



SCHOOL OF  
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# Next Stop: Value Creation

Analysing the Potential to Enhance Public Transport Authorities' Strategic  
Corporate Social Responsibility by Providing Mobility as a Service

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# Abstract

Concepts such as Creating Shared Value [CSV] and Strategic Corporate Social Responsibility [SCSR] respond to a demand for organisations to take responsibility for their contributions to increasing social issues such as social exclusion or the effects of climate change. The concept of SCSR is describing activities that provide economic values for organisations while at the same time targeting social issues, thereby bringing social responsibility into the core of organisations. Still, the concept lacks empirical grounding and does not provide clear examples of defining SCSR activities.

Public Transport Authorities [PTAs] are already in a social obligation to provide sustainable mobility services to the people in the area they are operating in. However, the services provided by PTAs are often unprofitable and yet not enough to fulfil all mobility needs within society. Besides that, PTAs are additionally put under pressure by the emergence of more recent and flexible mobility providers such as sharing and ride-hailing services. The concept of Mobility as a Service [MaaS] has emerged in recent years and promises to act as a solution to combine all available mobility services into one interface to provide more flexible, efficient, sustainable and personalised mobility solutions to travellers. This research considers the specific case of PTAs providing MaaS solutions since the concept is deemed to tackle many of the issues PTAs are currently dealing with. Additionally, since the concepts of MaaS and SCSR have not been combined so far, particularly not concerning PTAs, a research gap was identified. Therefore, this research aims to examine which results can be expected from a MaaS scheme provided by PTAs and how those results can contribute to enhancing the PTA's SCSR, thereby providing empirical grounding for the concept of SCSR.

Qualitative interviews of organisations that have been involved in MaaS trials and projects provide the empirical data, which is analysed with the help of a conceptual framework developed by the authors. The conclusion of this empirical research provides a tangible example of how SCSR activities can be implemented in the case of MaaS for PTAs, thereby closing the identified research gap and contributing to SCSR literature. Based on the conceptual framework, the SCSR of a PTA can be enhanced in the three levels of *Reconceiving Products and Markets*, *Redefining the Organisation's Value Creation* and *Enabling Local Cluster Development*. Additionally, the research provides managerial and policy implications that would help to successfully design MaaS concepts in the future.

# Keywords

Creating shared value; value creation; social responsibility; corporate social responsibility; strategic corporate social responsibility; business strategy; mobility; mobility as a service; public transport; public transport authority

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# List of Abbreviations

CSR	Corporate Social Responsibility
CSV	Creating Shared Value
MaaS	Mobility as a Service
SCSR	Strategic Corporate Social Responsibility
PT	Public Transport
PTA	Public Transport Authority

# 1. Introduction

A general introduction to the thesis and its topic will be provided in this chapter. Academic and non-academic literature gives the reader background information on how the transport and mobility sector is changing and what challenges it brings for its actors, especially public transport authorities [PTAs]. Additionally, the reader will be introduced to Strategic Corporate Social Responsibility [SCSR], Mobility as a Service [MaaS] and value creation in corporations, this thesis's key concepts. A problem discussion will be provided based on this background, and a research gap is identified that leads to the description of the research question. To conclude this chapter, the purpose of this research will be elaborated on.

## 1.1 Background

During the last decade, actors in the mobility sector had to react to constant changes sparked due to shifts in societal and consumer expectations and behaviours, rapid developments in technology as well as new business models emerging (Deloitte, 2021). Regarding the climate, the transportation sector plays a significant role, considering that a 35 per cent rise of CO<sub>2</sub> emitted through burning fossil fuels is expected between 2012 and 2040 and emissions created by automobiles alone are expected to double by 2050 (Sumantran, Fine & Gonsalves, 2017). Due to the ever-growing urbanisation, the effects of emissions might be most recognisable in the world's cities and city centres (Sumantran, Fine & Gonsalves, 2017). Increased pollution in these populated areas might be due to two-thirds of global transport taking place in urban environments, with an estimated tripling of the kilometres travelled until 2050 (Van Audenhofe et al., 2014). However, the effects are not only recognisable in decreasing air quality in city centres but also in congested traffic in cities not dimensioned for such travel volumes. Pressures on actors in the mobility sector have, therefore, not only grown regarding pollution (Eißel & Chu, 2013; Sumantran, Fine & Gonsalves, 2017; Attard, 2020) but also due to increasing accessibility issues (Metz, 2018), negative impacts on mental and physical health (Boulangue et al., 2017) and congestion in cities (Levy, Buonocore & Stackelberg, 2010).

Additionally, customer demands have changed significantly towards an increasing desire for flexibility, not least due to the outbreak of the COVID-19 pandemic (Deloitte, 2021). The increased convenience and efficiency of on-demand and sharing services have seen a rise in new business models such as car-, bike- and ride-sharing and other micromobility services (Deloitte, 2021). For example, 50 to 60 per cent of all passenger distances travelled in China, Europe, and the USA are within the 8-kilometre range considered micro-mobility. While it is expected that shared micromobility solutions could cannibalise only eight to fifteen per cent of the theoretical market, the whole market is estimated to be worth between 300 billion USD and 500 billion USD globally by 2030 (Heineke et al., 2019). On the flip side, this flood of new mobility service providers has caused that in 2017, users could choose out of 60,000 travel apps, most of them shared mobility options, available on the Google Play store (Li & Voegelé, 2017; Arias-Molinares & García-Palomares, 2020). However, with such an abundance, this makes it complicated for customers to find a service suitable for them and then manage all the information, tickets, and journey planners.

As one mobility actor, the public transport [PT] sector is usually subsidised and publicly controlled and should be an essential contributor to increased welfare (Stjernborg & Mattisson, 2016). PT promises to be a more efficient and sustainable mode of transport that potentially lowers individual car use and therewith connected congestion. It also allows access to people of all ages and promotes a strong economy by enabling people to reach their places of work (American Public Transport Association, 2007). Still, PTAs are under the same pressure as the other actors in the mobility sector while additionally being challenged by new mobility providers and continuously falling short of its nemeses, the car, of which ownership rates are still rising (Rodrigue, 2020). The falling short against smaller mobility providers is the general consideration of PT being relatively inflexible due to its fixed routes and schedules (Atasoy et al., 2015; Utriainen & Pöllänen, 2018). This has led to several authors arguing that PT providers must adapt more to a service-oriented system (Hensher, 2017; Utriainen & Pöllänen, 2018) or implement innovative measures that, for example, could improve the quality and efficiency of bus services (Ambrosino et al., 2016). Also, at a policy level, green papers have been published that more customised PT solutions could contribute to sustainable urban

transport plans leading to improved accessibility and better serving urban and suburban areas (Ambrosino et al., 2016).

The concept of Mobility as a Service [MaaS] has emerged in recent years. It promises to be the solution for many of the challenges considered above by providing a single mobility platform that allows planning, booking and paying for multimodal journeys provided by various mobility services suited to the user's particular needs (Jittrapirom et al., 2017; Nikitas et al., 2017; Ho et al., 2018; Butler, Yigitcanlar & Paz, 2021).

## 1.2 Problem Discussion

The understanding of how companies should create value has changed quite significantly in the past years. The perception of shareholders receiving uncontested primacy over other stakeholders was at the core of Friedman's (1970) shareholder value approach. However, there has been a shift based on the belief that pleased suppliers, investors and foremost employees will benefit a company, thereby moving the focus more towards the stakeholder value approach (Freeman, 2010). This is also within the definition of corporate social responsibility [CSR], which considers that within a company's business practices, the demands and desires of society, the environment and all additional stakeholders must be considered (Moon, 2014). The growing significance of the stakeholder approach has been further strengthened by the findings of Accenture's (2019) CEO study on sustainability, in which 40 per cent of respondents state that they consider sustainability measures to be revenue growth driving. Additionally, facilitating actions for more sustainability is one way to realise business value through cost reduction, according to another 35 per cent of respondents (Accenture, 2019). In a survey conducted by PWC (2016), 55 per cent of CEOs have responded that the profitability of companies can be supported by creating value for the wider stakeholders. On the other hand, however, the necessity of companies needing to consider all stakeholders is not fully implemented yet, as shown by the Accenture (2019) study in which 26 per cent of respondents claimed to miss a clear link between business value drivers and sustainability.

Thereby, the study results show that even though companies can see a link between business value and value for stakeholders, companies are missing clear guidelines on how to develop CSR strategies that can bring stakeholder value. This is due to these activities

often being treated as necessary expenses without a connection to the core business of corporations (Porter & Kramer, 2011; Moon, 2014). Connecting to this problem, the concept of SCSR aims to reconnect business activities and their environment by shifting CSR activities to the core value creation of corporations. This will allow corporations to link economic with social success, weakening CSR's criticism of being solely a marketing device (Baron, 2001; Baron, Harjoto & Jo, 2009; Porter & Kramer, 2011; Belu & Manescu, 2013).

Still, the concept is relatively vague without providing clear guidelines (Lantos, 2001; Laudal, 2018; Moon & Parc, 2019). Additionally, and due to the unclear definition, there is no clear evidence of whether SCSR can create financial performance while also providing stakeholder value (Husted & Allen, 2009; Dembek, Singh & Bhakoo, 2016; Laudal, 2018; Latapí Agudelo, Jóhannsdóttir & Davídsdóttir, 2019; Moon & Parc, 2019). Even though several authors such as Husted and Allen (2007; 2009), Heslin and Ochoa (2008) and Porter and Kramer (2011) have tried to establish principles for the development of SCSR activities in companies, the missing empirical grounding can still be considered significant. Especially when it comes to the question of what results can be expected by SCSR activities for the involved stakeholders, existing concepts of SCSR do not provide clear guidelines. At the same time, there is a discussion in literature on what can be considered value creation in the context of organisations, with one side focussing on a narrow definition of economic gains and the other side defining value more broadly by including all involved stakeholders (Windsor, 2017). Hence, having identified this lack of empirical grounding, further research on the diverse possibilities of value creation for organisations implementing SCSR activities can contribute to the scientific community (Windsor, 2017). Therefore, the thesis will investigate how PTAs can enhance their SCSR by introducing a MaaS scheme that can potentially bring greater values, thereby enriching the existing literature about SCSR and providing empirical grounding.

