

Article

Mobility as a Service: An Exploratory Study of Consumer Mobility Behaviour

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Abstract: Key challenges in transportation need to be addressed to tackle the problems of fossil fuel emissions and worsened air quality in urban area. The development of a more efficient and clean transport system could benefit from mobility as a service (MaaS). The present paper aims to understand the determinants of the intention to adopt such a service. We test the Technology Acceptance Model (TAM) on mobility behavior and intention to adopt mobility as a service, and we analyze the role of perceived cost saving as a determinant for the perceived ease of use. Data were collected through a survey on a sample of 201 potential adopters. The findings show that for such a technology, perceived usefulness fully mediate the influence of perceived ease of use on the intention to adopt. Moreover, the effect of perceived cost saving on perceived ease of use is moderated by the life cycle of the technology. Implications for marketing managers and policy makers are discussed.

Keywords: mobility as a service; technology acceptance model; mobility behaviour; mobile services; technology adoption

1. Introduction

The way of living is changing worldwide and based on the current estimates, the number of people living in urban areas will increase by 2.5 billion inhabitants (around 70%) by 2050 [1]. The massive urbanization will cause further problems with traffic bottlenecks, fossil fuel emissions and worsened air quality. Therefore, the key challenges in transportation need to be addressed in order to tackle the problems and develop a more efficient and clean transport system in urban areas [2]. In fact, the change is already in progress, but it sets prerequisites for various parties to succeed in the shift towards a more sustainable mobility [3–5].

People are still using cars as their main means of transport, even though privately-owned cars are mostly idle during their lifetime. In the last years, new technological solutions have been introduced to solve the growing mobility needs in a more sustainable manner [3]. From the business perspective, the automotive industry realized that disruptive trends would have a great impact on their traditional business model due to the more constraining environmental regulations, new mobility trends and technical innovations [6,7]. Consequently, the players of the industry presented electric and autonomous cars as an option to meet the consumer's changed preferences and needs. [8] and mobility applications based on the concept "as a service" [6,9]. These disrupted the traditional value chains such as Uber and Lyft with access to real-time data and integrated means of transport. [10,11].

Mobility as a Service (MaaS) is an emerging and evolving phenomenon, an example of technology-driven innovation that allows users to plan their trip and travel through the integration

of different mobility mode offered by different service providers, using a single interface IT based. In this way, simplifying the journey planning and ticket purchase processes among other things [3]. MaaS is an example of technology-driven innovation, which will set the foundation for future vision of mobility and “move us toward a more user-centered mobility paradigm” [3], (p. 114).

Despite the current newsfeeds about Mobility as a Service, the concept is still rather novel and unexplored as a research subject, particularly, behavioral studies about people’s mobility behavior.

In order to fill this gap we conducted a study in two distinct European countries at different stages in the current mobility revolution: Finland and France. The first one is a pioneer while the second one is a follower moving towards a more sustainable mobility future. Since 2014, Mobility as a Service has been a trendy research and news topic in Finland, but not so much in the French market. Consequently, we were confident that a quantitative study would give us insight into both population’s daily commuting habits and to their attitudes towards changing mobility behavior.

We aimed at determining which elements affect the user’s decision to start using a mobility application. The paper covers a time period of 3 months during the summer 2019, when the data collection took place between different demographic groups (i.e., different aged people living either in urban, suburban or rural areas).

The purpose of our study is to get an understanding of what drives the user’s perceived usefulness and intent to use a MaaS.

More precisely, the aim of our research paper is to predict user’s adoption or rejection of a MaaS service through the application of technology acceptance model (TAM), thus empirically examine how its elements capacity to predict and explain consumers’ intentions. Therefore, we will focus on the relationship between perceived ease of use (PEU), perceived usefulness (PU) and intention to use (IU) in the context of Maas. We also explore the role of a possible determinant of ease of use—such as the perceived cost saving—in the context of Maas. Finally we will verify under which conditions perceived cost saving is able to determine ease of use. With this regard, we suggest that the stage in the current mobility revolution moderates the relationship between perceived cost saving and ease of use.

2. Theoretical Background

Mobility as a Service—MaaS—is going to change the automotive industry (Smith et al. 2020,). In the last five years the digital transformation has affected the automotive industry and the transportation sector moving automotive firms’ goal from selling cars to provide mobility service such as drivenow by BMW or free2move by PSA group. This trend can be studied under the umbrella of servitization [12], i.e., the “innovation of an organization’s capabilities and processes to shift from selling products to selling integrated products and services that deliver value in use” [13]: (p. 548).

