style="list-style-type: none"> - Easy usage - All transportation options under one single app - Travelling with your own terms 	<p>Unique value proposition</p> <ul style="list-style-type: none"> - All transportation under one single app, such as public transportation, taxis, cars, bikes etc. - Eco-friendly alternative to private cars <p>All your journeys. Whim is good for heart and mind.</p>	<p>Unfair advantage</p> <ul style="list-style-type: none"> - Widest range of mobility providers - All transportation under one single app 	<p>Customer segments</p> <ul style="list-style-type: none"> - Mostly customers using the "Pay as you go" option <p>Ideal customers:</p> <ul style="list-style-type: none"> - More customers to use the "Urban" and the "Unlimited" option of the application
<p>Key metrics</p> <ul style="list-style-type: none"> - First one on the market - Number of users 		<p>Channels</p> <ul style="list-style-type: none"> - Mobile app - Website - Instagram - Facebook - Twitter - LinkedIn - Word of mouth 		
<p>Cost structure</p> <p>Fixed and variable costs: Employees salaries, marketing expenses, product development, etc.</p>			<p>Revenue streams</p> <ul style="list-style-type: none"> - Customers walking from place A to B 	
<p>Product</p>			<p>Market</p>	

Picture 2. The Lean Canvas MaaS Global. (Lean canvas for presentations 2019.)

2.1 History

MaaS Global has developed a Mobility-as-a-Service platform for urban areas. The company has developed a single app called "Whim" which integrates public transport, taxi services, bikes, and rental cars into a single consumer application. This app integrates some 20 elements such as payment, ticketing, route planning, and unlocking of vehicle doors. The key element of the platform is the layer of integration with different software product specifications – for example, for payment processing. (The Short History of Whim 2018.)

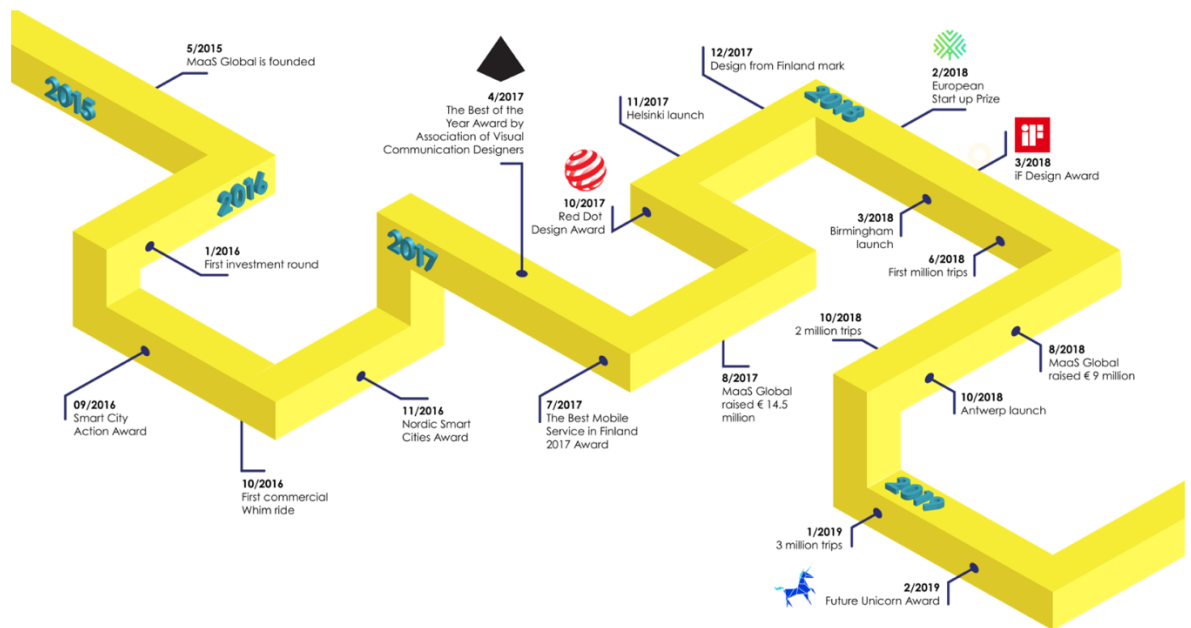
MaaS Global has approximately 80 employees most of them located in the centre of Helsinki. The company was founded in 2015 and launched its platform at the end of 2016. Its co-founder and current CEO Sampo Hietanen had worked on evolving an open transport ecosystem in Finland since 2006 (since 2012 through a not-for-profit organization, ITS Finland). The company has raised €25.7 million to date including its most recent round of €9 million which it closed in August 2018.

Among its notable investors are Toyota, Transdev, Denso, and Aioi Nissay Dowa. (The Short History of Whim 2018.)

At the core of this platform is the data from the TSP (transportation service providers) as well as access maps, payment methods, routing, and packaging. The MaaS Global platform integrates each element one by one with the whole system relying on open application programming interfaces (APIs). There are a small number of competitors that have similar capabilities; however, most apps only serve one provider in the transport ecosystem such as car sharing, public transport, ridesharing, etc. (The Short History of Whim 2018.)

The company has first launched the platform in Helsinki and since 2017 expanded to Antwerp and Birmingham. (The Short History of Whim 2018.) The Finnish authorities and changes they made in their operations made it possible for Finland to be the first operator of MaaS. Which is why Finland is seen as the model country for the provision of transport services. (Korkia 2019.)

MaaS Global is actively seeking additional partners for payment, routing and mapping, and insurance (which is growing in importance). MaaS Global and Whim is finding solutions to help its users to save time and money and asking a question “What would it take you to give up your own car?”. (The Short History of Whim 2018.)



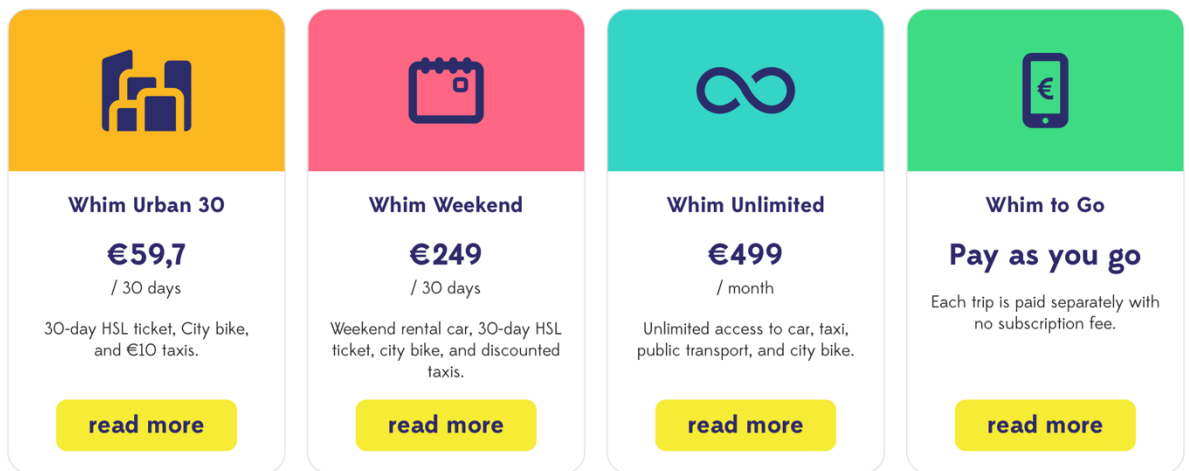
Picture 3. MaaS Global and Whim Story so far. (Whim 2019.)

