Drivers and barriers of Mobility-as-a-Service: insights from two focus groups conducted in a middle-size city in Italy

F., PIRAS[1], A., SCALAS[1] , E. SOTTILE[1], I., MELONI[1]
1Università degli Studi di Cagliari, Cagliari, Italy

Università degli Studi di Cagliari

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INTRODUCTION

Recently **Italian** local municipalities and regional governments have shown strong interest in Mobility as a Service (MaaS) as a way to reduce personal use and ownership of individual motorized means of transport:

- **Some research projects are ongoing**
- One of the measures often included in **Sustainable Urban Mobility Plans** is the implementation of MaaS

Different questions should be addressed before MaaS could become mainstream at a national level:

- Often **public transport** service is **inadequate** and ineffective
- There is almost no knowledge on which could be the **role of different stakeholders** (public and private) within a MaaS ecosystem
- It is not clear how actual and future passengers of public transit would **perceive** the introduction of **new fares** and the implementation of a **new technological platform**

AIM

The object of the current study is to investigate, from a quantitative and qualitative standpoint, the **factors that can trigger or act as barriers** to the implementation of **MaaS** in a **middle-size city in Italy**

The whole research activity is part of the project "**MyPass. Mobility as a Service**" funded by the Italian Minister of University and Research with the scope to accelerate the implementation and favor the scalability of MaaS programs in Italy.

The context of the analysis is the city of **Cagliari**, capital of Sardinia (Italy)
- The metropolitan area is served by a large network of **public bus** lines and two **tram services** operated by **three different transport operators**
- A **bike-sharing** service and a **car-sharing** service have been operated since 2012
- Different **mobility applications** for smartphones are available

METHOD

On-line workshop with **stakeholders** (December 2021)
- 23 participants: **public authorities**, public and private **transport operators**, **IT companies**, **ticketing** and **payment** service providers
- The workshop consisted of brief presentations of MaaS-related issues along with **interactive discussions**
- Final **online questionnaire**

On-line workshop with **citizens** (April 2022)
- 11 participants: **workers**, **students**, **car commuters**, **transit users**
- We **discussed** with the participants about intermodality, fare integration, benefits and possible barriers to the use of MaaS
- Final **online questionnaire**

Different concept of MaaS for stakeholders

"MaaS is a system with which develop efficient and effective integrated and personalized mobility services so as to 1) bring benefits to all the players involved in the ecosystem and 2) allows citizens to plan their trips" [Academic partner]
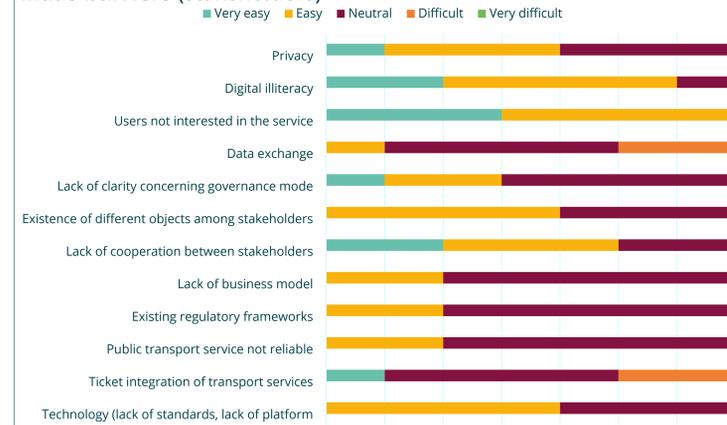
"With MaaS it will be possible to increase sustainable mobility modal share and reduce the use of the car because of the increase of passengers' level of safety" [Public authority]

"MaaS is the only way to favor intermodality" [Public transport operator]

"MaaS is a platform where bundle together all the mobility solutions of a specific transport context" [IT consultancy firm]

"MaaS is the natural evolution of the transport system at the urban level" [Payment service provider]

MaaS barriers (stakeholders)

Legend: Very easy, Easy, Neutral, Difficult, Very difficult

Privacy
Digital illiteracy
Users not interested in the service
Data exchange
Lack of clarity concerning governance mode
Existence of different objects among stakeholders
Lack of cooperation between stakeholders
Lack of business model
Existing regulatory frameworks
Public transport service not reliable
Ticket integration of transport services
Technology (lack of standards, lack of platform

"The presence of big players that could lead to the formation of a monopoly, which requires the need of a strong regulation at a regional and/or national level"
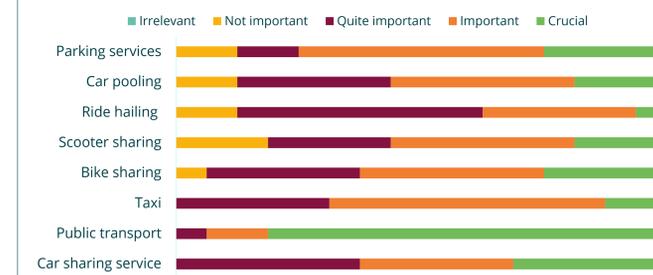
"The Using of the technological platform and the smartphone app may be difficult for users (digital illiteracy)"