According to Baines and Lightfoot there are six distinct technologies and practices that enable the servitization process: facilities and their location, micro-vertical integration and supplier relationships, information and communication technologies (ICTs), performance measurement and value demonstration, people deployment and their skills, and business processes and customer relationships [14].

Despite the relevance of the digitization of mobility, only in the last 2 years the topic has been studied systematically [15]. Moreover, as per any major technology-driven innovation, the success depends on the acceptance of the new technology by the users. In order to understand this new phenomenon and its acceptability by potential users, we adopted the technology acceptance model (TAM) in order to predict and explain a user’s adoption or rejection of a MaaS service.

2.1. Mobility as a Service—MaaS

Boosted by global trends such as digitization and servitization, the notion of MaaS has rapidly gained popularity. Several pilot demonstrations of MaaS and MaaS-related services have been performed, like, among others, UbiGo in Sweden, SMILE in Austria, Switch in Germany, and Whim in Finland [10].

Mobility-as-a-Service (MaaS) can be defined as the set of mobility services that aim to provide consumers with integrated, flexible, efficient, and user-oriented mobility. “It implies a shift away from the personal ownership of individual motorized transportation modes, and non-integrated means of transportation towards the use of integrated multimodal mobility solutions consumed as services. This shift is enabled by combining transportation services from public- and private-transportation providers through an “integrated mobility platform” that creates and manages the journey and integrates planning and payment (based on mobility packages tailored to the needs of each customer segment) on a one-stop-shop principle.” [16], (p. 61).

According to the above definition, transportation services will become integrated platform of a new forms of transportation (e.g., car- and bike-sharing) will be offered to deliver smooth and optimized mobility for the end-users [17]. The term “as a service” means that an integrator accumulates offers from numerous transport service providers and a MaaS provider offers them to the users through a single interface on the web or mobile devices creating a mobility platform [18].

Mobility as a Service combines the sharing economy and personalization of services like car-sharing [19].

The core of Mobility as a Service is the mobile application platform that integrates various transport service providers, offering the possibility to users to plan their journeys and purchase tickets through one single app [18]. There are four levels of MaaS integration:

- The first level refers to the planning of the journey only (i.e., Google Maps). In this level the user access to the different options and solutions to manage the journey.
- The second level refers to the planning of a journey and the ticketing. (i.e., Uber). The user can book the car, taxi, bus etc., with related tickets and reservations.
- The third level, the highest one reached today (by Whim and UbiGo), gathers all kind of transportation within one mobile app only. The payment can be done whether as you go or in an all-inclusive plan.
- The fourth level includes the three first levels plus an ultimate goal: incentives [20]. According to the history of the user the platform can provide tailor made offers in order to optimize both the resources of the platform and the users’ mobility needs and costs.

2.2. Technology Acceptance Model (TAM) for MaaS

The use of MaaS requires an integrated mobile application that manages all the steps of a travel (from the type of mobility mean to the itinerary, timing, price etc.). Thus, MaaS can be regarded as a new digital product [21], where the information technology (IT) represents the core element, suggesting the Technology Acceptance Model (TAM; Davis, 1989) as an appropriate initial framework for the present research aim, which is a well-established framework for explaining the adoption of new technologies, products and services.

Even if TAM was initially developed to understand the acceptance of information technology—such as personal computers—by users within the organization, the model has been successfully adjusted to different contexts. From the acceptance to bike sharing application (Chen, 2016) to mobility as a service [21], TAM central constructs have demonstrated to be an useful base to understand the attitude and the motivation of users for accepting this type of new technology-based innovations.

Following the classic economic view and transaction cost theory [22], the TAM is built on the core idea that adoption depends on the ‘value’ of new products and services for the user, while transaction cost theory also focusses on costs (e.g., price, risks associated with the product usage) and the resulting ‘net-value’ [21].

The technology acceptance model aims to predict and explain user behavior of technology acceptance [23]. The model consists of three core constructs: perceived ease of use (PEU), perceived usefulness (PU) and intention to use (IU), which are connected with each other via causal relationships.

According to TAM, Perceived usefulness (PU) is “the degree to which a person believes that using a particular system would enhance his or her job performance” [23], (p. 320) and Perceived

Easy to Use (PEU) is “the degree to which a person believes that using a particular system would be free of effort” [23], (p. 320).