2.2 Technology

MaaS Global is a multimodal Mobility-as-a-Service platform to use in urban areas. MaaS Global has developed an application called Whim which includes public transportation, taxis, car rental and bikes under one single app. Whim consists of more than 20 elements such as payment ticketing, route planning, unlocking vehicle doors etc. Layering with different software and their product specifications such as payment processing is the key element of the platform. The data and the core come from the TSP transportation service providers as well as access, maps, payment methods, routing etc. The whole system of MaaS Global is relying on open application programming interfaces, APIs, integrating with each element one by one. For example, for routing the company uses about five different multiple geographies to plan the routes. (The Short History of Whim 2018.)

2.3 Price

MaaS Global and Whim has four different alternatives for the customer to choose from. (Whim 2019.)



Picture 4. Whim applications transportation and payment options. (Whim 2019.)

Whim Urban 30 costs 59,70€ and is a 30-day HSL ticket for your mobile phone. There is no need for a separate travel card Whim app is the only one needed. Whim Urban 30 is valid for public transportation in HSL area. (Whim 2019.)

Whim Weekend costs 249€ / 30 days it includes a weekend car renting from Friday to Monday, a 15% off from taxi rides, 30-day HSL ticket and unlimited usage of city bikes. (Whim 2019.)

Whim Unlimited costs 499€ / a month and includes everything, unlimited taxi rides to 5km, renting a car, public transportation, etc. This is a perfect solution for giving up your own private car. You pay Whim Unlimited and have a car but not owning one and having the downsides of it. (Whim 2019.)

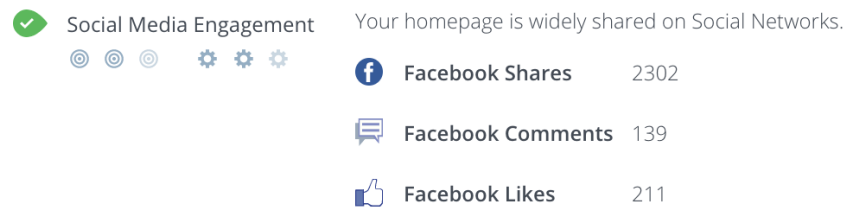
Whim to Go the customers only pays the amount what he/she uses. You pay the trips separately with no subscription fee. (Whim 2019.)

2.4 Social media attractiveness

MaaS Global and Whim are quite active on social media. They use Instagram, Facebook, LinkedIn and Twitter. They used to post multiple times every week on every channel, but this has changed to more irregularly. When using social media, it should be more effective and regular. Mostly Whim posts on Twitter almost every day. Whim has the most followers on Twitter 3 245, on Facebook 2 773 followers and on Instagram 713 followers. On LinkedIn MaaS Global has the most followers

4 988. MaaS Global and Whim uses professional photos and designs that makes them stand out from others. They have used bloggers and other influencers in their stories and postings which are very liked on social media.







Social Profiles



Picture 5. (Woorank 2020.)

MaaS Global and Whim should invest more on social media since that is very effective and a cheap way to get more awareness. For example, Facebook statistics largest and most active transportation companies are Silja Line, Viking Line and Onnibus. Facebook stats in Finland Whim isn't even on the list which is something that should be changed. MaaS Global and Whim should not only be more active on social media but to get their customers to be more active and engage the audience.

Facebook Pages Stats in Finland

		Total Fans
1	 Silja Line Suomi FINLAND	224 822
2	 Viking Line Suomi FINLAND	155 090
3	 Onnibus FINLAND	136 483
4	 VR matkalla FINLAND	124 909
5	 Eckerö Line FINLAND	58 114
6	 HSL FINLAND	40 509

Picture 6. Facebook Pages Stats of Transportation companies in Finland. (Socialbakers 2020.)

2.5 Competitors

MaaS Global as do most of the companies have its own competitors. The biggest competitors are Lyft providing car sharing services, Uber providing cheap taxi services and Mobility-X providing the most similar product as Whim but in Singapore. However, these competitors are very small that actually have similar capabilities as MaaS Global and Whim. Most apps serve only to one provider in the transportation ecosystem such as car rental public transportation, car sharing, ridesharing, etc. Whim platform is on itself very unique and competitive differentiator as the CEO Sampo Hietanen has said. MaaS Global makes a big effort to keep the application simple and easy to use. (The Short History of Whim 2018.)

3 Future Transportation

In this chapter the author will discuss about the Future of Transportation. Where are we heading, new developments that are coming and how it will change our way of life.

Transportation has developed very slowly. Of course, we have developed through the years, but the basic idea has been the same for ages. (Business Insider 2015.)

Thousands of years back urban life was era of walking cities. Many of them had walls around them. Walking cities dominated Europe until 1850 which meant that the distances couldn't be too long which defined the cities sizes to be small. After 1850 public transportation found its way to the cities. Steam train and electric train were the new transportation technologies that modified the way to move in the cities. (Schiller, Bruun & Kenworthy 2010, 25-26.)

Public transportation also known as transit city dominated the cities from 1850 to 1940 in industrialized countries. From 1970 cars and motorcycles started to rule the cities. Automobile cities has made a huge change on our cities bigger than anything else. These types of cities didn't need to be defined by walking distances and the cities of course expanded. (Schiller, Bruun & Kenworthy 2010, 26-27.)

Automobile dependence also known as car culture includes seven factors, which included almost everything (Schiller, Bruun & Kenworthy 2010, 31.):

1. *Cultural, philosophical and institutional underpinnings* – has had a lot of critique and criticism towards the massive road expansions in the beginning of automobility which had its effects on urban areas led to big protests in the US in 1960s. (Schiller, Bruun & Kenworthy 2010, 32-33.)

2. *Role of the mainstream media* – did not in the beginning accompany on the criticism. Media, print and broadcast are very reliant on automobile industry. Of course, some criticism is also seen especially on broadcast media. (Schiller, Bruun & Kenworthy 2010, 35-36.)
3. *Advertising* – and automobile industry has always been very close to different shows, tv and movies since the beginning of silent cinemas. (Schiller, Bruun & Kenworthy 2010, 36-37.)
4. *Music and entertainments* – relationship differs from the tv and movie. Radios purpose in the beginning was for police and emergencies. Nowadays it is a great way to use advertise for especially people who spend a lot of time behind the wheel. And radios and music has evolved in time to become better and better. (Schiller, Bruun & Kenworthy 2010, 38-40.)
5. *Literature* – and car culture has always been very popular together. Automobility has been used as symbol and metaphor by many artists and writers. (Schiller, Bruun & Kenworthy 2010, 40-41.)
6. *Carchitecture* – a term used to tell about the automobility and its effects on changing our environment. Automobility have had and still has a huge impact on our way of building our cities and suburbs. Also, the way our actual buildings are designed are affected on automobility. (Schiller, Bruun & Kenworthy 2010, 41-42.)
7. *Tourism* – has always had its issues on sustainability and how harmful it actually is to the environment. It has grown rapidly but the current situation with coronavirus tourism has stopped temporarily. We will only have to wait to see how it will evolve in the future when things begin to normalize. (Schiller, Bruun & Kenworthy 2010, 42-45.)

3.1 Transportation development

In the next 30 years the transportation will change more than it has never before. Ian Pearson an engineer and a person at the World Academy for Arts and Science has listed some big changes we can look forward to. Here are six major upgrades that we are expecting to come in the future (Business Insider 2015.):

1. Hyperloop
 2. Flying cars
 3. Driverless pods
 4. Hypersonic jet
 5. Tall buildings as spaceports
 6. Airplanes speed
- (Business Insider 2015.)

