

Abstract

Mobility as a Service (MaaS) is considered a new mobility paradigm. The concept of MaaS became popular few years ago and since then many trial projects have been carried out in urban environments. However, the first real Mobility as a Service was launched in Helsinki only in 2017.

Although there is not a unique definition of Mobility as a Service, its concept is based on allowing users to travel by traditional and alternative modes of transport which are used as a service. Mobility as a Service aims to reduce the car ownership. To this end, a unified platform provides the information related to the supply of transport, combining private and public transport operators. On the other hand, customers are able to purchase a unique ticket through a single account.

This Ph.D. thesis aims to understand if Mobility as a Service is suitable for suburban and rural areas. To reach this objective, both a bottom-up and a top-down approaches were used in order to assess the opinion about MaaS from, respectively, the population and the stakeholders. To this end, 146 municipalities in the province of Torino (Italy) were selected as a study area.

To reach the above objective, different methods were used, allowing the analysis of both quantitative and qualitative data. A survey was designed to assess how people travel and how they would like to improve their travel experience.

A cluster analysis was subsequently performed to define different categories of people according to their willingness to use Mobility as a Service.

Moreover, Focus Groups with a stratified sample of respondents were organized to collect qualitative data as well as validate the outcomes of the Cluster Analysis.

Personas, a tool used in User Experience Design to play a role and represent a specific segment of users, were created based on representative answers of the survey and assigned to the participants of the Focus Groups.

To this end, participants of Focus Groups were split into sub-groups and were asked to identify weaknesses and solutions aimed to improve the travel experience of their *persona*.

Finally, a Focus Groups with the main stakeholders of the study area was carried out to describe the outcomes of both the survey and the respondent's Focus Group. In this occasion, the stakeholders were asked to provide a definition of Mobility as a Service and assess the feasibility of the solutions delivered by the respondents.

The innovative methodology of this thesis is the use of both quantitative and qualitative data as well as of different disciplines such as User Experience and Service Design, aimed to determine and validate the clusters defined through the Cluster Analysis.

Besides, the use of both a bottom-up and a top-down approaches allowed to identify common points between respondents and stakeholders.

The quantitative data from the survey and the Cluster Analysis defined categories of respondents willing to use Mobility as a Service. However, Focus Groups validated the cluster analysis only partially.

Moreover, in contrast to the literature, the outcomes of both the survey and the Focus Groups showed a mistrust about Mobility as a Service.

On the other hand, stakeholders struggled to find a common definition to describe MaaS and the prices for the most positively evaluated mobility packages were considered economically unsustainable by the transport operators.

This thesis opens to a new perspective in terms of the design of Mobility as a Service that, in contrast to the literature, has to be tailored on the real needs of the population. Therefore, the success of Mobility as a Service is the outcome of the encounter of both user and stakeholder's needs.