Perceived usefulness and perceived ease of use have been identified as the most influential predictors of adoption in the Information Systems literature [24]. Venkatesh and Davis (2000) [24] and Venkatesh et al. (2003) [25] show a direct relationship between perceived ease of use and intention to use. This causal link is also tested and proven in more recent application of TAM to adoption of new technologies [26,27]. Moreover, perceived ease of use is also able to indirectly affect intention to use through perceived usefulness [27].

The model uses a rating scale comprising of multiple items, where each statement is evaluated to measure the reliability of the core constructs PEU, PU and IU. Davis & Venkatesh (1996) [23] state that “the Cronbach alpha reliability of the TAM scales has generally been found to exceed 0.9 across numerous studies” [23]. Theoretical and empirical support has led to the acceptance of using TAM models for research purposes [23]. According to extant research, the model has proven to explain “a substantial proportion of the variance (typically about 40%) in usage intentions and behavior” [24], (p. 186) and that PU is a determining factor on intention to use [24].

As mentioned before few previous studies [21,28] have used TAM demonstrating the ability of this model to support generalization in emerging contexts.

The generalization to this new context is relevant, due to the specificity of the technology analyzed for which IT ease-of-use is not an inherent quality of the purchased product [29]. In line with Gefen and Straub (2000) findings, for a service such as MaaS where IT itself does not provides the primary service—the mobility, perceived ease of use may not directly influence the intention to adopt.

Testing the TAM in this new context implies the formulation of the following hypotheses:

Hypotheses 1 (H1). *In the adoption of MaaS, perceived ease of use determines perceived usefulness.*

Hypotheses 2 (H2). *In the adoption of MaaS, perceived usefulness influence intention to use.*

Hypotheses 3 (H3). *In the adoption of MaaS, perceived ease of use determines intention to use.*

Hypotheses 4 (H4). *In the adoption of MaaS, perceived usefulness mediates the relationship between perceived ease of use and intention to use.*

According to TAM, ease of use determines both usefulness and intention to use. However, from a managerial perspective, the model lack in suggesting how to increase the perceived ease of use among the adopters of a new technology.

With regard to MaaS, previous studies suggest as possible determinant of ease of use the perceived cost saving [30].

Interestingly differently from other type technology adoption, the study shows that a decrease in transportation prices and car-ownership among users were not thought to be a significant benefit [30].

Our paper aims to clarify the role of perceived cost saving on the perceived ease of use and we state this effect is related to the life cycle of the adoption [31].

We hypothesis that in the early stage of the adoption the price could positively affect the accessibility of a technology, thus its perceived ease to use, encouraging its trial, for example, while in the maturity phase, this is not anymore, an entry barrier [31].Therefore:

Hypotheses 5 (H5). *In the adoption of MaaS, life cycle moderates the relationship between perceived cost saving and ease of use.*

3. Method

A convenience sample of 100 French residents (women 50%, mean age 28) and 101 Finnish residents (53% women, mean age 39) were surveyed. Responses were assembled from people on the street. Referring to the French sample, half of the respondents are living in cities/urban area of Paris, Bordeaux and Marseille on while 27 are living in suburban area (Paris for the most part) and the

remaining 23 respondents in a rural area. In Finland, a majority of the answerers (70%) lived in the Capital region, which encompasses Helsinki, Espoo, Vantaa and Kauniainen. Additional five respondents resided in the Greater Helsinki area including towns such as Järvenpää, Kerava, Kirkkonummi and Sipoo. The 2 populations are not statistically different in term of gender distribution: 53% of the Finland sample is composed by females versus the 50% of the French sample (Chi Square = 0.24; $p = n.s.$) Moreover, a paired-sample t tests with environmental attitude within-subjects variable were conducted to assess the impact of this variable on intention to use. The results show that the 2 populations do not differ in term of environmental attitude: $M = 4.6$ for the Finnish population; $M = 4.9$ for the French population; $t(195) = -1.60$, $p = n.s.$

Among the Finnish sample, quantitative study shows that most common education levels were bachelor's (32%) and master's degree (42%). Also referring to the French sample, the majority of respondents possess either a master's degree or a bachelor's degree (see the details in the graph below).

With regard to the car use by Finnish, the possession of a driving licence was very common (98% of the respondents). Most of them (89%) had also access to a car. 71% of the French respondents possess a driving license, and the 60% have access a car.