MaaS aims to provide one interface that combines different transport services and modes, thereby offering seamless trips. For users, the hassle of accessing mobility information, ticketing and payment through multiple operators would be removed (Utriainen & Pöllänen, 2018; Arias-Molinares & García-Palomares, 2020). For PTAs, providing a MaaS scheme would mean providing an extended service offer at higher service levels, thereby offering better opportunities for physically impaired people while reducing costs

(Utriainen & Pöllänen, 2018; Arias-Molinares & García-Palomares, 2020). The possibility of providing customer-focused services, thereby moving away from the conventional, relatively inflexible model of PT, has led Hensher (2017) to call for the necessity of PTAs to adapt to MaaS schemes (Utriainen & Pöllänen, 2018). Additionally, several authors consider the environmental potential of MaaS based on an expected increase in PT demand and, therefore, lower utilisation of private vehicles, which would come with a decreasing demand for parking spaces and decreased congestion in cities (Rantasila, 2015; Jittrapirom et al., 2017; Smith, Sochor & Karlsson, 2018; Arias-Molinares & García-Palomares, 2020; Pangbourne et al., 2020). Lastly, considering the necessity of a range of other actors contributing to setting up a MaaS scheme, such as other mobility service providers, data, ICT and IT providers and insurance companies, it can be expected that MaaS offers significant potential for value co-creation from which various stakeholders could benefit (Kamargianni & Matyas, 2017; Surakka et al., 2018; Arias-Molinares & García-Palomares, 2020; Polydoropoulou, Pagoni & Tsirimpa, 2020).

There was and is only a limited number of MaaS schemes, projects, and pilots implemented, with even fewer provided by PTAs, therefore, offering many areas to contribute to the growing literature on the topic (Arias-Molinares & García-Polinaires, 2020). The case, thus, also provides an opportunity to examine what benefits and value could be achieved for all involved stakeholders if PTAs start to deliver MaaS schemes and how this would contribute to the authority's SCSR. It is acknowledged that the specific success of individual MaaS schemes has been highly dependable on the respective characteristics of the area the scheme is to be implemented in. This includes the behaviours of the separate culture, how the city is built up, and what regulations and policies are taking effect in the area. However, this research aims at taking a general approach to the potential of MaaS, therefore widely disregarding policies and makings of particular regions. Additionally, while the possibility of technical difficulties is mentioned, the deeper consideration of technical barriers and unexpected costs would expand the scope of this business-related research. It will therefore also not be considered further.

While MaaS, SCSR and value creation systems have individually been considered in the literature, no research combines the three fields by investigating how MaaS could contribute to the value creation of PTAs, thereby enhancing the SCSR of the organisation.

### 1.3 Research Question

Based on the background and problem discussion described above, one main research question was developed, which should be answered with the help of two sub research questions:

**Main Research Question:**

*“How could the establishment of a MaaS scheme provided by public transport authorities create value and enhance the public transport authority’s strategic corporate social responsibility?”*

**Sub Research Questions:**

1. *“Which results can be expected for the public transport authority, society and other stakeholders after a strategic corporate social responsibility focussed provision of MaaS?”*
2. *“Which levels of strategic corporate social responsibility would be fulfilled by the expected results of a MaaS scheme introduction?”*

### 1.4 Purpose

This research aims to explore MaaS’ potential to contribute to value creation within the SCSR concept for PTAs. Since a universal framework for the creation of SCSR is lacking, various pieces of SCSR literature will be analysed to develop a conceptual framework suited to the case of MaaS and how it can contribute to enhancing SCSR and value co-creation for PTAs. While several authors have defined principles for developing SCSR activities, the thesis aims to synthesise those principles into different levels of SCSR creation within the conceptual framework. This framework will be tested at the specific case of MaaS provided by PTAs and will be revised based on the results gathered through empirical data. Possible results that can be expected after the implementation of MaaS will be explored to understand further how PTAs can enhance SCSR. By doing that, the revised framework will be tailored to the case of the thesis. It will thereby illustrate which of the respective levels are most suitable and how shared value can be created in each of the appropriate levels.

## 2. Literature Review

A theoretical foundation is set in this chapter by reviewing and considering literature relevant to the topic. The development and understanding of CSR are discussed, and how perceived shortcomings of the concept have led to the emergence of its successors SCSR and CSV. Secondly, the concept of MaaS is presented and what role PTAs would play as providers of a MaaS scheme, while also considering the challenges coming with such a scenario. Additionally, the understanding of value creation in organisations will be discussed by reviewing two observable streams in the literature.

For the literature utilised in the theoretical chapter, care was taken to focus on peer-reviewed journal articles and conference papers. However, especially during the research about the relatively novel concept of MaaS, some grey literature such as institutional and industry reports, doctoral theses, working papers and book chapters have been utilised. To find a sufficient extent of literature about the researched concepts, the “snowballing” effect was used, which meant that the researchers started out working from some peer-reviewed journal articles, which led to another paper, which led to another and so on (Streeton, Cooke & Campbell, 2004; Noy, 2008). To fully utilise the potential of the snowballing effect, particular emphasis was taken on identifying peer-reviewed literature reviews that provided the research with several relevant articles. Among the keywords to identify literature were *mobility as a service; MaaS; corporate social responsibility; strategic corporate social responsibility; creating shared value; value creation; public transport authority*. Each of those keywords was electively combined with the following more specific keywords: *characteristics; framework; key issues; results; benefits*. Additionally, the age of sources utilised has been considered to always use recent documents. While this has not led to any problems in the field of MaaS, due to the concept’s novelty, some documents containing groundworks in the area of value creation in organisations were developed initially well before the year 2000. The sources utilised were primarily English and sometimes German due to the language skills of the researchers.

Lastly, through synthesising the concepts of SCSR, CSV, value creation in organisations and MaaS, the conceptual framework of this thesis is presented.

## 2.1 Strategic Corporate Social Responsibility

The following chapter will provide an overview of the predecessors of SCSR and how the concept of SCSR is defined within literature. Additionally, different contributions of defining principles for the development of SCSR activities are discussed.

### 2.1.1 The History of CSR

The traditional shareholder value approach established by Friedmann (1970) regards the maximisation of profits as the only driver of value in corporations (Bosch-Badia, Montllor-Serrats & Tarrazon, 2013). However, occurrences such as the increased climate destabilisation or poor working conditions for employees in developing countries provoked by the focus on profit maximisation have led to a new stream of theory. This stream emphasises society's increasing demand for corporations to recognise their moral and social obligations to act responsibly to the many stakeholders, including shareholders, customers, employees, and society (Moon, 2014; Shafer & Lucianetti, 2018; Norberg, 2020).

With the new stream of literature, the theory of CSR was formed. However, even though the concept is not particularly new, there is no clear definition of the term, leading to unclear boundaries and debatable legitimacy (Lantos, 2001). One of the first notable definitions of CSR was provided by Bowen (1953). Bowen (1953) argues that large corporations have concentrated great power and should, therefore, enact activities *“to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of objectives and values of our society”* (p. 6). Building on this changing attitude towards corporate behaviour, several definitions of CSR followed by a variety of authors (Latapí Agudelo, Jóhannsdóttir & Davídsdóttir, 2019). For example, since society's expectations towards corporations and governmental legislation increased, the following decades turned into an era of developing concepts to manage CSR, with major corporations being forced to adopt CSR strategies. The increased adoption of CSR in practice leads to a surge in literature defining the concept from different contexts, thereby making the boundaries of CSR increasingly blurry (Votaw, 1972; Sethi, 1975). While the discussion about the appropriate definition of CSR is still ongoing, there is essentially an agreement today that CSR is a multidimensional concept (Heslin & Ochoa,

2008; Belu & Manescu, 2013). Following the multidimensional perspective, various aspects of business nature, such as the whole value chain and the company's embeddedness in society, must be considered to assess the firm's CSR performance. These aspects can generally be clustered into three subgroups: environmental, social and governance related. For the following, the thesis will follow the definition of CSR by Moon (2014), who defines CSR as "*the ways in which companies manage their relations with society*" (p. 3), leading to business activities that are grounded in societal expectations.

Still, even though the concept has gained significant attraction in the last years, there is also a considerable amount of criticism. The first limitation can be seen in CSR's unclear boundaries that lead to questionable legitimacy of the concept and to practical problems of what actions can be considered socially responsible (Lantos, 2001). Furthermore, Henderson (2009) argues that the idea of CSR is fundamentally wrong by broadening the scope of corporations beyond profit maximisation since the higher complexity will lead to higher costs and impaired performance. Additionally, it is criticised that corporations might miss the necessary competencies to solve complex societal and environmental issues. Therefore, transferring this responsibility to corporations is questionable since they might be ill-equipped to solve those problems (Davis, 1973; Ferrero, Hoffman & McNulty, 2014). Lastly, it can be observed that CSR activities are frequently missing the link between the economic, profit-making perspective and the ethical foundations, thereby misusing it solely for external legitimation and marketing purposes (Moon, 2014; Norberg, 2020). While the term 'green washing' was defined for these types of activities (Moon, 2014), already Friedman (1970, p. 17) called CSR "*hypocritical window dressing*".