We had experienced a lot of phases and stages in transportations during the years. Transportation has evolved from traditional walking cities in 1850 Europe to Transit cities in 1850-1940 and to automobile cities from 1940- to present. (Schiller, Bruun & Kenworthy 2010, 28.) All transportation that has developed has improved its previous one for example cars improved bicycling, railroads improved horses, etc. (Schiller, Bruun & Kenworthy 2010, 78.) Transportation has developed from walking to wheels and back to walking. (Schiller, Bruun & Kenworthy 2010, 51.) Whim is one of the forerunners in this development with an idea of how to combine the transportation and make it as easy as it can be to its customers and without the need of owning your own car.

After high-speed trains from Japan and the Airbus A380 one of the biggest changes that we see today is driverless cars. Transportation have changed to work better and being faster, but the basic idea and function is and has been pretty much the same. Today we see cars with functions such as emergency breaking if the car in front of you makes an emergency break and parking assistants where the car parks itself. But cars that can make

independent decisions and take control completely will be here more quickly than we have expected. NuTonomy is already making road trials in Singapore and expanding to 10 other cities in 2020. (The Economist 2016.)

Looking to 2025 and further we can see that driverless cars are a norm on our transportation system. For example, a passenger in a taxi that is fully autonomous and electric can control the journey through their smartphone. The taxi on the other hand communicates with other vehicles on the road to ensure safety and with infrastructure managers to ensure the traffic flow. (The Economist 2016.)

Driverless cars aren't the only big change in the car industry flying cars are also coming. A prototype AeroMobil 3.0 was unveiled in Vienna in 2014 during Pioneers Festival. Compared to driverless cars for example flying cars will probably not be a popular way to travel to their safety challenges. (Business Insider 2015.)

Other huge development is maglev from Japan a technology to make the trains go even faster and early twice as much as our current ones. This technology has also been there but only in use for tourist attractions. The first maglev will come in the middle of 2020 between Tokyo and Nagoya and cut the travel time to only 40 minutes (being half as much today). Also, other cities are considering having their own maglev lines in the coming 20 years. (The Economist 2016.)

Maglev and hyperloop high-speed and ultra-high-speed trains are coming to be competing with cars, buses and short haul flights. By the end of 2020s we can see both maglev and hyperloop trains being an option for cities to their transportation. For example, the hyperloop is a type of train that speeds up to 970km/h inside capsules that passes in vacuum tubes. Elon Musk the CEO of Tesla and SpaceX brought hyperloop to the public in 2012 and his own firm and few other start-ups are working to commercialise it. Both of them are a great alternative for especially business travellers for being faster, safer and smoother options to flying. The only thing slowing down these trains is the costs. Both of them are very expensive at least at the moment. (The Economist 2016.)

Looking to the future to 2040 the trips would be more customised for the passenger. Of course, data protection is becoming bigger and the companies would have ensured that their own data is safe to the customers. This is something that MaaS Global and Whim is already thinking of and making the customers trip customised just for them with combining all transportation. (The Economist 2016.)

Another futuristic development that we might see in the future are Personal rapid transit (PRT) a small vehicle with two to four people on separate guideways carrying its customers more efficient than regular cars. This concept came up already in 1960s and still the idea of it hasn't materialized. It is high cost and only carries four people at the most, so the idea isn't profitable. (Schiller, Bruun & Kenworthy 2010, 119.)

Ian Pearson thinks that in 10 years the next upgrade to driverless cars are driverless pods. People could own their own driverless pod. A box made out of steel and controlling it through their smart phone. The pods wouldn't have wheels and it would move forward with magnetic levitation which is a patented technology in the early 20th century. (Business Insider 2015.)

Hypersonic jets will accompany the planes and fly high in the air in 2040. The cost to ride these jets will be high and only for the wealthy ones. The U.S. Patent and Trademark Office have approved one airbus that would travel between London and New York with a travel time only one hour. (Business Insider 2015.)

One futuristic development could also be a Vertical take-off (VTO) or short take-off and landing (STOL) which is an airport on our backyards. The idea would be that small groups could fly to smaller airports and to avoid security and other queues at bigger airports. These airplanes have been published but the problem is their noise pollution and safety. (Schiller, Bruun & Kenworthy 2010, 119.)

Ian Pearson also thinks that in 2045 when building materials have evolved the very tall ones could also function as spaceports. Space travelling

becoming more of a norm these buildings could be more efficient way to launch a spacecraft. (Business Insider 2015.)

Also, our regular planes would evolve in the future and possibly work without windows to increase their speed. Pearson said that to get the planes travel faster they will become stronger and better equipped and loose windows to handle faster speeds. (Business Insider 2015.)

And what comes to the ownership of your own car. The future will most likely have its effects on how we today own cars and how it in the future will be. At the moment an average car is parked 90% of its time. To many people owning a car means liberty. When providing a good service and an alternative to owning your own car it will not only change people's way of travelling but to change how the cities are running today. This is something that Whim is aiming for only the process could be faster. (The Conversation 2019.)

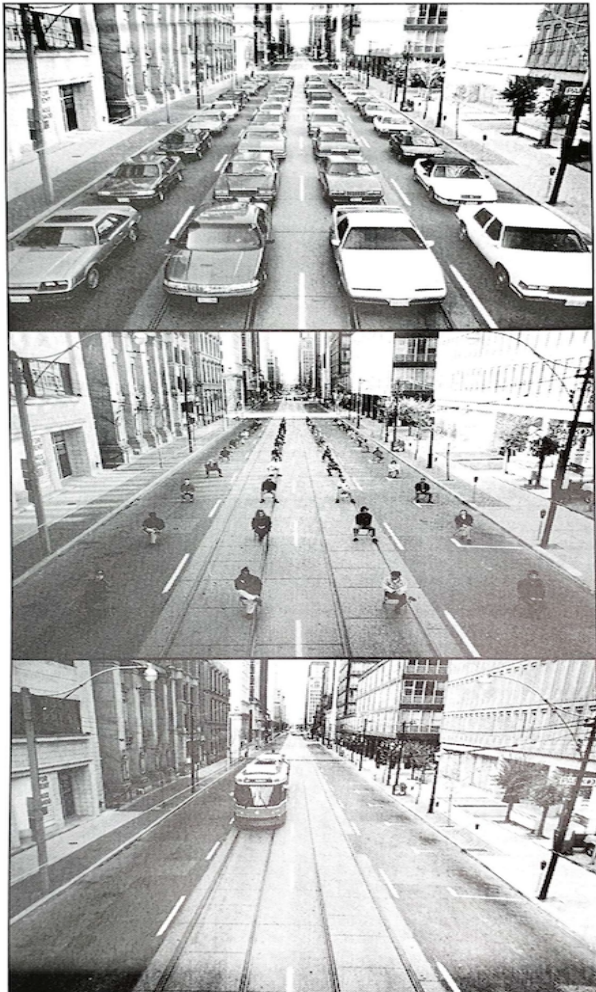
In the future and already today we have a huge amount of different options for owning a car: renting a car, cars with drivers, shared cars, leasing a car, etc. Shared cars will most probably be the biggest option of them. This doesn't mean an end for car manufacturers; it will just change their way of working. Sharing cars means more intensive use of the cars and shorter lifetime for the car before it needs to be replaced. (Tomorrow.mag 2019.)

Martin Mayfield a Professor of Engineering Design and Giuliano Punzo a Lecturer at University of Sheffield thinks that when the future is bringing us autonomous cars there aren't such a huge asset in owning your own car anymore. Of course, the public transportation has to be used so that it will work properly and efficiently to be worth it. (The Conversation 2019.)