As explained in the introduction section, we have chosen Finland and France as those two countries are in a different stage in the current mobility servitization; the first one is a pioneer while the second one is a follower. Respondents were asked to answer an online survey about perceived cost saving, ease of use, usefulness and intention to use the service.

The questionnaires (Appendix A) were run in Finnish and in French for the two different populations as one of the authors is Finnish and one other is French.

3.1. Measures

3.1.1. Perceived Cost Saving

We adapted Kamargianni, Matyas, Li and Muscat, (2018) [10] scale and we used 3 items measured by 7-points Likert scale: I consider that a MaaS type of service should cost less than a traditional way of commuting; I consider that a monthly subscription should be more affordable than 30 on demand tickets; I consider that a MaaS service should deliver savings in travel costs.

3.1.2. Ease of Use

We referred to the same construct proposed by Davis and Venkatesh (2000) [23], measured by two 7 points Likert items: I expect a MaaS to make commuting easier; I expect a MaaS to be user-friendly/intuitive.

3.1.3. Usefulness

We adapted the scale proposed by Davis (1989) [32] to our context. We measured usefulness with 4 items (7 points scale): Use of a MaaS would improve my mobility options; Use of a MaaS would make my daily commute faster; Use of a MaaS would allow me to optimize my daily commute; Use of a MaaS would allow me to commute in the way I want.

3.1.4. Intention to Use

We referred to the same construct proposed by Davis and Venkatesh (1996) [23], measured by three 7 points Likert items: I intend to use a MaaS if I have access to the service; I would rather use a MaaS than a traditional way of commuting; I would use a MaaS if I find it useful and easy to use.

4. Results

The reliability for the analyzed constructs is showed in Table 1 while Tables 2–5 show the means, standard deviations, and correlations among scales for the 2 populations.

Table 1. Reliability of measures.

Populations	Perceived Cost Saving	Ease of Use	Usefulness	Intention to Use
French	0.75	0.70	0.88	0.86
Finnish	0.70	0.60	0.90	0.83

Table 2. Factor Analysis for the Finnish sample.

Measures	Component			
	1	2	3	4
Useful1	0.922	-	-	-
Useful2	0.873	-	-	-
Useful3	0.865	-	-	-
Useful4	0.834	-	-	-
Intention1	-	0.875	-	-
Intention 2	-	0.863	-	-
Intention3	-	0.860	-	-
Cost 1	-	-	0.837	-
Cost2	-	-	0.769	-
Cost 3	-	-	0.767	-
Easy1	-	-	-	0.841
Easy2	-	-	-	0.840

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.

Table 3. Factor Analysis. for the French sample.

Measures	Component			
	1	2	3	4
Useful 1	0.919	-	-	-
Useful2	0.861	-	-	-
Useful3	0.822	-	-	-
Useful4	0.800	-	-	-
Intention1	-	0.928	-	-
Intention2	-	0.878	-	-
Intention3	-	0.818	-	-
Cost1	-	-	0.865	-
Cost 2	-	-	0.833	-
Cost3	-	-	0.744	-
Easy1	-	-	-	0.877
Easy2	-	-	-	0.830

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.

Table 4. France: correlations, means, standard deviations.

Measures	1	2	3	4
Perceived cost saving (1)	1.00	-	-	-
Ease of use (2)	0.51 **	1.00	-	-
Usefulness (3)	0.42 **	0.47 **	1.00	-
Intention to use (4)	0.33 **	0.28 **	0.58 **	1.00
Means	5.54	6.14	5.36	5.35
Standard deviations	0.95	0.80	1.04	0.96

** Correlation is significant at the 0.01 level (2-tailed).

A factor analysis followed by a promax rotation on the measures was run to test the convergent validity and the discriminant validity of variables measures. It showed that were measured well by the nine emotion items and loaded on the predicted factors (see Table 2). The output was a four-factor solution. The four-factor solution accounted for 75% of the total variance and each item loaded highly

on its hypothesized factor (convergent validity) and relatively low on the non-hypothesized factors (discriminant validity).

Table 5. Finland: correlations, means, standard deviations.

Measures	1	2	3	4
Perceived cost saving (1)	1.00	-	-	-
Ease of use (2)	0.19	1.00	-	-
Usefulness (3)	0.15	0.09	1.00	-
Intention to use (4)	0.09	0.25 *	0.59 **	1.00
Means	5.33	6.23	4.96	5.16
Standard deviations	0.98	0.57	1.18	1.07

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level.