### 2.1.2 The Emergence of Strategic Corporate Social Responsibility

Considering criticism regarding the concept of CSR mentioned in chapter 2.1, the idea of SCSR was developed. The term was first established by Baron (2001) by describing a profit maximising corporate strategy that can also be regarded socially. In that regard, SCSR aims to bring the concept of CSR closer to the core business and link economic with social success, thereby also providing an answer to the increasing criticism that CSR's only purpose is green washing. According to Singhapakdi et al. (2001), there are

indicators that being socially responsible has a critical connection to business success since it may influence the long-term reputation as well as customer loyalty. However, as Husted and de Jesus Salazar (2006) note, even though several studies show that SCSR can have a positive impact on a firm's economic performance (Russo & Fouts, 1997; Orlitzky, Schmidt & Rynes, 2003), critics of the concept can still classify these studies as isolated cases. This is also confirmed by Belu and Manescu (2013), who conclude that results are mixed on whether SCSR positively affects economic performance. Still, the concept of SCSR is contributing to a new understanding of CSR since it seeks to find business opportunities that create economic *and* social performance, which might lead to a more self-sustaining concept considering that it also creates shareholder wealth (Heslin & Ochoa, 2008; Bosch-Badia, Motllor-Serrats & Tarrazon, 2013).

Another concept showing many parallels to SCSR is the concept of CSV by Porter and Kramer (2006), which aims to reconnect social progress with the company's success. In that sense, Porter and Kramer (2011) argue for a strategic approach to CSR since the aim is to identify a corporate strategy that can bring a competitive advantage and create social value (Belu & Manescu, 2013). In an earlier article, Porter and Kramer (2006) also distinguished between CSR being strategic or responsive. The responsive type is solely reputational, and the strategic type creates shared value for the company and society (Moon & Parc, 2019). Ultimately, creating shared value aims to produce a positive sum value by making communities and thus also companies successful, while the traditional CSR approach is more about redistributing already generated profits from the company, thereby creating a zero-sum situation (Moon & Parc, 2019).

However, while the emergence of SCSR is providing a new perspective on opportunities how companies can live up to society's expectations, there is criticism regarding the practical utility and tangibility of whether SCSR can create financial performance besides its positive social impacts (Husted & Allen, 2009; Dembek, Singh & Bhakoo, 2016; Laudal, 2018; Latapí Agudelo, Jóhannsdóttir & Davídsdóttir, 2019; Moon & Parc, 2019). Therefore, the lacking empirical grounding can be considered a crucial research gap within SCSR.

### 2.1.3 Principles of Strategic Corporate Social Responsibility

To make SCSR more tangible by providing clear guidelines, several authors developed principles for creating an SCSR strategy (Husted & Allen, 2007; 2009; Heslin & Ochoa, 2008; Porter & Kramer, 2011).

Husted and Allen (2007) have developed a framework based on the principle of strategic management, which states that success stems from competitive advantage that ultimately contributes to value creation. While value creation occurs when the firm's resources are allocated in new ways, value creation is necessarily linked to innovation. With several authors claiming that CSR can be linked to opportunities for value creation (Sharma & Vredenburg, 1998; Moon & Parc, 2019), a hypothesis of a positive impact between CSR and the firm's financial performance can be developed. Based on the framework by Burke and Logsdon (1996) of how strategy is linked to CSR, Husted and Allen (2007; 2009) define five strategic dimensions that affect the ability of SCSR activities to create value: *centrality*, *appropriability*, *proactivity*, *visibility*, and *voluntarism*. The dimension of *visibility* is about the extent to which the activity can build a reputational advantage since the firm's stakeholders can observe positive outcomes. The strategic priority is to create stakeholder awareness about the value added through SCSR activities (Husted & Allen, 2009). According to Burke and Logsdon (1996), *appropriability* is defined as the extent to which financial benefits can be achieved by reaching social objectives. In that sense, the strategic priority is to ensure that the value added can be captured by the firm (Latapí Agudelo, Jóhannsdóttir & Davídsdóttir, 2019). The strategic dimension of *voluntarism* is reached when the firm's activities are undertaken beyond the legal constraints demanded by law (Husted & Allen, 2009). Regarding *centrality*, the dimension is concerned with whether the SCSR program can be considered close to the firm's mission and objectives (Burke & Logsdon, 1996). According to Husted and Allen (2007), firms with a close fit between their strategy and their CSR programme are more likely to create value added since resources allocated to the CSR program are simultaneously working towards the firm's objectives. Lastly, *proactivity* is about the capability to anticipate changes in social issues that can yield significant business opportunities (Husted & Allen, 2009). In summary, Husted and Allen (2007; 2009) argue that the framework helps operationalise CSR's strategic management and illustrate which dimensions are necessary to create value.

Another perspective on the principles of SCSR is provided by Heslin and Ochoa (2008). They argue that after analysing 21 CSR practices, seven common principles can guide the development of a SCSR strategy. These seven principles illustrate different approaches to how corporations can implement SCSR programs. The principles include *cultivating needed talent*, *developing new markets*, *protecting labour welfare*, *reducing the environmental footprint*, *profiting from by-products*, *involving customers* and *greening the supply chain*. As Heslin and Ochoa (2008) claim, by following the principles, corporations can improve their business opportunities while at the same time generating benefits for targeted social issues. For example, while the principles of *cultivating needed talent* improve employees' career opportunities, the firm will benefit by fostering and retaining skilled employees, which might increase their effectiveness and efficiency. Another example can be illustrated using the principle of *developing new markets* considering new markets can be identified in niche areas where customers demand more environmentally friendly products, thereby providing a business opportunity while also tackling environmental issues at the same time (Heslin & Ochoa, 2008).

Lastly, the concept of CSV by Porter and Kramer (2011) mentioned in chapter 2.2 also contributes to the development of principles for SCSR adoption by describing three distinct levels in which shared value can be created. The level of *Reconceiving Products and Markets* is questioning the status quo and demands to rethink if a redesign of products and markets can offer opportunities to reduce social harm or integrate underserved markets. With *Redefining Productivity in the Value Chain*, Porter and Kramer (2011) highlight the importance of scrutinising the whole value chain for economic costs that create societal problems and financial constraints for the firm. Lastly, the level of *Enabling Local Cluster Development* focuses on partnering with related firms, suppliers, and other stakeholders to improve productivity and close gaps in the local surroundings. By concentrating on opportunities for value creation, the concept focuses on identifying positive sum activities (Parc & Moon, 2019). Building on Porter and Kramer's (2011) concept, Parc and Moon (2019) defined the model of *corporate social opportunities* [CSO] that emphasises the connection between CSR and creating shared value. According to the four-stage model, the first two stages, *CSR for survival* and *CSR for self-satisfaction*, illustrate the traditional view of CSR, where the activities are mainly focused on creating external legitimacy without delivering significant business opportunities. The

following two stages, *CSO for reputation* and *CSO for competitiveness*, illustrate the sophisticated strategic approaches that can yield business value while also achieving CSR. In that sense, Moon and Parc (2019) argue that the concept of creating shared value is describing the transition from moving the traditional view of CSR (steps 1 and 2) to the view of creating business opportunities by acting responsibly (steps 3 and 4). Still, the concept of creating shared value received a considerable amount of criticism since it is argued that the idea is not contributing new knowledge considering that the insights are not new to academic literature and that the concept is naïve about the challenges of business compliance (Crane et al., 2014; Dembek, Singh & Bhakoo, 2016; Laudal, 2018). For example, Porter and Kramer's (2011) second level of *redefining productivity in the value chain* highlights the importance of value creation in the firm's value chain. However, supply chain management theories are already highlighting this connection, emphasising that the optimisation of supply chains includes the whole supply chain network, such as suppliers and end customers (Lambert & Cooper, 2000). However, several authors give credit to the concept of CSV since the described levels characterise prosperous corporations, thereby allowing to deduct tangible recommendations (Schaltegger, Lüdeke-Freund & Hansen, 2012; de los Reyes, Scholz & Smith, 2017; Laudal, 2018).

In summary, all described concepts agree that SCSR's principles are going beyond the reputational purposes of the traditional CSR standpoint. Hence, the starting point for SCSR initiatives is illustrated by the identification of associated business opportunities. Still, the concept of Husted and Allen (2007; 2009) describes different dimensions that should be fulfilled when designing a specific SCSR initiative, while Heslin and Ochoa (2008), as well as Porter and Kramer (2011), are more focused on illustrating different areas of application for SCSR initiatives.

## 2.2 The Concept of Mobility-as-a-Service

The concept of MaaS emerged between 2013 and 2014 when the first MaaS-pilot was developed in Sweden, and Heikkilä (2014) published the first academic document about the concept through her master's thesis (Arias-Molinares & García-Palomares, 2020). Since then, the number of scholarly works regarding MaaS has continued to grow, with various definitions for the concept being formulated (Jittrapirom et al., 2017; Utriainen

& Pöllänen, 2018). At its core, MaaS is a single platform or interface that provides real-time information about all available modes of transportation, both PT and private on-demand and shared services, within a specific area. Through a user-centric approach, this single platform then allows to plan, book and pay for multimodal journeys provided by various mobility services suited to the user's particular needs (Jittrapirom et al., 2017; Nikitas et al., 2017; Ho et al., 2018; Butler, Yigitcanlar & Paz, 2021). However, this means that MaaS should be considered an innovative new way of providing mobility services to users and not a new technological innovation itself (Nikitas et al., 2017; Smith & Hensher, 2020; Butler, Yigitcanlar & Paz, 2021). However, a scheme like MaaS has been made possible by technological progress and digitalisation, which has allowed for electronic payment, web-based route planning, and real-time information (Melis et al., 2016; Utriainen & Pöllänen, 2018).