3.2 Transportation and street view

In the past years there has been a lot of talk about the effects of transportation to the street scene, to the cityscape and especially to the environment. Private cars pollute and only carries about 5 persons most of

the time driven only from 1-2 persons at a time. Walking is not only environmentally friendly it has also a positive effect on people's health. And public transportation such as buses or trains can carry a huge amount of people longer distances and is a better choice for private cars when you are unable to walk long distances. The Picture nine gives a great image of the idea behind this talk and Whim is taking the next step to solve these problems.



Picture 9. Consumption of street space by people: People in their cars (top); same number of people without cars (centre); same number of individuals on one streetcar (bottom). Source: Toronto Transit Commission. (Schiller, Bruun & Kenworthy 2010, 174.)

If the future is changing our way of thinking from owning to sharing it will mean that the autonomous cars will be collapsing travel times. We can and need to rethink how our cities are planned today and how they could be in

the future. Of course, the cities will change much more slowly than our transportation norms, but they will follow suit. (The Conversation 2019.)

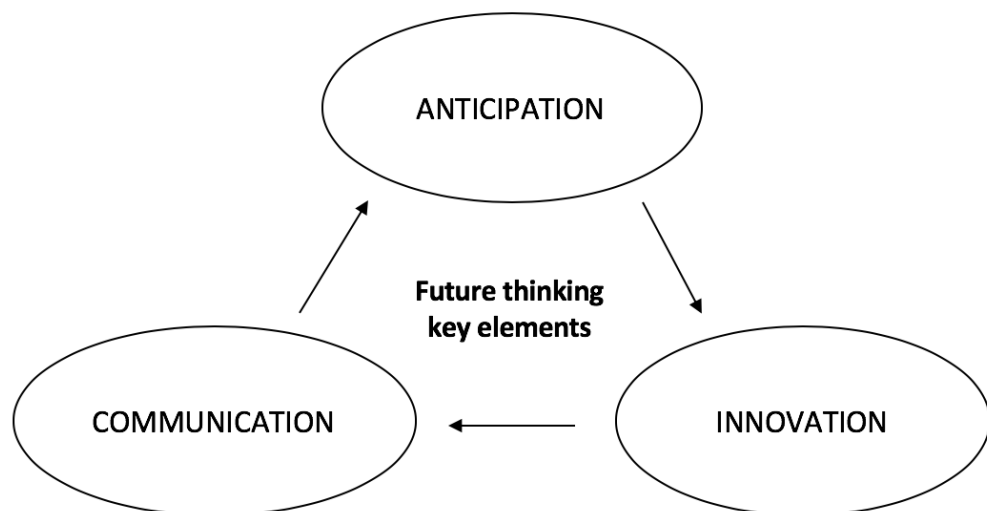
4 Futures Research

In this chapter the author will discuss about Futures Research, Future thinking and Future changes. Through versatile articles and research, we can see how the future changes and how it will develop from what we see today. (The Economist 2016.)

4.1 Future thinking

Albert Einstein has said: “Insanity is doing the same thing, over and over again but expecting different results.” (Hiltunen 2012, 46.) We study a lot about the past and history that has happened why don't we study more about the future that is coming and even if we can't predict the future isn't it better to know something? (Bishop & Hines 2012, 2.)

Anticipation, Innovation and Communication are the key elements of future thinking. (Hiltunen 2012, 17.)



Picture 7. Future thinking key elements. (Hiltunen 2012, 17.)

Anticipation is many times confused with forecasting which is totally different thing. With future thinking we can anticipate the future not forecast it. With the use

of anticipation, we have the possibility to research different types of futures and be prepared for them. (Hiltunen 2012, 17-18.)

There are two types of futurists, ones who think that we are living a huge time of change and others who think that we easily exaggerate the future. There might be a third one who hasn't yet decided on which group they belong to or probably can't make up their mind on it. (Hiltunen 2012, 21-22.)

Innovation is one main element in future thinking. It is important to anticipate the future but we ourselves are the active members who are actively doing the future. (Hiltunen 2012, 18.)

Innovation isn't the same as idea or creativity innovation includes these things. Innovation is fare as it is possible to anyone. Anyone can innovate without needing anything else. When making the future innovation is needed. (Hiltunen 2012, 265-266.)

Communication the third and important task in future thinking. Future has always been interesting to everyone both to media and to regular people. The future vision is a great way of communicating the ideas that an organisation for example has from the future. Communicating about future visions isn't that in common and organisations should take advantage of it. (Hiltunen 2012, 321.)

4.2 Future changes

We can't predict but it is good to be prepared which is the key and purpose of studying the future. (Bishop & Hines 2012, 7.) It is very important to understand change. There are four different types of change as listed by Bishop and Hines (Bishop & Hines 2012, 22.):

1. *Sources and levels*: Change comes from two different places from the world and from us. Shortly we cannot control our future because the world has its own place and impact on it. The future also changes in levels which are

organization, immediate environment and global environment. (Bishop & Hines 2012, 23-26.)

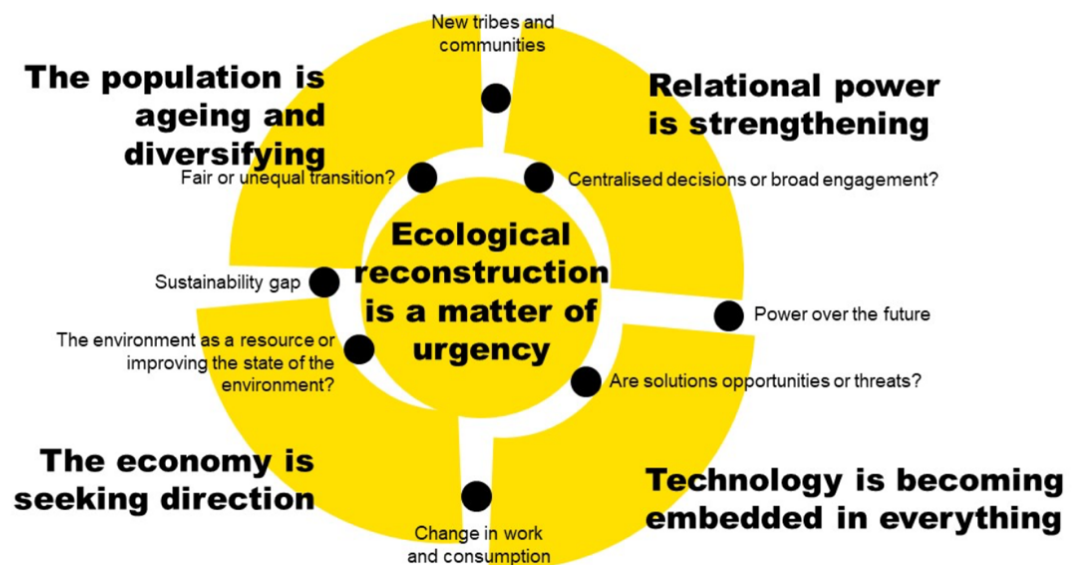
2. *Time horizons*: Changes of how far you can see is variable. Time horizons are usually described in numbers like years. There are three types of time horizons long, medium and short, and it depends on where in future you are focusing on. (Bishop & Hines 2012, 27.)
3. *Rates of change*: Changes of how fast. There are continuous change long periods of change such as ageing and discontinuous and short periods of change that are things you can't predict and happens suddenly. (Bishop & Hines 2012, 28-29.)
4. *Forms of change*: There are together five different forms of change. Linear change (the most common and simplest form of change), Nonlinear exponential change (which is common but may be misleading), Nonlinear asymptotic change (also common which approaches a limit), Nonlinear cyclic change (which resonates between maximum and minimum) and Discontinuous s-curve change (which has an s-form and tells about the old era people thinks will continue, moving period and the new set that eventually comes). (Bishop & Hines 2012, 31-33.)