In order to test hypotheses H1–H4, we estimated on our sample the mediated model showed in Figure 1 by using the PROCESS SPSS Macro (Hayes 2013).

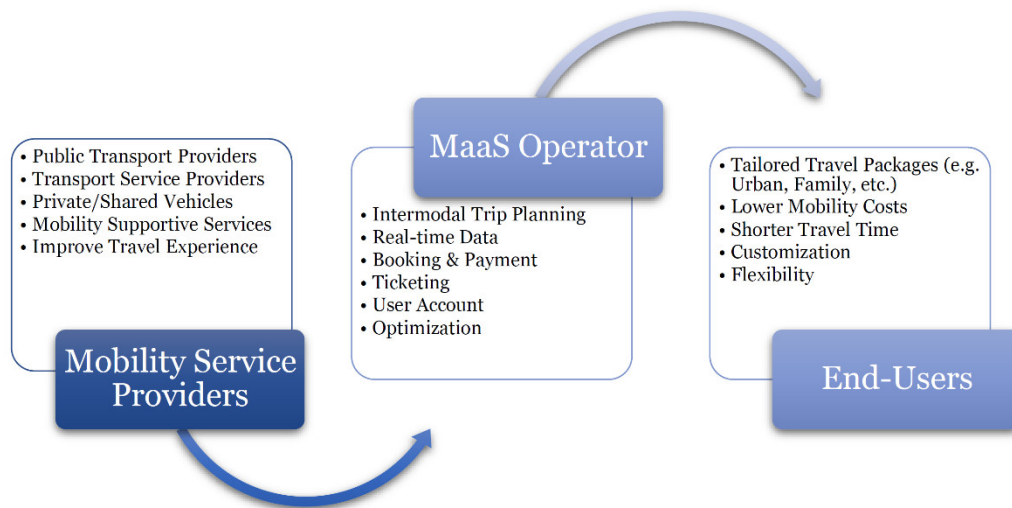


Figure 1. MaaS model (adapted from Kamargianni & Matyas, 2017).

We first regressed ease of use on usefulness; the results revealed a positive effect of ease of use on usefulness ($b = 0.44$, $p < 0.001$). We also regressed ease of use and usefulness on intentions to use by showing a positive effect of usefulness to the intentions ($b = 0.51$, $p < 0.001$) and a not significant one for ease of use on intentions.

Furthermore, the analyses revealed a significant indirect effect of ease of use on intentions, via usefulness, which is positive and significant ($b = 0.22$, 95% CI = 0.08, 0.18). Thus, according to our findings, H1 was supported by data as well as H2 and H4, while H3 was not supported.

Finally, in order to test H5, we estimated on our sample the moderated model showed in Figure 2 by using the PROCESS SPSS Macro [33], an observed variable OLS and logistic regression path analysis modelling tool, where perceived cost saving is the independent variable, ease of use the dependent variable and the country (France/Finland) the moderator. We first regressed perceived cost savings on ease of use; the results revealed a positive effect of the former on the latter ($b = 0.40$, $p < 0.005$). Furthermore, the joint effects of perceived cost saving and nationality on ease of use was positive and significant, as predicted For French people but not for Finnish consumer, perceived cost saving is significant in fueling the ease of use ($b = 0.42$, 95% CI = 0.29, 0.55).

Figures 3 and 4 show the distribution of the population by education in the two country and, figures 5 and 6 show the mediated and moderated models.

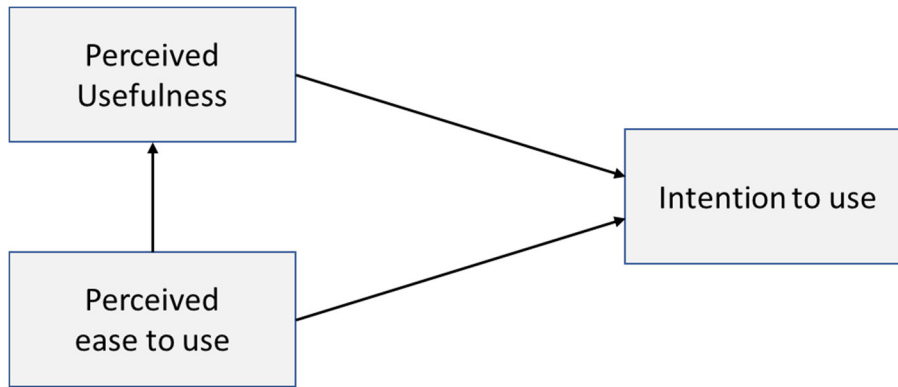


Figure 2. Technology Acceptance Model—TAM.