Based on Goulding and Kamargianni (2018), Arias-Molinares and García-Palomares (2020) provide a definition of MaaS which will be followed in this research. They describe the concept as *“a user-centric, multimodal, sustainable and intelligent mobility management and distribution system, in which a MaaS Provider brings together offerings of multiple mobility service providers (public and private) and provides end-users access to them through a digital interface, allowing them to seamlessly plan and pay for mobility”* (p. 257). Figure 1 illustrates how the user perspective changes when booking travels with MaaS compared how journeys are currently booked.

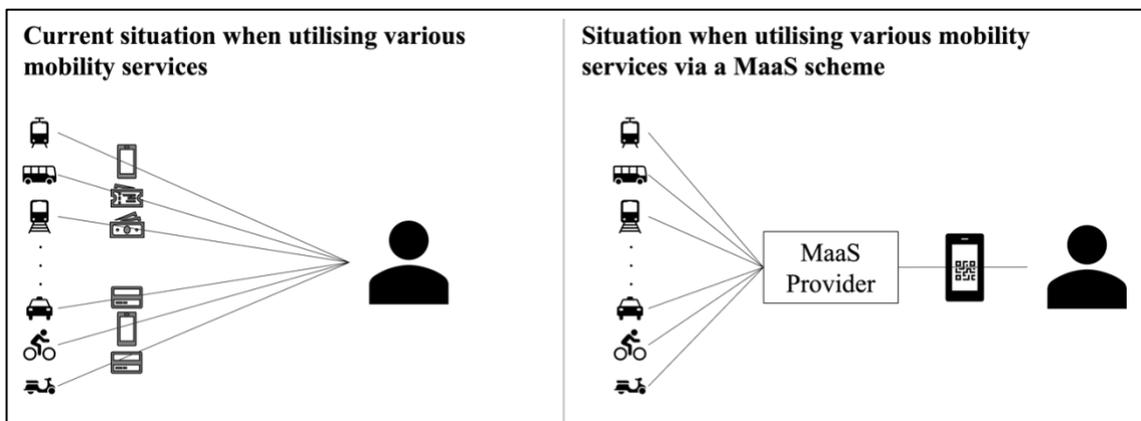


Figure 1: Booking Mobility Services With and Without MaaS from User's Perspective (Kamargianni & Matyas, 2017)

### 2.2.1 The Framework of MaaS

A variety of seemingly independent technologies and systems, such as physical infrastructure and communications technology, must work in harmony to realise a system such as MaaS, with data usage and communications technologies being key (Melis et al., 2016; Expósito-Izquierdo, Expósito-Márquez & Brito-Santana, 2017). Goulding and Kamargianni (2018) identified five “key raw ingredients” necessary to successfully establish a MaaS scheme. The density and variety of transportation services and their integration and frequency are crucial for the *transport services and infrastructure* building block. *ICT infrastructure*, however, is a second ingredient concerned with ticketing infrastructure and the necessary internet access. *Data sharing and transport operator openness* is a further ingredient to ensure a smooth and efficient MaaS service. MaaS supporting *policies, regulations and legislations* on city and national levels is another crucial factor. Lastly, travel behaviours and citizen lifestyle will be essential for the success of any MaaS scheme and have been summarised as *citizen familiarity and willingness* by Goulding and Kamargianni (2018).

This number of factors and building blocks necessary for the establishment of a MaaS scheme, therefore, requires a range of different actors that get involved. Among those actors are data providers, transport operators, providers of technical solutions and undoubtedly users (Kamargianni & Matyas, 2017; Arias-Molinares & García-Palomares, 2020). Arias-Molinares and García-Palomares (2020) as well as Kamargianni and Matyas (2017) additionally consider the involvement of other organisations such as regulatory organisations, marketing, media and advertising companies and insurance companies, regulator organisations and universities and research institutions. While the individual organisations are expected to contribute services and expertise of their respective competence areas, the majority of actors, such as transport operators, data, IT and ICT providers, are expected to receive growing market shares and revenues and better access to demand data in exchange (Kamargianni & Matyas, 2017; Surakka et al., 2018; Arias-Molinares & García-Palomares, 2020; Polydoropoulou, Pagoni & Tsimpa, 2020). On the other side, customers will provide personal information in exchange for price-worthy, personalised, and hassle-free mobility services (Kamargianni & Matyas, 2017; Arias-Molinares & García-Palomares, 2020).

Beyond that, the authors argue that a central actor is required to manage the entire service chain reaching from service planning over customer booking to the provision of a fleet consisting of all involved mobility providers. While Ambrosino et al. (2016) refer to that actor as the “Agency”, Kamargianni and Matyas (2017) refer to that actor as the “MaaS provider”. According to Kamargianni and Matyas (2017), the MaaS provider is the intermediary between users and transport operators who supplies the platform, including all its services by using all data provided by the transport operators. Smith, Sochor and Karlsson (2018) have a different interpretation and argue for the distinction between a MaaS integrator who takes on contract management, technical integration and financial clearing. The MaaS integrator thereby mediates several transport service providers and their offerings. The second role would then be taken by the MaaS operator, who delivers the service to users and provides the interface which allows for the seamless planning, paying and using of various transport services. However, it is argued that one organisation can take on both roles as a MaaS operator and a MaaS integrator (Smith, Sochor & Karlsson, 2018). For this research, a MaaS provider is considered following Kamargianni and Matyas (2017), thereby effectively combining the by Smith, Sochor and Karlsson (2018) suggested roles of operator and integrator.

### 2.2.2 Public Transport Authorities as MaaS Providers

Two dominating scenarios are considered when defining who could act as a MaaS provider. Both Kamargianni and Matyas (2017) and Smith, Sochor and Karlsson (2018) consider either a private firm or a PTA taking over the role of a MaaS provider. The latter authors also describe a third scenario which would pose a middle way in which both sectors take active roles. Despite some potential benefits of the design in which private firms become the MaaS provider (Kamargianni & Matyas, 2017), it would pose a situation that would leave PTAs with their current core assignment of planning and procuring PT services. Instead of becoming a driving force for MaaS, the public sector would just act as an enabler. Therefore, this research focuses on PTAs in the position of a MaaS provider. PT has continuously been identified and considered a key player in both established MaaS pilots and theoretical MaaS concepts (Karlsson, Sochor & Strömberg, 2016; Chang, Chen & Chen, 2019; Arias-Molinares & García-Palomares, 2020). This theory is also supported by Smith, Sochor and Karlsson (2018), who describe PT as the “backbone” (p. 595) of MaaS and consider PT modes as the only alternative to privately

owned cars that has enough capacity to fulfil most trips conducted by people. This is strengthened by various researchers arguing for PTAs needing to lead on MaaS initiatives (Ambrosino et al., 2016). This further supports the fit for public administration becoming an upper-level organiser responsible for the collaboration of various mobility operators (Melis et al., 2016). An additional advantage of PTAs is their focus on providing services for society (Arias-Molinares & García-Palomares, 2020). This often comes with subsidies and public investment, which have been identified as necessary for igniting MaaS developments (Karlsson, Sochor & Strömberg, 2016; Smith, Sochor & Karlsson, 2018). PTAs being more suitable for the role as MaaS providers when considering the societal focus is additionally supported by Smith, Sochor and Karlsson (2018), who argue that a private organisation might neglect a societal focus in favour of focusing on business optimisation.

### 2.2.3 Key Issues with MaaS

PTAs adopting the role of a MaaS provider will confront them with a range of challenges. Those are a combination of general challenges that any organisation would face, and challenges unique to the framework PTAs operate in.

One of the most frequently mentioned challenges is the collaboration with an array of stakeholders (Smith, Sochor & Karlsson, 2018; Butler, Yigitcanlar & Paz, 2021). Those might have significantly different goals and interests, considering that both public and private actors, users and the wider society will be involved (Cooper et al., 2019; Hoerler, Haerri, & Hoppe, 2019; Butler, Yigitcanlar & Paz, 2021). As mentioned previously, it is expected that the successful introduction of a MaaS scheme will heavily depend on subsidies and funding, which will require successful collaboration with policymakers (Karlsson, Sochor & Strömberg, 2016; Smith, Sochor & Karlsson, 2018). This is also considered by Narupiti (2019) and Polydoropoulou, Pagoni and Tsirimpa (2020). They argue that PTAs are best positioned as MaaS providers from a strategic and regulatory point of view but might generally lack the necessary resources (Butler, Yigitcanlar & Paz, 2021). The collaboration with policymakers, city stakeholders and urban and mobility planners is also considered essential, given the fact that a multimodal and integrated approach must be taken to provide solid initiatives for participants (Ambrosino et al., 2016). This means that private mobility schemes need to be embedded and integrated with

the PT services and thereby institutionalised (Ambrosino et al., 2016). In the interest of all participants, Sarasini and Linder (2018) argue that the business models of the MaaS providers must ensure the profitable integration of both sustainable and profitable mobility service providers. This is confirmed by Smith, Sochor and Karlsson (2018), who also consider that to create public value, the collaboration of PTAs with private actors will be necessary, which will demand new organisational models, competencies, and processes. What will additionally require cooperation and could lead to a further challenge if not mitigated in advance is the development of a shared vision since the lack of it might make it challenging to communicate and align goals between the different stakeholders (Surakka et al., 2018; Meurs et al., 2020; Butler, Yigitcanlar & Paz, 2021). It is also mentioned that the targeting of different goals, such as the decrease of private vehicle use and pollution by PTAs versus the sole objective of increasing revenues at any expense by the private sector, might otherwise pose a clear barrier to collaboration (Smith, Sochor & Karlsson, 2018; 2019). Also, regarding this factor, it is considered that a mix of public agencies, as well as the community and the public and private transport providers, need to be integrated into the process for the development of a shared vision (Smith, Sochor & Sarasini, 2018; Butler, Yigitcanlar & Paz, 2021). Given that a good collaboration across administrative boundaries between the private and public sector can be achieved, it is argued that further challenges considered with funding, capability requirements and technology can be mitigated (Singh, 2020; Stehlin, Hodson & McMeekin, 2020; Butler, Yigitcanlar & Paz, 2021).