Reasons for why we don't see the change that is coming are many. Few of them are that the change is happening too slowly, we are concentrating on only the big things, the information overload makes us blind, linear thinking makes us think the future is the same, assuming that tomorrow is similar as today, short blindness and forgetting to see the whole picture and being too pessimistic to the future and not seeing the possibilities it has to offer. (Hiltunen 2012, 71-72.)

When talking about trends it is thought as long-term social trends that are most probably assumed to continue in the future. Mats Lindgren and Hans Bandhold from Kairos Institute defines trend as a matter that represents a deeper way of change not a quick-paced fad. Trend isn't a single transaction. Trend is a logical consequence of multiple reasons and transactions that shows us results and direction. Trend tells us about the near past and the present that *might* be continue to the future. There are a lot of similarities in trends and forecasting. (Hiltunen 2012, 93-95.)

Megatrends are also used to see alternative scenarios of the future. They can help us identify the key factors of our future and what are their impacts. (Sitra 2019.)

SITRA'S MEGATRENDS 2020



Picture 10. Sitra's Megatrends 2020. (Sitra 2019.)

Different types of consultants and future offices publishes their own megatrend lists all the time. The idea on these lists is to see huge changes that will be coming and how they will effect on us. All of the lists are very similar with one another going with names like *global trends* or *super trends*. Most common trends on the lists are globalization, populations aging and diverging, technological development, climate change, etc. (Hiltunen 2012, 79.)

Copenhagen Institute for Future Studies have listed 10 megatrends that will affect in the 2020s: aging, globalization, technology development, wealth growth, individualization, commercialization, emphasising the importance of health and environment, accelerating change, networking of organizations and urbanization. (Hiltunen 2012, 80.)

The author decided the megatrends used on this research by researching of different aspects. All of these megatrends are few of the most talked about in the 2020s. The author chose these four different megatrends that most probably will effect on our transportation norms in the future:

1. Urbanization
2. Climate change and epidemics
3. Populations aging and diverging
4. Digitalization

The megatrends listed are the ones that are linked to transportation and to Mobility-as-a-Service and Whim. All of the trends are somehow in connection on our future in transportation and how we are going to move down the line. The trends chosen are also on the list that the Copenhagen Institute for Future Studies has created which had an effect on this research as well.

4.3.1 Climate change and epidemics

One of the biggest megatrends is ecological reconstruction. We have a constant need to stop climate change, decrease biodiversity, stop wasting our recourses and reduce wasting. (Sitra 2019.)

Since 1856 temperature of our globe has raised 0,8 Celsius degrees to year 2004. CO₂ greenhouse gas has increased from 286ppm to 378ppm. NASA Goddard Institute for Space Studies Doctor James E. Hansen has said that the climate change will continue persistently to the future. (Hiltunen 2012, 86-87.)

Another huge issue with climate change is epidemics and in worst case pandemics such as coronavirus (COVID-19) which is spreading its way through the world at

the moment. Due to the issues of coronavirus most of the factories have been shut off and travelling has stopped due to the closure of borders in multiple countries which has decreased the pollution widely. This is a good thing for the climate and the future shows how we will learn from it. Hopefully being more aware of hygiene and its importance and how the climate reacts to less pollution will give us a lesson on how to not only take care of ourselves better but to take care of our planet as it deserves.

People not moving is a huge distress to companies such as MaaS Global and Whim. Even if it has stopped people from moving this will not be forever. People will get moving again and maybe thinking more on how to move. With the effects on pollution people may be thinking about their own behavior on environment and seeking for solutions on how to pollute less. Giving up your own car is one solution for less pollution on one individual and this is what Whim is offering.

The decisions we make today are the future. Due to climate change and epidemics hard and fast solutions have an effect on our direction of development. Only the future shows what kind of development we will get. (Sitra 2019.)

4.3.2 Urbanization

Urbanization is one of the most important of the megatrends. The more population grows the more people are moving to live in the cities and filling them up.

Urbanization has also an effect on the climate change and epidemics. The cities need to pollute more because of the habitats in them grow. The food process and animals live too close to the people and hygiene is more difficult to maintain which creates a bigger threat to epidemics. (National Geographic 2019.)

Why do people move to live in the cities then? Because of work and professions, opportunities, education and entertainment and services. This is pretty obvious when thinking about it and almost half of world's population lives in urban areas. (National Geographic 2019.)

People moving from the country side to the cities aren't always that simple. For example there aren't always job opportunities for everyone especially in developing

countries. And even with finding an employment people aren't always able to pay rent in proper houses. This leads to slums. Over 90% of urbanization happens in developing countries which means 70 million new residences every year. In developing countries about one third (1 billion) lives in slums. (Hiltunen 2012, 84-85.)

When having good transportation options people may as well live near the cities and not only in them. This could be one solution solved with the help of Whim. When having good options how to move from place A to place B without having to own your own car to do that. People could have good options to have the benefits of a city nearby but to also have the benefits of not living in the city centre. One huge effect on not living in the city centre is also age and life situation. Young people who may live alone want to live near the city centre near all its offers and benefits. On the other hand, small new families most likely want to move away from the centre to a quieter and calmer environment where to grow their children happy and safe.

The idea of these living situations and suppositions how people are thinking may be changing by other megatrends such as climate change and epidemics. While coronavirus has changed our way of living in the future also the young people may think again where they want to live so that they can also enjoy fresh air and outdoor life. Again, a good transportation system is needed to make it as easy as possible to people to move and not having to own your own car to do it.

4.3.3 Ageing population and diversification

The population is aging and diversifying. We have a lot of different backgrounds, opportunities and habits we want and need to develop. People are living longer and the people over 60 years will outnumber children under 5 years old. (World Health Organization 2018.)

Aging and diversification is a global phenomenon it might not be as fast as the other megatrends and won't affect the same way in every country but it is rising. As seen in the picture below the population growth has been in the last ten years has grown almost with one billion people. Before it took about ten years to reach million

people. The aging and diverging isn't steady in the world and it rises the most in developing countries and instead in developed countries the population declining. The YK is forecasting that in 2050 the population could reach over 10 billion and in 2100 over 15 billion. (Hiltunen 2012, 81.)

YEAR	PEOPLE IN BILLIONS
1804	1
1927	2
1959	3
1974	4
1987	5
1999	6
2011	7
2019	7,8

Picture 11. World population growth. (Hiltunen 2012, 83.)

The diversity of older population is a challenge for the public health organisations that must answer to multiple different types of need and experience. (World Health Organization 2018.)

There are three diversities that makes the challenge of populations aging and diversity (World Health Organization 2018.):

1. *Injustice in health* – The diversity has many factors such as physical and social environments their opportunities and health behaviour.
2. *Outdated and ageist stereotypes* – Older people are thought to be a burden for the society which is kind of ageist thinking and needs to be changed.
3. *A rapidly changing world* – Globalization, technology, urbanization, migration and the change in gender norms has an effect on older people's lives. Public health organizations must take an action to the coming and current trends and frame policies to them.

(World Health Organization 2018.)

Younger people have a different way of thinking about owning. They don't necessarily need the feeling of owning something and are more going towards and openminded to sharing. This is a mindset that Whim needs for people to give up their own cars. People need to change their mindset and younger generation are the leaders on it. Changing the way people feel about owning their own car may be a slow process but definitely something that is going to modify our ways of thinking in the future. They just need an encouragement for a solution that is not only as good as owning your own car but a better one.