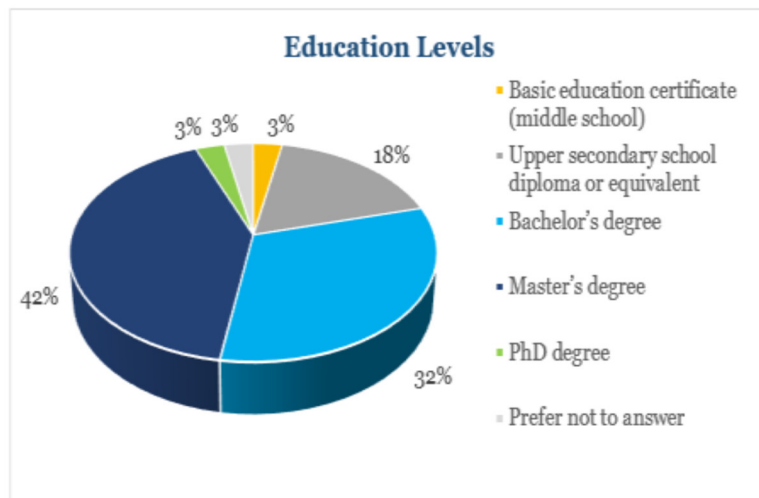


Figure 3. Education level in the Finnish sample.

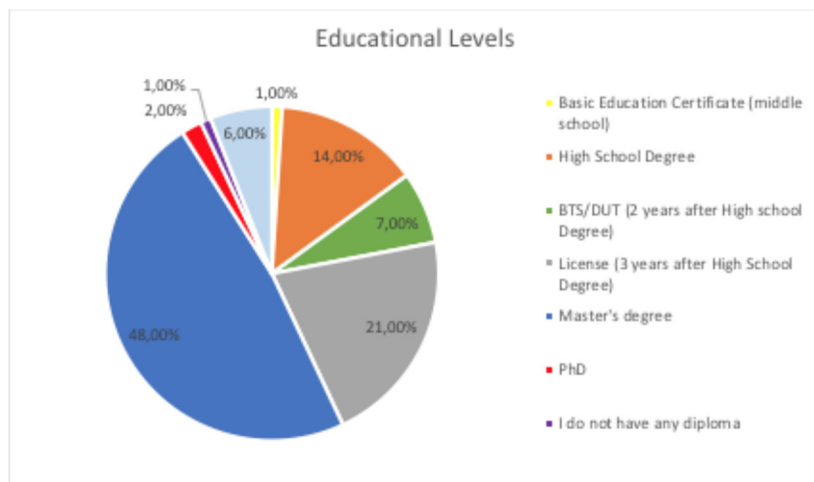


Figure 4. Education level in the French sample.

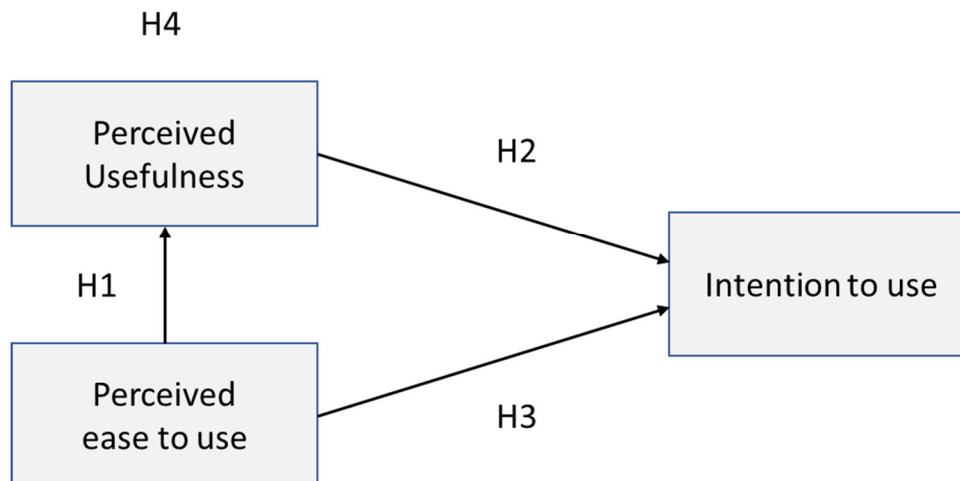


Figure 5. The mediated model.