Suppose such a shared vision and clearly defined framework on how different actors will cooperate within the MaaS scheme is missing. In that case, another challenge might arise, which concerns the lack of business support for MaaS (Butler, Yigitcanlar & Paz, 2021). Nikitas et al. (2017) and Butler, Yigitcanlar and Paz (2021) expect this scenario to rise when mobility providers supposed to participate in the MaaS scheme are concerned about the loss of existing customer relationships and the change in their operations that might come when participating in MaaS. This has been considered for both the PTAs and private mobility providers, who might both want to cling to their operational models in fear of otherwise losing brand exposure and control and influence (Smith, Sochor & Karlsson, 2018; Lyons, Hammond & Mackay, 2019; Arias-Molinares & García-Palomares, 2020, Jittrapirom et al., 2020). Various necessary changes have been identified, such as the need

to “requalify” traditional PT modes to allow for complete and efficient exploitation, which would require changes to their frequency, comfort and regularity (Ambrosino et al., 2016). What supports the fear of losing brand exposure is also the estimate that various hybrid services might be developed that will increasingly blur currently existing modes such as busses, trains and trams (Smith, Sochor & Karlsson, 2018).

Lastly, rather technical challenges are considered that can significantly hamper the success of a MaaS scheme. Such challenges include the coverage of the service, both regarding the physical coverage of the actual transport services but also digital coverage, which users need to access the resources and the provider to plan and coordinate the service (Masini, Silva & Balador, 2020; Butler, Yigitcanlar & Paz, 2021). The amount of data involved in a MaaS scheme from both the customer and provider side can also pose challenges in form of data security that, if neglected, could lead to risks of financial and personal safety if, for example, customer’s payment information is accessed by criminal forces (Casadó et al., 2020; Cottrill, 2020; He & Chow, 2020; Butler, Yigitcanlar & Paz, 2021). Again, however, it can be expected that such issues can be easier mitigated given a good collaboration between private and public services can be achieved (Singh, 2020; Stehlin, Hodson & McMeekin, 2020; Butler, Yigitcanlar & Paz, 2021).

## 2.3 Value Creation in Corporations

While chapter 2.1 reviewed the concept of SCSR, it is worth discussing the underlying notion of value creation in corporations. As Lieberman, Balasubramanian and Garcia-Castro (2018) highlight, the notion of value creation is central in the field of strategic management. Concepts such as CSR, SCSR or CSV have contributed to the understanding of value creation. However, while several concepts describe ways of value creation, there is no clear definition of the notion. In particular, there are two different streams: producer surplus maximisation and stakeholder surplus maximisation (Windsor, 2017).

According to the producer surplus maximisation stream, the notion of value is apparent in corporations in two ways: being a customer for inputs and being a supplier of its products to the customers of the corporation (Bowman & Ambrosini, 2007). Acting as a customer, the corporation is creating value by optimising its surplus (in other words, value

for money) and acting as a supplier, the corporation is creating value by optimising the revenues acquired from its customers. This notion is significantly influenced by Porter's (1985) value chain concept that defines the larger value system whereby a sequence of producers create value through optimising their respective position. The producer surplus is thereby creating the foundation for shareholder wealth in corporations (McWilliams & Siegel, 2011).

The stakeholder surplus maximisation stream, on the other hand, emphasises that value can also be defined in a broader perspective instead of only focussing on maximising the economic value, thereby mainly serving the shareholders of the corporation (Lieberman, Garcia-Castro & Balasubramanian, 2017; Windsor, 2017). The stream includes other stakeholders such as employees, customers, suppliers, and society as potential benefactors of a corporation's activities. This is also confirmed by Low (2000), who argues that traditional measurement techniques of corporate value are insufficient considering the significant gap in the valuation of new economy corporations and traditional corporations. As Crane, Graham and Himick (2015) highlight, the stakeholder perspective can increase surpluses in value for a variety of stakeholders. However, while the definition of value is unclear, there are discussions about what can be considered value. Is value only the objectively assessed market value following the producer surplus logic, or does value also include gains in social welfare or improvements in working conditions for employees (Brickson, 2007; Crane et al., 2014; Windsor, 2017)? According to Brickson (2007), the broader social value definition includes all activities that *"enhance wellbeing for the earth and its living organisms"* (p. 866). Connecting to the idea of a broader definition of value, the notion of value co-creation can be mentioned since it highlights that value can also be created in collaboration with the customer or other stakeholders by interacting through new and innovative channels (Prahalad & Ramaswamy, 2004; Galvagno & Dalli, 2014). In that sense, value creation is a more participative process where stakeholders and the corporation create value together (Alves, Fernandes & Raposo, 2016). Especially considering technological progress, whole ecosystems of firms connected via a platform can interact with each other to find new ways of value creation (Schrieck, Wiesche & Krcmar, 2021). Lastly, while Porter (1985) was very influential in shaping the producer surplus maximisation stream, he later broadened his position by developing the concept of CSV. Thereby he connected to the

notion of generating producer surplus for the company while also creating value for other stakeholders by addressing social issues (Porter & Kramer, 2011).

## 2.4 Conceptual Framework

To build a foundation to answer the research questions of the thesis and to link the theoretical concepts, the conceptual framework illustrated in Figure 2 was developed.

Since the research goal is to provide a tangible example of how SCSR could be implemented for PTAs utilising the MaaS concept, the first sub RQ will be answered by analysing which results can be expected for PTAs and their stakeholders. As discussed before, MaaS is considered to have various beneficial effects on the traffic and environmental situations wherever it is implemented (Rantasila, 2015; Jittrapirom et al., 2017; Smith, Sochor & Karlsson, 2018; Arias-Molinares & García-Palomares, 2020; Pangbourne et al., 2020) while allowing for more convenient and flexible opportunities for users (Utriainen & Pöllänen, 2018; Arias-Molinares & García-Palomares, 2020). At the same time, it would allow PTAs as providers of MaaS to increase their service, thereby adapting to the demands of society while also providing a platform for individual economic stakeholders to add value through increased revenues (Kamargianni & Matyas, 2017; Surakka et al., 2018; Arias-Molinares & García-Palomares, 2020; Polydoropoulou, Pagoni & Tsimpa, 2020).

After the expected results are analysed, the concept of MaaS can be linked with the discussed concept of SCSR since the expected results can be assessed against the dimensions of SCSR to evaluate whether the results would enhance the SCSR of PTAs. Based on the literature review, several authors have defined principles for the development of SCSR strategies (Husted & Allen, 2007; 2009; Heslin & Ochoa, 2008; Porter & Kramer, 2011). Still, there is a considerable overlap between the concepts, especially considering that Heslin and Ochoa (2008) as well as Porter Kramer (2011) both focus on the perspective of describing different areas of possible application for SCSR activities. Therefore, the concept by Husted and Allen (2007; 2009) and Porter and Kramer (2011) are synthesised in the following. This is since Husted and Allen (2007; 2009) are providing a different perspective by describing different dimensions that should be fulfilled when designing a specific SCSR initiative while Porter and Kramer (2011)

represent the other previously mentioned perspective. Thereby widely disregarding Heslin and Ochoa (2008), since the majority of their concept is included in Porter and Kramer's (2011) perspective, only specific implications from Heslin and Ochoa (2008) will be utilised in the subsequent analyses when applicable. While Husted and Allen (2007; 2009) have defined five strategic dimensions of CSR (*centrality, appropriability, proactivity, visibility, and voluntarism*), the dimensions of *visibility* and *voluntarism* will be disregarded. With *visibility* describing mainly marketing activities to raise the stakeholders' awareness, this can be linked to criticism of traditional CSR, whereby CSR activities are primarily used for external legitimation mentioned by Moon (2014) and Norberg (2020). This can, however, not be considered the strategic priority of SCSR. Following the same line of arguing, the dimension of *voluntarism* was excluded since SCSR activities should inevitably go beyond the legal minimum required to identify business opportunities that arise by tackling social issues (Moon & Parc, 2019). At the same time, a considerable overlap between the concepts from Husted and Allen (2007; 2009) and Porter and Kramer (2011) can be observed. Connecting to the criticism of the missing originality of Porter and Kramer's (2011) concept (Laudal, 2018), the levels of CSV can be linked to the three remaining dimensions of Husted and Allen (2007; 2009), thereby illustrating that the concept is not necessarily providing new knowledge. The first level, *Reconceiving Products and Markets*, can be linked to the dimension of *centrality* by Husted and Allen (2009) since it describes approaches to how companies rethink the offered products, thereby concerning the actual core of the company. *Redefining Productivity in the Value Chain* can be linked to the dimension of *appropriability*, considering that the level is about reducing economic costs caused by societal issues, thereby offering opportunities to appropriate economic rents. Lastly, the level *Enabling Local Cluster Development* can be linked to the dimension of *proactivity* since establishing partnerships with various stakeholders allows for identifying gaps in local surroundings, thereby allowing to anticipate changes in social issues. Following this argumentation, it was decided to utilise the levels of Porter and Kramer (2011) for the subsequent analysis in the thesis while also considering the aspects of Husted and Allen (2007; 2009) in the respective levels, thereby creating a comprehensive picture of SCSR. However, following the discussion of how value creation in a corporation can be defined, the second level of *Redefining Productivity in the Value Chain* will be changed to *Redefining the Corporation's Value Creation*. This is because the value chain concept

only focuses on optimising economic values within the system, thereby neglecting other forms of value, such as societal wealth defined by the stakeholder surplus perspective (Lieberman, Garcia-Castro & Balasubramanian, 2017; Windsor, 2017). With MaaS offering the potential to create various streams of value besides financial returns, such as improving the mobility of people and tackling environmental issues, it was decided to broaden the perspective of value creation and to include all forms of value creation that will increase the wellbeing of the stakeholders involved. Therefore, the levels that will be analysed for sub RQ 2 are *Reconceiving Products and Markets*, *Redefining the Organisation's Value Creation*, and *Enabling Local Cluster Development*.