4.3.4 Digitalization

Digitalization is building our future society. Technology is blending into everything and becoming / already is a part of our everyday life. It offers solutions in many things on our lives but at the same time the networks power increases because of it. (Sitra 2019.)

Digitalization is not only a technology-based progress but a social revolution which is powered by people. People are more ready and faster to use new equipment's. Technology and digitalization are changing faster than we have never seen before with endless possibilities. (Institute for Digital Transformation 2018.)

In 1973 Motorola was the first company to launch a mobilephone and in year 2010 mobilephone interfaces was over 5 billion. The revilution of digitalization is furious and it is something that cant be be compared to anything else. Few new digitalizations are on process minduserinterface and tissue upbrining that can change our way of life in the future. (Hiltunen 2012, 88-89.)

One very important thing on digitalization is to follow the trends and not resist t hem. The history shows that many companies have tried to resist the revolution of digitalization and having bad results from it. Traditional companies may take 18-24 months to react to digital trend which is a very slow process. During this time the digital trends may even have changed. It is cruel and the traditional

companies need to follow along fast or they will drop out. (Institute for Digital Transformation 2018.)

Whim is one of the forerunners. By bringing digitalization on our everyday lives and combining all transportation under one application. Everything will be digitalized in the future and Whim is already there.

4.4 Interviews

The author used empirical data collection method by doing interviews with three MaaS Global and Whim employees each of them from different department of the company. The goal of the interviews was to see how the employees in different positions and departments sees the changes in transportation and how they think they will affect MaaS Global and Whim.

Interviews are one of the best methods to do qualitative research with. There are three fundamental types of interviews in research (Bhat 2020.):

1. *Structured interviews* – a type of interview which focuses on accuracy. They are mostly used in survey research.
2. *Semi-Structured interviews* – is more creative type of interview. The basic structure is there but it has more flexibility on it.
3. *Unstructured interviews* – also known as in-depth type of interview. These interviews have the least questions in them and no guidelines and are mostly a conversation with a purpose in mind.

(Bhat 2020.)

The author chose to do semi-structured interviews to collect empirical data because it was the best way to see an insight perspective for the research from the interviewers. Interviews are overall a great tool to help understand, explore and explain the persons own opinions. Questions were the same, but the answers differed from each other. The interview was all about open-ended

questions where the author collected and raised empirical data for the research question.

The author interviewed three MaaS Global and Whim employees, one from global and business development, one from legal department and one from marketing team. From the results the author analysed how MaaS Global and Whim will change and evolve in the future from the employee point of view. The author asked the same questions from each of the employees and compared them with each other in the conclusions.

The main reason the author chose these three employees was that they are in completely different departments of the company. To get a different perspective is important to gather information and collect data. These three employees' everyday life at the office are totally different. They see the company from their own point of view and from their departments point of view. These employees work in the same company but aren't dealing with each other every day. This was important for the collected data to be as reliable and credible as possible.

The author asked the questions from the interviewed employees and let them answer freely to all of the questions. The author chose three questions to get bigger picture of the future MaaS Global is heading from the employees' point of view. The author asked about the biggest challenge MaaS Global could be facing, what possibilities does the employees see and what type of trends could have an effect on the company.

From the interviews the most interesting was that the author got a clear picture, from different aspects and how the future is seen from an employee point of view. Even if the employees are working in the same company their opinions and thinking has different aspects which made the analysing more informatic and realistic.

The author analysed the interviews by sectioning the questions on their own components: Future Challenges, Future Possibilities and Affecting Trends. From the answers the author compared them with each other found the similarities and the differences. The author then analysed what made them similar and

what made them different to get a clear picture of the future that the company's employees think.

4.4.1 Interview one

The first interview was with Jonna Pöllänen, Head of Global Business Development.

1. What do you think is the biggest challenge for MaaS and Whim in the future?

“There are few key challenges for the progress of fast MaaS market development:

- *Commercial openness for 3rd party cooperation*
- *Technical readiness of transport service providers (public and private)*
- *To accept that behavioural changes always take time and MaaS is evolving in steps*

Commercial openness for 3rd party cooperation is related to 3rd parties re-selling different type of tickets and trips from existing transport service providers (TSP) as part of their MaaS platforms for targeted user groups. Transportation sector is still rather old-fashioned and accustomed working in silos. Mobility-as-a-Service is still not always fully understood as a concept (there are still several different definitions globally) and there are misunderstandings due to different business models tested across the world. There is still hesitation from TSPs to sign in for commercial cooperation, even if the model of 3rd parties re-selling trips is already common for example in car rental business (via travel agencies etc.). This have though already seen some progression while more MaaS examples start to appear across different markets.

Technical readiness of public and private service providers is critical to enable integration between service providers and MaaS platforms. This means readiness of APIs (Application Program Interfaces) that enable connecting existing transport service to MaaS platforms such as

Whim. Some TSPs are still lacking 3rd party APIs which are mandatory for building a full MaaS cooperation (enabling booking and payments via 3rd party app). There are also some differences between public transportation services vs. other transport services. Public transportation needs to have either mobile payments with APIs or contactless EMV payments to allow integration between public transport operator and a MaaS platform. In addition, lack of all ticket types in digital form (single, day, monthly, special groups etc.) and lack all digital payment types (many are still based only on paper ticket or physical travel card) are typical challenges in public transport sector.

*The last piece is **related to expectations of replacing or providing attractive alternative for private car ownership** from day one when MaaS service is being introduced. This is one of the important long-term targets of Mobility-as-a-Service but at the same time changing mobility behaviour is time consuming. This relates also to ensuring similar service level with MaaS service that is today provided with privately owned vehicle (service always available, serving in large service area i.e. also outside of the city and providing high convenience for the user). To provide this with MaaS, it will require a lot of cooperation with variety of different transport service providers and even some changes to current customer journeys with some traditional transport service providers.”*

2. What possibilities do you see in the future?

“MaaS hands out great opportunities to impact on how people move and how our cities will look like in the future. Bigger cities are already facing lots of challenges with traffic jams, congestion and lack of space and at the same time variety of new transport services are introduced all the time. MaaS will open doors for re-creating how transportation is being used and how to service different needs of different people with required service level.

To gain bigger productivity leaps and impacts on sustainability, it requires still improvements on digitising services, improving connectivity as well as having better availability of real-time data.

Also, housing will be re-thought. Parking is raising the cost of building new houses. MaaS can reduce the need of parking while improving the use of shared mobility.”

3. What type of trends you think will affect Whim in the future?

“Trends such as servicetization (palvelullistaminen), urbanization, boom in shared economy and autonomous vehicles will have an impact on Whim and on MaaS in general.”

4.4.2 Interview two

The second interview was with Päivi Aarnio, Senior Legal Counsel. Her main tasks are solving international legal issues, negotiating agreements, taking care of IPR's and Privacy.

1. What do you think is the biggest challenge for MaaS and Whim in the future?

“The biggest challenges are changing consumer thinking, attitudes and habits from owning a car to MaaS. In addition, more support from the public side would be needed to change the way public transport operates its sales channels.”

2. What possibilities do you see in the future?

“The possibilities are endless. As soon as attitudes change slowly from ownership to sharing culture, MaaS / Whim can grow pretty fast to great business. In addition, cities and mobility industry have awakened to the opportunities MaaS can offer. Legislation is also about to change in the future, which supports the MaaS activity.”

3. What type of trends you think will effect on Whim in the future?

“The new generation is no longer so caught up in ownership. In addition, the use of applications such as Whim is part of everyday life.”