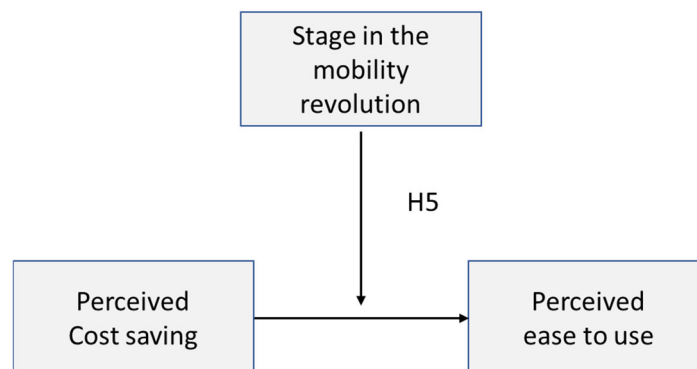


Figure 6. The moderated model.

5. Discussion

The present study explored the main mechanisms behind the intention to adopt MaaS model.

We contribute to the most recent literature on MaaS [21,34,35] as our results show that, for this kind of innovation not all the hypotheses of TAM are supported by data: ease of use does not have a direct impact on intention to adopt. This may be due to the fact that, in an innovation such as MaaS, the technology is dissociated from the adopter's final task, as previous studies suggest [29].

Indeed our data confirms Gefen and Straub (2000) [29] work that demonstrates that when the technology is not the final goal of the potential adopters, but it represents only a mean to reach this final objective, the perceived ease of use does not have a direct impact on intention to adopt. Referring to MaaS, the final goal for the potential adopters is represented by the mobility and the application can be only an effective tool to reach this final goal. This seems the reason why as Gefen and Straub predict, we did not find a significant direct relationship between ease of use and intention to adopt.

A further explanation for this relative importance of perceived ease of use could be found in the fact that, nowadays, consumers take for granted that a mobile app must be intuitive and conceived to simplify their lives.

Therefore, in line with our findings, we suggest a modified version of TAM in order to explain the intention to adopt this new kind of technology.

Nevertheless, perceived ease of use remains an important determinant of perceived usefulness that, in turn, impacts on intention to adopt.

For this reason, one of our goals was to identify the determinants for the user-friendliness. Previous studies suggest that the perceived cost may increase the perceived complexity of a new technology [30] and we tested under which conditions it represents a barrier.

An interesting contribution of the present study is the role played by the cost of these type of services in facilitating their acceptance. Our finding shows that the perceived cost is a determinant of the perceived ease of use only for in the first stage of the life cycle of the technology, while, in the maturity phase, consumers seem less elastic to price.

As previous studies about the adoption of technology have shown [31], the perceived cost is a barrier for the potential B2C adopters only in first stages of life cycle of the technology and our results support this conclusion.

Indeed, in the maturity phase adopters have the possibility to fully experience the new technology and then they are able to value it in the correct way.

Finally, understanding acceptance factors and mechanisms that can facilitate MaaS adoption is of high importance for designing effective mobility policies. MaaS implies a cultural switch from the ownership of a transportation mean to the focus on the journey and the services that make it easier. In other words, MaaS is a socio-technological change and transformation process of public and private mobility. Our findings suggest that policy makers need to focus on communicating the usefulness and the positive impact at individual and social level of this model of mobility.

6. Conclusions, Managerial Implications and Limitations

Mobility as a Service (MaaS) is the new hyped phenomenon resulting from a massive urbanization, which causes many problems such as traffic bottlenecks and environmental issues. This massive urbanization creates many challenges for cities as the transport systems need to be rethought.

Our data shows that in order to make this new mobility model to be accepted, firms need to make clear the advantages (perceived usefulness) that these new services provide to users. At the same time, we find out that the price can be an incentive only in the in the launch phase of the service. Moreover, our data suggests that the more the customer becomes aware of the advantages and the feature of the service (maturity stage) the less the price affects their intention to use the service.

According to our findings, an accurate study of the stage in the life cycle of a technology service is necessary for designing distribution models for firms as well as mobility policies for policy makers in deploying new and more sustainable mobility models.