"The quality of open data and API"

"The different views of transport operators and public authorities concerning the scope of the MaaS"

"Lack of clarity of the type of governance model"

Transport modes to be included in MaaS (stakeholders)

Legend: Irrelevant, Not important, Quite important, Important, Crucial

Parking services
Car pooling
Ride hailing
Scooter sharing
Bike sharing
Taxi
Public transport
Car sharing service

Benefits of MaaS (stakeholders)

"Accessibility and availability of multi-modal travel solutions and multi-operator services, competitive compared with private transport" [Public authority]

"It would be easier for users to use multi-modal services" [Academic partner]
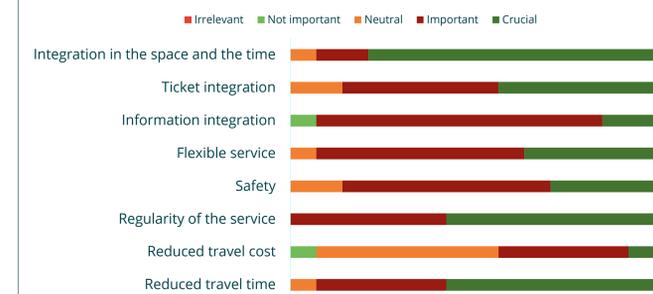
"Personalized trip planning, which can take into account users' characteristics" [IT society]

"For public transport and sharing mobility organizations, the increase of travel demand. For the final users, the increase in the number of travel alternatives" [Transportation consultancy agency]

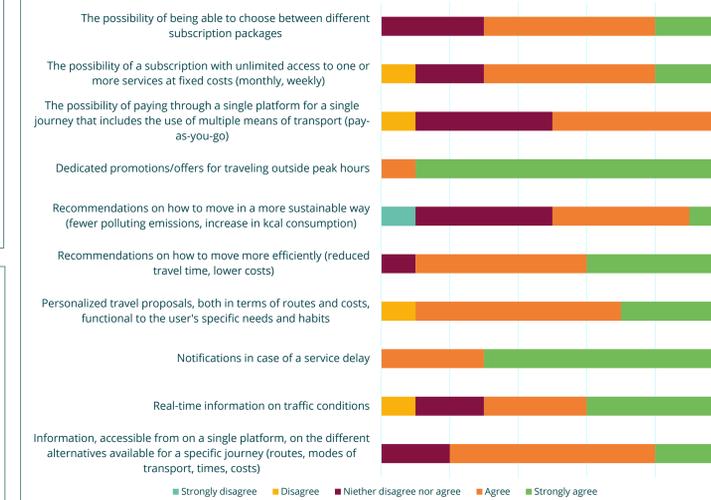"Trip optimization in terms of travel time and costs" [Public authority]

"Better trip planning, reduction of travel costs; reduction of travel times" [Public transport service provider]

Enabling factors of MaaS (stakeholders)

Legend: Irrelevant, Not important, Neutral, Important, Crucial

Integration in the space and the time
Ticket integration
Information integration
Flexible service
Safety
Regularity of the service
Reduced travel cost
Reduced travel time

End-consumers' attitudes

I would use the Mobility-as-a-Service whether there were …

The possibility of being able to choose between different subscription packages
The possibility of a subscription with unlimited access to one or more services at fixed costs (monthly, weekly)
The possibility of paying through a single platform for a single journey that includes the use of multiple means of transport (pay-as-you-go)
Dedicated promotions/offers for traveling outside peak hours
Recommendations on how to move in a more sustainable way (fewer polluting emissions, increase in kcal consumption)
Recommendations on how to move more efficiently (reduced travel time, lower costs)
Personalized travel proposals, both in terms of routes and costs, functional to the user's specific needs and habits
Notifications in case of a service delay
Real-time information on traffic conditions
Information, accessible from on a single platform, on the different alternatives available for a specific journey (routes, modes of transport, times, costs)

Legend: Strongly disagree, Disagree, Niether disagree nor agree, Agree, Strongly agree

The app MyPass

CONCLUSIONS

- Different concepts of MaaS depending on the stakeholder's background (private *vs* public, IT *vs* transport planning)
- Ticket integration may be difficult to be reached, though considered an essential feature to be included in MaaS
- Public transport and the quality of its service is essential for the success of MaaS

Policy implications

- Need for legislative regulation, in terms of governance, to avoid the risk of market dominance of "the winner takes it all"
- Operators are more focused on customers' satisfaction: need to develop a full integration of transport services
- The platform should be easy to use from a user standpoint
- Pay attention to the quality of open data and API, on which depends the quality of the technological platform and the reliability of the information provided to users

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CONTACT INFORMATION

francesco.piras@unica.it