4.4.3 Interview three

The third interview was with Veera Aalto, Communications Lead. Veera takes care of all MaaS Global’s communication related tasks from internal communication to partnership communication and social media.

1. What do you think is the biggest challenge for MaaS and Whim in the future?

“I think the biggest challenge in the future for MaaS is to be able to establish good relationships with different transport service providers and also get them to work together. Transportation industry is a very old industry with stiff silos and the players haven’t used to be working with each other. Now even competitors would need to be able to join the same service and that’s not always straight forward. When trying to change something, that has been almost the same for decades, it’s never easy.”

2. What possibilities do you see in the future?

“Lots of possibilities! I think MaaS overall is very interesting field of business and it has the potential to really change how people move around for good. For me the most exciting thing is to see, how far can this go. Having different transport service providers in one place is the start, but can we at some point also include food and online store deliveries to the same service? How can businesses use MaaS in the future: possibly get rid of leasing cars, offer MaaS services as a benefit or something else. What about housing then? MaaS could at some point be a solid part when renting an apartment for example.”

3. What type of trends you think will effect on Whim in the future?

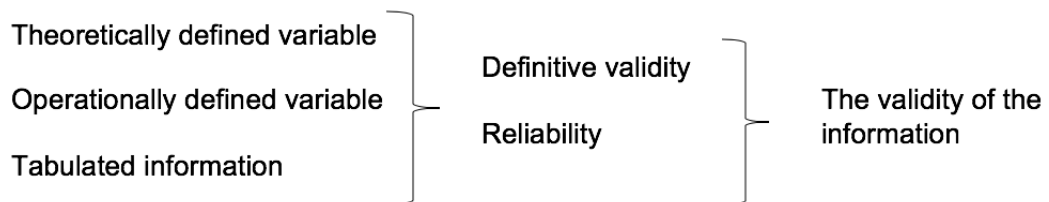
“I think one of the biggest must be greener transportation options. People want to travel greener than ever and it has overall become a solid par of peoples’ values (at least when looked at from Helsinki metropolitan area perspective). I assume (and hope) that greener choices become more important every day in services like Whim as well. City bikes, e-scooters, electric/hybrid cars and so on will have even more users. As we have seen from the popularity of city bikes for example, the user numbers have been growing steadily each year and the Helsinki city bikes are one of the most used ones in the whole world.

Another thing that I have been sensing is that people want more flexible options. People want to be able to change their mind in a blink of an eye and services like Whim need to be able to allow that. In practice this could mean for example that the services would allow people to change their subscription type whenever and not for example only every 30 days. At the same time this could mean that people would like to have more options to choose what services do they want in their subscription instead of buying a ready-made one.”

4.5 Reliability and validity

Every study needs to be as reliable and dependable as possible, so it is important to measure them. Reliability and validity determine whether there have been systematic or random errors and omissions in the development of the survey or data collection. In order to achieve satisfactory reliability and validity critical tests must be performed and care must be taken when working with the material. For research to be reliable it is good to use a variety of sources, theories, perspectives, and methods of analysis. The results of the study should be the same regardless of the sources or theories used. Reliability means consistent analysis. Validity means that the analysis of the study is applicable. (Holme 2010, 163.)

If this data measures something other than what we think it will measure it may be reliable but still, it is not used to test problems. The study must be reliable, but the study must also have final validity. “This means that the functionalization of the theoretical variables has to be performed in such a way that the theoretical defining variable and the functional variable are equal to the enabler” (Holme 2010, 167).



Picture 12. Data relationship between reliability and validity. (Holme 2010, 167.)

It is important that the research is reliable and valid. Otherwise it does not meet with scientific requirements and not seen as data. Reliability does not arise by itself but made with research and actions. (Stenlund 2020, 105.)

The author of this thesis used qualitative research method to collect empirical data by doing three interviews to find out how MaaS Global and Whim will be in the future from the employee point of view. The author also did futures research and chose four megatrends that were associated with the research question. Using triangulation, the author made the research to be more reliable and got more validity to it. To justify the reliability and validity of this research the author refers for collecting both empirical data and researching megatrends. The author also planned the research made and secured the reliability and validity along the way.

4.5.1 Triangulation

The author used triangulation as a method to gather data for this research. Triangulation is combining different research methods (data sources, researchers, theories etc.) with each other. It is simply about combining different methods and approaches on the research. With triangulation it is possible to add reliability and validity to your research. (Saaranen-Kauppinen & Puusniekka 2006.)

The author utilized megatrends and other materials such as interviews to support each other. The author thought that only using interviews as a research method to collect empirical data wasn't enough. With the help of megatrends research the author got a broader perspective. With the use of triangulation, the author reached more reliability and validity to this research.

4.6 SWOT

With the help of SWOT analysis, the author has gathered what are the strengths, weaknesses, opportunities and threats that MaaS Global and Whim has and could be facing in the future.

Strengths	Weaknesses
<ul style="list-style-type: none"> - First one on the market - Ecological solutions for private cars - All transportation under one simple app - Easy to use 	<ul style="list-style-type: none"> - Places in the world where there is no good transportation at all
Opportunities	Threats
<ul style="list-style-type: none"> - Technological innovations - Eco-friendliness - Making the world transportation under one single app 	<ul style="list-style-type: none"> - Slow progress of transit providers - Tight rules by government in different countries - Old-fashioned transportation systems/hard to make the app function - Epidemics such as coronavirus (COVID-19)

Figure 1. MaaS Global SWOT analysis.

5 MaaS Global and Whim's Future

In this chapter the author will discuss how the future will look like for MaaS Global and Whim. With the help of interviews from the employees of MaaS Global the author gets a deeper picture of the company's future.

5.1 Future challenges

All of the interviews had some similarities on the challenges that MaaS and Whim will probably have in the future. From the interviews the author got a bigger picture of the future challenges that MaaS Global could be facing. The results from the interviews answered a lot of questions on what kind of future Whim is heading.

One of the biggest challenges MaaS Global is heading is to get the different transport service providers to work together, competitors work together and to change old transportation industry's aged systems for more modern ones. And what was related to this was the technical readiness of transport service providers. Also, the difficulties of connecting the existing transport services to MaaS platform and Whim. This is difficult because of the old traditional and typical systems the public transport sector has. They lack digital payment types, and many are still based on paper ticket and physical travel card. Moving to a more modern systems and changing them to digitalized ones is slow and maybe challenging process but definitely something the world is going towards to.

One important challenge that came up was the behavioural changes that is taking time. Changing consumer thinking, attitudes and habits from privately owned cars towards sharing them. How to attract the idea of sharing a car and not owning your own is a slow process. To make this happen a lot of help and cooperation from different transport service providers is also needed not only the current customer journeys. Populations aging and diverging will also have an effect on behavioural changes and most probably give more room to the idea of sharing.

There are a lot of links to the discussed megatrends. One big factor is also epidemics. This is something the world needs to improve on to be prepared for.

This is also a challenge on an epidemic like coronavirus. People aren't moving or using any kind of transportation which makes it hard to all transportation providers to function. The good thing is that epidemics won't last forever and by working hard and adding some creativity also the transportation services will rise.

All in all, MaaS Global may have challenges ahead of them but nothing they couldn't be prepared for and make those challenges into possibilities.

5.2 Future possibilities

As from the interviews the author saw that MaaS Global's employees believe on the company and thinks it will be the future transportation method. They think MaaS Global has a lot of possibilities to be heading. When working with this research the author got a clear picture of how many possibilities MaaS Global actually has. One mention was the legislation which is about to change in the future, and this is a big factor on supporting MaaS Global and Whim to move forward.