Lastly, after analysing which levels of SCSR are fulfilled when introducing MaaS schemes for PTAs, the RQ of the thesis can be answered since the analysis will allow assessing in which way MaaS is suitable to enhance SCSR for PTAs.

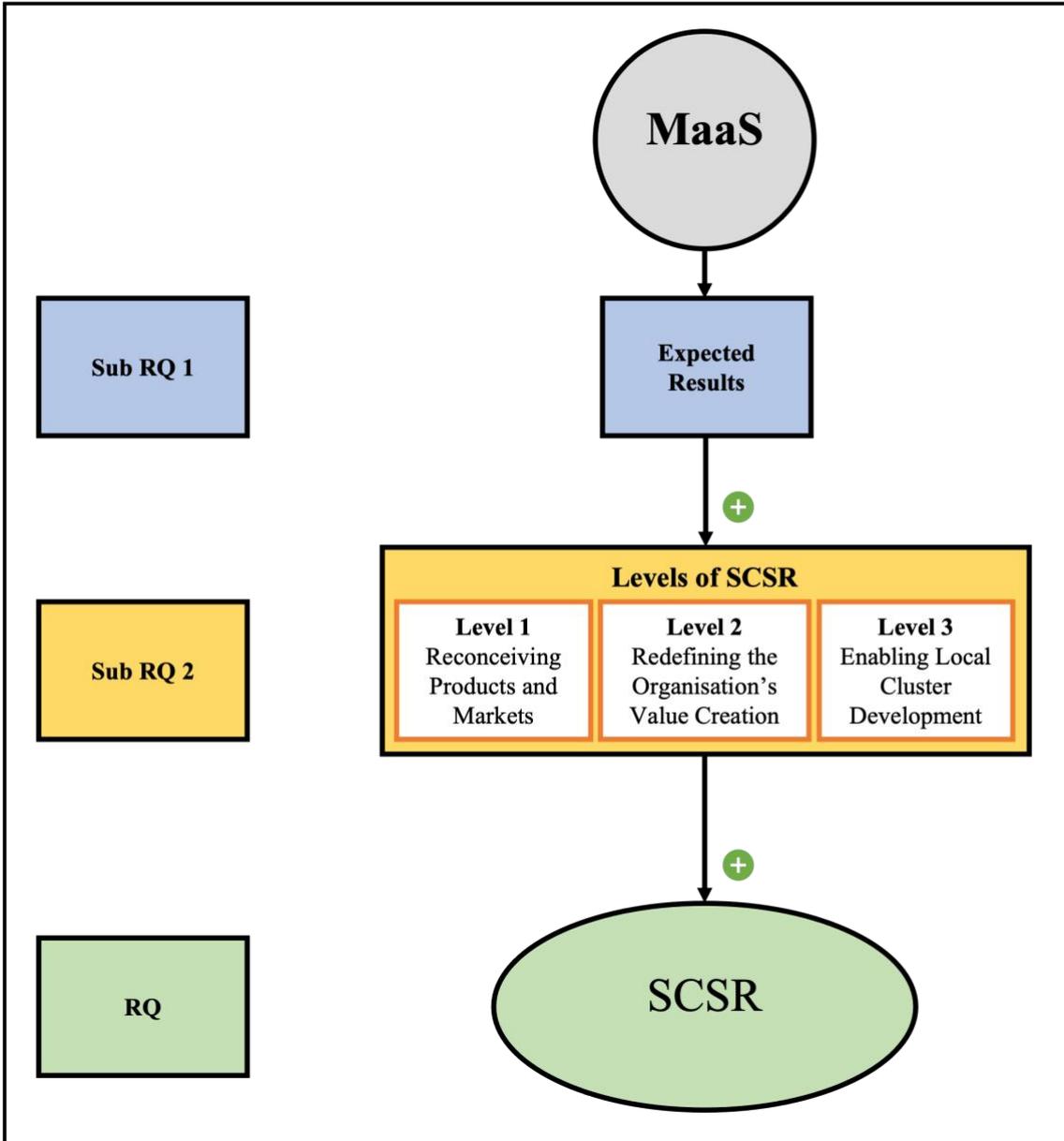


Figure 2: Conceptual Framework

## 3. Methodology

This research's methodological approach is discussed and explained in the third chapter. Based on academic literature, the research approach and design, the data collection and analysis as well as research quality are considered to ensure that the methodology is implemented systematically.

### 3.1 Research Approach

This study aims to examine the previously identified research gap by investigating how the implementation of MaaS by a PTA can contribute to the authority's SCSR and how it could increase co-value creation.

When conducting research, the inductive, deductive, and abductive approach are considered the leading research approaches (Alvesson & Sköldbberg, 2018). The abductive approach is regarded as a combination of the inductive and deductive approach (Dubois & Gadde, 2002; Alvesson & Sköldbberg, 2018) and therefore aims to overcome the limitations of solely in- or deductive research. In this research, an abductive approach is chosen after the authors started with an inductive approach, having identified a problem in the real world, with PTAs being under pressure to respond to increasing concerns about sustainability and accessibility of transportation. Abduction is particularly suitable for this research since it allows for discovering new relationships between different theories (Dubois & Gadde, 2002), thereby giving the opportunity to generate, modify or advance existing and relevant theories (Saunders, Lewis & Thornhill, 2019). Lastly, the abductive approach allows refining and adjusting the theoretical framework (Alvesson & Sköldbberg, 2018), which is the goal of this study, by going back and forth between theory and empirical data (Bell, Bryman & Harley, 2019).

Besides that, research in business and management studies can be conducted qualitatively or quantitatively (Bryman & Bell, 2015; Saunders, Lewis & Thornhill, 2019). Despite quantitative studies being considered to ensure greater reliability and objectivity while implying large and quantifiable samples and survey data (Weick, 1996; Saunders, Lewis & Thornhill, 2019), a qualitative approach is more suitable for this research. This is because a hard to quantify and complex problem is researched, which can be better

examined by gaining more holistic and richer in-depth data sets, ultimately leading to a more purposeful and relevant understanding of the matter (Weick, 1996; Leung, 2015; Saunders, Lewis & Thornhill, 2019). Those in-depth data sets are usually acquired through individual experiences and viewpoints (Saunders, Lewis & Thornhill, 2019) provided through the descriptive form of people's personal behaviour or own spoken and written words (Taylor, Bogdan & DeVault, 2015). Besides that, the qualitative approach is described to be more suitable for researching a problem that has not been examined similarly yet and for allowing for the emergence of questions during the research process, which is applicable for the exploratory purpose of this study (Creswell & Creswell, 2018).

### 3.2 Research Design and Case Selection

The research can be considered as the “*framework for the collection and analysis of data*” (Bryman & Bell, 2015, p. 40), with it generally linking together the methods used for the collection and analysis of data and the research approach (Saunders, Lewis & Thornhill, 2019). A case study approach is most suitable for this research despite being criticised at times. Opponents of the case study approach argue that due to the researcher's high level of interpretation, results are often subjective and further criticise the limited scope and the fact that results are attempted to be extrapolated from individual cases to the generality (Bennett, 2004). Still, the applicability of a case study approach for this study is given based on its usefulness for the in-depth representation of social phenomena (Ragin & Amoroso, 2011) required in this research. Additionally, phenomena in real-life settings within particular contexts can be contextually investigated through several or one case, units of analysis and sub-units if required (Yin, 2018). The approach can be designed as a multiple or single case study (Yin, 2018). While numerous case studies are understood as being more captivating than the single case study approach, they also require more time and resources, which are limited in the scope of this research (Yin, 2018). This, and the argument that a single case study can be uniquely compelling due to the exclusively different features of individual organisations or industries (Siggelkow, 2007), is why the single case study approach is selected. Again, the argument is made that through scrutinisation of contexts and detailing its ordinary activities, an instrumental case study can provide an in-depth exploration of the case, thereby helping the researchers to understand the external phenomenon (Baxter & Jack, 2008).

The case of this research is the concept of MaaS as a means to potentially enhance the SCSR of PTAs when providing the platform by themselves. This case has been chosen since PTAs are generally considered crucial participants of MaaS schemes, however, they are not always providers of the MaaS project themselves. Additionally, MaaS has often been researched regarding the economic and social benefits, making the concept especially applicable to examine it in the context of SCSR and CSV. Despite PTAs already providing several transportation services, MaaS can be considered a significant extension of the PTA's scope and governance by including all available mobility solutions into the platform. Therefore, the case study aims at investigating the standpoint in which PTAs are the provider of a MaaS scheme to increase their SCSR. Thus, the study outcomes are assumed to be of high insight and value for all PTAs that seek to provide MaaS in the future and want to increase their SCSR.

Additionally, the case study can bring additional value to the SCSR and CSV literature by providing a tangible case of how SCSR can be enhanced in the mobility sector. That is also why the study is expected to contribute to the identified research gap and research in the respective fields in general. With mobility patterns changing significantly in the wake of new mobility providers and the quest for sustainability, PTAs are under pressure to react to these changing demands (Rodrigue, 2020), thereby framing the context of this study. The units of analysis are then illustrated by the organisations from both the company perspective as well as the research perspective that are operating in the mobility sector and that have been involved in MaaS projects, thereby being able to provide insights into what benefits MaaS could provide for PTAs to enhance their SCSR. Lastly, the interviewees representing the beforementioned organisations which were involved in the systems will be the sub-units of analysis of this study. Thereby, the study follows an embedded approach, according to Yin (2018), since units and sub-units of analysis can be identified using a logical process, allowing for a narrower focus.