Finally, our data highlights an interesting effect that is not predicted by TAM. Perceived ease of use seems to be taken for granted when an innovation is app-based and it is not intrinsic to the final goal but represents only a tool to reach the final objective (the journey in our case). This might suggest that simplicity and readiness are not an option in designing such as apps. However, simplicity and readiness (perceived ease of use) must not be pursued at the expenses of affect the quality of the service.

Finally, like as other pieces of research, the present paper presents some limitations that could suggest directions for further research. The first one refers to the number of countries analyzed (two: France and Finland). They were chosen because of the different stage of the life cycle of MaaS in the two countries and further comparisons among other nationalities may contribute to generalize our findings, testing the external validity of our study.

The second limit resides in the focus on the perceived cost saving as determinant of the ease of use. Other variables might affect perceived ease of use and further research could explore the role of these predictors, such as flexibility, quality and experience with the service.

Author Contributions: The four authors contributed equally. The paper came as a result of a collegial confrontation. In particular Quentin Berger and Karoliina Haavisto initiated the data collection and the first round of analysis. Lapo Mola defined the theoretical framework that was discussed with Quentin Berger and Karoliina Haavisto. Isabella Soscia refined the theoretical and methodological model. All authors have read and agreed to the published version of the manuscript.

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Appendix A: The Questionnaire

Mobility as a Service (MaaS)—A study of consumer behaviour

Part 1—Socio demographic profile

- 1. Where do you reside?**
 - a) France
 - b) Finland
- 2. Please specify your city**
 - a. _____
- 3. Please indicate your gender.**
 - a. Female
 - b. Male
 - c. Prefer not to answer
- 4. What is your age?**
 - a. _____
- 5. What is your educational background?**
 - a. No degree
 - b. Basic education (middle school)
 - c. Upper secondary school diploma or equivalent
 - d. Bachelor's degree
 - e. Master's degree
 - f. PhD degree
 - g. Prefer not to answer
- 6. In which area do you live in**
 - a. City / Urban area
 - b. Suburban area
 - c. Rural area

Part 2: Transportation behaviours

- 7. Do you have a driving licence?**
 - a. Yes
 - b. No
- 8. Do you have access to a car?**
 - a. Yes
 - b. No
- 9. What is your primary type of transportation?**
 - a. On foot
 - b. Bicycle
 - c. Bus
 - d. Tram

- e. Train
- f. Subway
- g. Car
- h. Other _____

10. Do you use more than one type of transportation?

- a. Yes
- b. Sometimes
- c. No

Part 3 options about your future mobility behaviour

11. How willing are you to change your way of commuting from an environmental perspective? (on a scale from 1 to 7 (where 1= "not at all willing" and 7 "completely willing"))

1__ 2__ 3__ 4__ 5__ 6__ 7__

12. Please rate the following statements about your future travel behaviour / attitude On a scale from 1 to 7 Where 1 = "I strongly disagree" and 7 "I Strongly agree".

Price

1) *I consider that...*

- a. A MaaS service should cost less than a traditional way of commuting

1__ 2__ 3__ 4__ 5__ 6__ 7__

- a. A monthly subscription should be more affordable than 30 on demand tickets

1__ 2__ 3__ 4__ 5__ 6__ 7__

- b. A MaaS service should deliver saving in travel costs

1__ 2__ 3__ 4__ 5__ 6__ 7__

Ease of Use

2) *I expect a MAAS app to...*

- a. Make commuting easier

1__ 2__ 3__ 4__ 5__ 6__ 7__

- b. Be user friendly / intuitive

1__ 2__ 3__ 4__ 5__ 6__ 7__

Usefulness

3) *Use of a MaaS would*

a. Improve My mobility options

1__ 2__ 3__ 4__ 5__ 6__ 7__

b. Make my daily commute faster

1__ 2__ 3__ 4__ 5__ 6__ 7__

c. Allow me to optimize my daily commute

1__ 2__ 3__ 4__ 5__ 6__ 7__

d. Allow me to commute in the way I want

1__ 2__ 3__ 4__ 5__ 6__ 7__

Intention to use

a. I intend to use a MaaS if I have access to the service

1__ 2__ 3__ 4__ 5__ 6__ 7__

b. I would rather use a MaaS than a traditional way of commuting

1__ 2__ 3__ 4__ 5__ 6__ 7__

c. I would use a MaaS if I find it useful and easy to use

1__ 2__ 3__ 4__ 5__ 6__ 7__

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