Firstly, MaaS Global has the possibility to change how people are moving. It also helps people to be greener and have the environment on their mind when travelling. This is one big factor when thinking for example of climate change. As said previously the virus epidemic we are facing at the moment has caused a lot of challenges and distress, but also brought our environmental care to better level. After we get back on our feet and win the coronavirus the world will be a different place. We are not going back to the normal life we used to have, we are heading for a new normal. This normal will hopefully be more thoughtful for our environment and Whim is offering one great solution for people to be that way.

Secondly, as one of those interviewed said as well, was the opportunities where to grow. MaaS Global could evolve so much that it could include food and online stores deliveries being a benefit at companies and replace leasing cars and maybe even housing and be a part when renting an apartment. Again, the coronavirus point of view. At the moment a lot of restaurants and some stores are offering deliveries for their products. This is most likely something that will stay on our new normal. MaaS Global could have a great opportunity to build it forward.

As from the interviews and the authors own discoveries MaaS Global has a lot of possibilities in the future. Another great possibility was the impact that MaaS Global and Whim has for our future cities how will they look and be built like. One solution is regarding carparking. While the cities grow, we already are lacking space and face traffic jams MaaS Global and Whim offers a great solution for urbanization. When people are owning less cars, less parking is also needed when people are using more public transportation, city bikes etc., less traffic jams are complicating our everyday life. Urbanization is one of the big megatrends that we are facing and having solutions for it MaaS Global is a forerunner.

MaaS Global has way more possibilities than threats or challenges. The research question of “Is MaaS Global and Whim the future of transportation and would people give up their own car to use one application?” got again more answers for “Yes, it is and yes they would.”.

5.3 Important trends

The author wanted to ask also about the affecting trends MaaS Global could be facing. The author though this could be a great way to see does the interviewers see some trends that are already there or might be coming.

One trend that came up in the research for this thesis and what the interviews said was to be greener and environmentally friendly. While coronavirus stopped the world from moving it will end at some point and then people again are thinking about travelling. Travelling won't be the same anymore from coronavirus and its effects on the environment has been huge. Environment has had a huge effect without the huge amount of pollution etc. some cities air has become clearer, lakes has become cleaner and the list goes on. So, when thinking about travelling people will possibly think about being green even more. Deciding to travel in homeland instead of flying into another country, taking a train instead of airplane, staying the night in a tent than a hotel etc. MaaS Global and Whim has a great vantage where to offer solutions for more environmentally friendly ways to travel in the future. With cooperating with different industries from hotels to food there is no limit of what MaaS Global will become.

Another point was that the new generations aren't so build up on owning and to be changed to sharing but it is definitely making its move. Also, servitization and globalization will boom, and autonomous vehicles will change and have an impact on MaaS Global and Whim in general. MaaS Global is already digitalized and way ahead of many other companies who are just trying to keep it up.

All of the trends came up on the interviews. *Urbanization* is something that MaaS Global can offer a solution to. *Climate change* is where MaaS Global can offer a greener option. *Epidemics* is something everyone can try their best to be prepared to and be aware that something similar can come again and how to be ready for it. *Populations aging and diverging* is one of the challenges that MaaS Global is heading and how to speak to everyone so that the message is clear, and mindset is towards a better future for everyone. *Digitalization* is something that MaaS Global is already ahead of but to get the old transportation providers to do the same is slow process but not impossible.

6 Conclusion

The author of this thesis used qualitative research method to collect empirical data. The author did three interviews, researched megatrends and did futures research to get the research more reliable and credible. The author discussed about MaaS Global and Whim in general, what type of service it provides and the story behind it.

The author discovered that the old-fashioned methods on the public and private transportation services needs to be evolved to this date to make the needed changes in the future. The biggest challenge that MaaS Global and Whim has is to be technically ready to add these old services to its own platform.

The author got a clearer picture of the future and how the transportation is seen in it. One of the most important discoveries was that people want to be greener and think about the environment and how they are affecting it. This is one of the biggest influences in future transportation. Climate change and epidemics is most probably the most important megatrend that will affect our transportation methods and mindset of it. Environmental benefits alone are most probably not enough to change the mindsets from owning your own car and change it to Whim. But it will be a significant bonus if the solution for it is good enough.

The future is bringing a lot for the transportation from Hyperloops, flying cars, driverless pods, Hypersonic jets, tall buildings being as spaceports and changes in airplane speeds. As seen the future has a lot to offer but the megatrends have a huge effect on how and which of them will survive to the world and will change our transportation methods and way of thinking.

Another challenge that MaaS Global and Whim is having is changing the mindset and thinking from owning to sharing. This might be hard and a very slow process but what the megatrends and ideas of climate change are telling us not impossible.

One of the most important things to MaaS Global would be to meet the consumers demand on the right moment. What are the customers seeking and being able to offer them quickly. The main thing in MaaS Global's concept isn't the services

function and what the supply package covers but answering to the demand on the right time.

MaaS Global still needs to improve the idea of giving up your own car. Even if the car you own is mostly sleeping and a big capital burden the option to sharing, leasing or renting hasn't been that successful. MaaS Global is on the right track though. The service option must be so good transportation option for example on city-transition that the consumers has an immediate economic benefit from it when the capital burden of your own car can be transferred into something else.

Owning your own car isn't a status symbol anymore or a just for pleasure and the demand for a car is mostly for transition. Owning your own car has traditionally been an option to public transportation and taxi to transit to the city. The benefits have been its easy access, comfort, privacy and safety. Nowadays owning your own car, the benefits are loose and its most of a time a burden. When driving to the city there is a lot of traffic, standing in the lights and not finding a parking place. So only the privacy is remaining in the traditional benefits. MaaS Global has found a great option on the package to offer all transportation with a monthly price.

The author also acknowledged that the coronavirus has changed the demands on delivering services. When the world will move to our new normal deliveries are something that will most probably stay on our requirements. MaaS Global should acknowledge this demand and answer for it. A great solution could be to add a service or services on Whim that would provide grocery home delivery for example. This would not only help Whim to move forward but to help taxies on their low seasons.

The concept of Whim could be endless and not only a transportation service but a city-service. A city-service could offer all kinds of services under one single application. Whim wouldn't be a sum of services but a city transition brand. From this concept the consumers financial profit would be big enough to avoid a big car investment and the competitor as private cars would make way for the service providers to achieve additional volume. One of Whim's advantages is that its service providers aren't competing with each other instead they fulfil each other. Only private cars are the actual competitor that they all have in common. There is a

pent-up need for new solutions in the contemporary cities and the private cars do not work in the scene. But its benefits that it used to have such as easy access, comfort, privacy and safety needs to be added to the new option.

Although there are challenges but definitely more possibilities for MaaS Global and Whim in the future. From the interviews and the authors research MaaS Global and Whim will evolve and make the challenges into victories and be the future of transportation. MaaS Global is heading to the right direction. Changing our norms of owning an own car and transforming our way of thinking to a shared application combining all transportation is a slow process but definitely achievable.

It seems that the world is changing through the epidemic it is facing at the moment and things like MaaS Global and Whim could be the solution for a better functioning and environmentally friendly way to move in our future cities. When answering the demand for a better solution on city transitioning and giving an option for private car owning MaaS Global will be the future of transportation and solution for giving up your own car.

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8 Appendix

Name:

Title:

Brief description of your tasks:

1. What do you think is the biggest challenge for MaaS and Whim in the future?
2. What possibilities do you see in the future?
3. What type of trends you think will effect on Whim in the future?