### 3.3 Data Collection

Methods and Techniques to collect and analyse data are crucial for the success of qualitative research (Corbin & Strauss, 2015). With Alvesson and Sköldböck (2018) claiming that data collection is the precondition for any research, Corbin and Strauss (2015) highlight the importance of utilising data collection from different sources,

including interviews and observations but also written or recorded material. According to Hedrick, Bickman and Rog (1993), there are two types of data collection: primary and secondary. While primary data includes data that the researchers directly collect through interviews or observations specifically designed to answer the research question, secondary data is collected by external authors that have followed different objectives when collecting the data (Blaikie, 2019). Still, secondary data can be advantageous considering that data is already compiled, which can be cost and time efficient for research (Saunders, Lewis & Thornhill, 2019).

### 3.3.1 Primary Data

Primary data will provide the empirical foundation of the research. Following the secondary data analysis approach by Vartanian (2011), this is also advised since empirical grounding through primary data collection allows for validating the wording and framing used by other authors of secondary data.

As source for primary data, it was decided to conduct interviews. Interviews can be considered an integral approach to collecting primary data, and they can provide the necessary background required for the qualitative purpose of this research (Saunders, Lewis & Thornhill, 2019). With semi-structured interviews starting with a predetermined list of key questions but providing flexibility when going into specific contexts (Corbin & Strauss, 2015; Bell, Bryman & Harley, 2019), this interview concept was chosen. Moreover, since it is critical to consider the specific organisational characteristics in the case study approach, a semi-structured approach is more reasonable for clarifying organisation-related particularities (Saunders, Lewis & Thornhill, 2019). Thereby, semi-structured interviews allow direct interaction with the interviewee and to adapt questions, if necessary, based on the interviewee's answers (Rubin & Rubin, 2005; Sutton & Austin, 2015). The interview guide consists of open-ended questions that allow for the establishment of a conversational approach and the collection of practical information that ultimately provides valuable insights to answer the paper's research questions (Saunders, Lewis & Thornhill, 2019). Therefore, the questionnaire was designed based on the identified research questions and the conceptual framework. While the research aims to combine the theories about MaaS, SCSR and value creation in organisations, the interview guide was developed based on these fields of analysis. Therefore, the

questionnaire was divided into three categories, with the first category (A) aiming to learn more about the background of the interviewee and in what ways the interviewee's organisation is involved in existing MaaS schemes. The second category (B) aims to gain information about the potential issues that can be tackled by implementing a MaaS scheme and how the PTA and other stakeholders can benefit from the introduction. The third category (C) then focuses on SCSR since it investigates which levels of SCSR are fulfilled when a PTA is implementing a MaaS scheme. Thereby, the three levels of *Reconceiving Products and Markets*, *Redefining the Organisation's Value Creation* and *Enabling Local Cluster Development* discussed in the conceptual framework were utilised as the foundation to formulate the questions in this category. The developed interview guide can be seen in Appendix 1.

A purposive sampling approach was applied to the sampling process of the primary data collection. Even though this approach is not statistically representative of the target population, it can be considered suitable when a small sample with informative cases is targeted (Saunders, Lewis & Thornhill, 2019). Considering the limited resources of this study and the limited willingness of organisations to agree to participate in the research, the appropriateness of purposive sampling is additionally increased. Still, when relying on a relatively small sample, it must be ensured that identified interviewees are appropriate for the research and that they can provide valuable insights (Rowley, 2012). To ensure the selection of appropriate interview partners, a predetermined set of criteria was defined (Fletcher & Plakoyiannaki, 2011; Palinkas et al., 2013). With MaaS being a relatively new concept (Arias-Molinares & García-Polinares, 2020), the selection of interviewees followed a two-folded approach. On the one hand, people working in organisations that currently are or have conducted MaaS trials in the past were targeted. On the other hand, people working in research institutions or other organisations involved in MaaS trials were targeted too. This two-folded approach allows to gain insights from two different perspectives (company-focused vs. research-focused), thereby increasing the validity of the research. With MaaS providing significant potential for PTAs and municipalities (Rantasila, 2015; Jittrapirom et al., 2017; Smith, Sochor & Karlsson, 2018; Utriainen & Pöllänen, 2018; Arias-Molinares & García-Palomares, 2020; Pangbourne et al., 2020), several trials and products all around the world are currently performed which

is why the selection of involved organisation within these trials can provide valuable insights.

To conclude, the criteria for selecting interview partners are that they work in organisations that are or were involved in the introduction or the operation of MaaS schemes. Additionally, attention was paid to finding a balance between company-focused and research-focused interview partners while also finding interviewees operating in different markets and countries. After conducting the purposive sampling process, interviewees from three different groups of organisations were consulted: Mobility or MaaS research organisations, independent MaaS operators and PT organisations that were involved in MaaS trials or are considering including the concept of MaaS in their corporate strategy. The list of conducted interviews and the positions of the respective interviewees can be found in Table 1.

Organisation Details	Referred to as	Position of Interviewee	Location of Organisation	Date
MaaS / Mobility Research Organisations				
Research Organisation Focussed on Public Transport Developments	Researcher A	Director	Sweden	22 <sup>nd</sup> April 2022
Transport Research Laboratory at a Technical University	Researcher B	Doctorand	Sweden	25 <sup>th</sup> April 2022
European Research Network Focussed on the Development of Policies and Technologies for Local Transport	Researcher C	Senior Manager / Traffic Efficiency Coordinator	Belgium	26 <sup>th</sup> April 2022
State-owned Research Institute with a Focus on the Development of Sustainable Technologies, Services and Products	Researcher D	Director / MaaS Project Leader	Sweden	28 <sup>th</sup> April 2022
Independent MaaS Operators				
Mobility Club and MaaS Provider, operating a MaaS Scheme for Several Years	Operator A	Head of Innovation	Spain	27 <sup>th</sup> April 2022

Public-Private Partnership Developing the Foundations for a Common Approach to MaaS	Operator B	Mobility Consultant	Germany	28 <sup>th</sup> April 2022
MaaS Technology Platform Provider Involved in MaaS-like Solutions and Schemes for Over Ten Years	Operator C	Co-Founder	United Kingdom	29 <sup>th</sup> April 2022
Public Transport Organisations				
Swedish Public Transport Authority Planning on Implementing a MaaS Scheme	PT Expert A	Strategist	Sweden	22 <sup>nd</sup> April 2022
German Traffic Operator Collaborating with a Local Public Transport Authority by Providing a MaaS Platform	PT Expert B	Innovation Manager	Germany	25 <sup>th</sup> April 2022
German Public Transport Authority Providing a MaaS Platform Since Several Years	PT Expert C	Traffic-planner / Responsible for MaaS Projects	Germany	26 <sup>th</sup> April 2022

Table 1: Interview Partners

The interviews were performed in an internet-mediated setting via online video conferencing tools such as Zoom and Microsoft Teams. Using video conferencing tools made it possible to ensure the visibility of non-verbal expressions, which can be considered necessary in social settings (Saunders, Lewis & Thornhill, 2019). The duration of the interviews ranged between 29 and 50 minutes, and they were conducted in English and German. Thereby, the interviews followed the three-step structure whereby the researcher firstly provided the interviewees with a short introduction to the research topic and clarified any questions raised by the interviewee before going into the semi-structured process of asking the questions from the interview guide. In the end, time was allocated for further discussions or subsequent questions. To ensure accuracy and validity, interviews were recorded and transcribed afterwards. Following Bryman and Bell (2015), it is advised to record interviews to ensure that the researchers can pay attention during the interview and do not need to concentrate on documenting the information right away.

### 3.3.2 Secondary Data

As custom for case study approaches, a theoretical foundation and background of the examination must be determined by a thorough review of existing literature (Yin, 2018). The collection process of secondary data for the literature review was already described in chapter 2. Besides that, additional and new knowledge within the research context can be provided after utilising additional secondary data to analyse the existing data (Saunders, Lewis & Thornhill, 2019). This means that secondary data can also be used to create empirical findings within secondary data analysis, which is understood as the analysis of data collected for other primary purposes by someone else (Vartanian, 2011; Johnston, 2014). Another advantage of utilising secondary data is that it allows to spend more time analysing the data, thereby ensuring higher reliability of the research since collecting secondary data itself is less time-consuming (Saunders, Lewis & Thornhill, 2019). That, and the advantage of covering a vast range of entities, thereby leading to an increased representativity of the research (Vartanian, 2011), has led to utilising existing secondary data becoming more prevalent (Johnston, 2014; Saunders, Lewis & Thornhill, 2019).

Existing reports and cases of past MaaS pilots and projects are used to enrich the empirical data. Therefore, specifically web pages and project reports of organisations that conducted MaaS projects and data from journal articles and consultancy papers are utilised to approach the research questions. The secondary data analysis utilised in this thesis comprises 19 articles and consultancy papers with roughly 1,230 pages, thereby confirming the appropriateness of utilising secondary data for the research purpose.

## 3.4 Data Analysis

According to Creswell and Creswell (2018), it is crucial to make sense of the data collected to answer the research question and identify relevant themes in large datasets. This is especially relevant for qualitative interviews considering that this form of data collection produces unstructured and rich data where it is vital to distinguish more relevant information from less relevant information, thereby *winnowing* the data (Guest, MacQueen & Namey, 2012). With literature providing several methods to analyse qualitative data, this study will follow the template approach within the thematic analysis

since the emphasis on hierarchical coding allows for structure while the process is also allowing for flexibility when it comes to specific characteristics in a particular study (Brooks et al., 2015). The approach allows for identifying patterns and themes and understanding their relationships (Saunders, Lewis & Thornhill, 2019).

Following Creswell and Creswell (2018), the authors propose five steps to conduct qualitative data analysis. First, the data for analysis should be organised and prepared, which is ensured by the transcription of the interviews. The second step is necessary to gain a first understanding of the data by reading through the transcripts. This was guaranteed since both authors reviewed all transcripts, and first insights regarding the credibility and depth were collected. Step 3 is then the core of the process since it includes the data coding. Within this research, the data was coded by categorising and interrelating the collected data. The method of developing codes was conducted in an iterative and ongoing approach, starting with a preliminary code template after the first two interviews, which was utilised for subsequent interviews, also leading to minor adaptations in the code template due to new insights (Saunders, Lewis & Thornhill, 2019). Additionally, the data analysis also included secondary data, which was identified as insightful for this research. Moreover, the coding template was developed based on the last two identified focus categories of the questionnaire described in chapter 3.3.1 (B: Results of a MaaS introduction by a PTA; C: Fulfilled levels of SCSR when a PTA is implementing a MaaS scheme) to ensure a close connection to the research purpose. Following this approach, it was possible to identify a small number of themes that represent crucial findings to answer the research question of this study. The identified themes based on the coding can be found in Table 2. Thereby, the categorisation in themes already represents step 4 in Creswell and Creswell's (2018) framework, which aims to categorise data and provide it with a description. The last step is then concerned with illustrating the identified descriptions and themes, which can be done using visuals or tables. The utilised themes can be observed in Table 2.

Category		Findings (to be Filled out during the Analysis)
Expected Results Following the Introduction of a MaaS Scheme		
Current and Future Problems that Might be tackled by a MaaS Scheme		
Expected Benefits for the PTA	Economic	
	Social	
	Competitive Advantage	
Expected Benefits for Additional Stakeholders		
Potential Obstacles		
Dimensions of SCSR within the Context of a MaaS Implementation by a PTA		
Which Levels of SCSR are Fulfilled?	Level 1	
	Level 2	
	Level 3	
Relevance of the Three Levels to Enhance the SCSR of PTAs		

Table 2: Coding Template Including Identified Themes

### 3.5 Research Quality

Ethically providing valid and reliable knowledge is crucial for scientific research and essential factors for the quality of qualitative research (Merriam, 1998; Saunders, Lewis & Thornhill, 2016). Despite validity and reliability taking different forms in qualitative research compared to quantitative research (Merriam, 1998), the terms of validity and reliability are still applicable for this research due to the reference to the specifics of qualitative research (Noble & Smith, 2015). Reliability is usually concerned with the study's replicability and is achieved by ensuring consistency (Saunders, Lewis & Thornhill, 2019). Validity then considers the factors of accurateness and the

transferability and credibility of the study (Noble & Smith, 2015; Bell, Bryman & Harley, 2019; Saunders, Lewis & Thornhill, 2019).

### 3.5.1 Validity

As with this study, the exploratory nature of findings generated through qualitative research is hard to generalise to a broader population but is still valuable in creating transferability since they allow to develop a theory that can be extended to other cases (Maxwell, 2009). Several possibilities exist to strengthen the validity of qualitative research, such as collecting rich data by conducting in-depth interviews, as it is done in this study (Maxwell, 2009). Triangulation, or the use of several data sources of evidence, is another technique to increase the validity of qualitative research (Patton, 2015; Yin, 2018).

This was especially important because the study has a limited scope through which a certain degree of bias can be expected. To prevent findings from leaning in specific biased directions of the respective interview respondents, care was taken to interview individuals from various organisations, such as researchers but also individuals from private mobility providers and PTAs. Another risk is receiving misaligned answers based on misunderstandings of the posed questions, which is why the researchers ensured to provide the interviewees with the necessary background and context of the study as well as offering the opportunity to the interviewees to ask again if any misunderstandings prevailed (Creswell & Creswell, 2018). Additionally, the ability and willingness of respondents to participate can negatively influence the responses, which is why the researchers ensured to make the circumstances regarding the date and time of the interviews as favourable as possible by letting the interviewees determine the circumstances (Saunders, Lewis & Thornhill, 2016). Besides that, after the interviews were conducted and transcribed, the findings were shared with the respondents to further strengthen the respondent's validation and credibility (Maxwell, 2009).

### 3.5.2 Reliability

Reliability in qualitative research is considered with consistency which means that if the study is repeated, the researchers will find the same results (Leung, 2015; Saunders, Lewis & Thornhill, 2019). For the researchers, this means that misinterpretations due to

own biases must be prevented since human behaviour is never static in social sciences, which can be particularly problematic in qualitative research (Merriam, 1998). This problem is tackled by giving the reader the possibility to act as a peer and review if the procedures were correctly followed through. This is done by describing the problem formulation and selection of research participants and providing interview transcripts and data analysis decisions if requested. The interview guide is provided in Appendix 1, and a detailed elaboration of the research's design is given in the methodology chapter.

Beyond that, all transcripts were manually reviewed by the researchers, which can further increase the reliability of the study, according to Creswell and Creswell (2018). Also, misinterpretations due to the researcher's own biases were prevented as much as possible by coding the transcribed data and aligning and cross-checking the coding process in regular meetings to increase the prevention of inconsistencies, thereby further increasing reliability (Creswell & Creswell, 2018).

Lastly, reliability was further ensured through the assessment of other researchers acting as peers during opposition meetings and the supervision of an external supporting person.

### 3.5.3 Ethical Considerations

To address potential ethical concerns, the four areas of ethical issues defined by Diener and Crandall (1978) are considered within the research: (1) harm to participants, (2) lack of informed consent, (3) invasion of privacy and (4) deception. To counter these four areas, the study participants were able to ask questions regarding the topic and usage of collected data, and they were able to decide to discontinue the process at any time (Saunders, Lewis & Thornhill, 2019). Additionally, the policies following the *General Data Protection Regulation* of Lund University were adhered to (Lund University, 2022). Therefore, it was decided to keep the names of the interviewees and their organisations confidential while stating their function and position to maintain a high level of credibility. Especially in consideration that the researched industry is subject to several legal, ethical and environmental concerns, the safeguarding of the interviewees' anonymity allowed to prevent issues and allow the interviewees to speak relatively freely, thereby also increasing the potential insights gained through the interviews (Creswell & Creswell, 2018). Additionally, any situations that might have made interviewees uncomfortable were avoided by refraining from using force, both physically and verbally,

to reveal confidential information. In that sense, any form of language or behaviour that might be perceived as harmful was avoided, thereby ensuring the safety of the interviewees at any time. Lastly, special care was taken to provide interviewees with the transcript to ensure the interviewee's consent and ensure that the transcript reflects the factual circumstances.

## 4. Analysis and Discussion

In this chapter, the empirical findings are discussed and analysed to understand the role of PTAs and what results can be expected when PTAs introduce a MaaS scheme. The first sub chapter brings more clarity into the topic of SCSR specifically related to PTAs. Sub-chapter 4.2 then solely discusses the expected benefits for PTAs, society and other stakeholders when MaaS is implemented as well as obstacles that would come with it. Those benefits and obstacles are then discussed in the context of value creation and SCSR in chapter 4.3. All findings are summarised in chapter 4.4 before the revised conceptual framework is presented in 4.5.

### 4.1 Public Transport Authorities and Strategic Corporate Social Responsibility

While the role of the PTA features specific characteristics that differentiate it from traditional privately controlled companies, the subsequent analysis of the role of a PTA is building the foundation for the empirical research of this paper. Still, considering that it is not the focus of this research to provide an encompassing description of the PTA's role, this chapter will focus on the specific characteristics relevant for the subsequent analysis and the understanding of SCSR in the PT sector.

According to Hrelja, Rye and Mullen (2018), transportation services in Europe have seen a shift from being state-owned towards deregulation and privatisation, thereby allowing competition to flourish. In this configuration, PTAs are responsible for defining transport services and how they relate to the social function of PT while at the same time contracting private transport operators for performing the specified services. Therefore, while the deregulation led to private actors' entry into the sector, the PTA was created as a public entity to ensure that the transport system within its territory is well-functioning (Wright, 2015). In that sense, the strategic goal of PTAs is to ensure the delivery of an efficient, convenient, and high-quality PT system, thereby acting in the interest of the public. This highlights a significant distinction from other privately dominated sectors since it is not the priority of PTAs to generate profit. Instead, it is the priority to comply with strategic objectives set by local politicians (Wright, 2015; Stjernborg & Mattisson,

2016). This was also highlighted by Researcher D, Operator C, PT Expert A, PT Expert B and PT Expert C. PTAs are often subsidised by public funding, and they need to perform the services within these limited budgets. Especially in recent years, where transport-related challenges such as the contribution to global greenhouse gas emissions became apparent, the PTAs are regarded as critical actors in achieving other goals and public values beyond providing transport services such as tackling social, environmental, and economic issues (Stjernborg & Mattisson, 2016; Zhang et al., 2022). Therefore, PTAs have a different strategic focus than private companies, shifting their perspective on SCSR and CSV. Several informants also highlighted this confusion during the execution of the interviews and argued that SCSR and CSV are concepts for profit-oriented companies (Researcher B; Operator B; Operator C). As highlighted by Researcher B: *“It is a bit weird [to talk about CSR] when economic interests are actually not the main focus of PTAs”*.

However, considering that PTAs are following other forms of value creation such as greater accessibility, sustainable transport, or social inclusion (Wright, 2015; Stjernborg & Mattisson, 2016), the case for SCSR can still be applied to PTAs. As established in chapter 2.3, the stakeholder surplus perspective considers all forms of value creation that increase the well-being of the earth and its living organisms (Brickson, 2007). Therefore, taking the stakeholder surplus perspective into account and considering that the improvement of welfare is the strategic priority of PTAs, SCSR activities in the context of PTAs are defined as activities that can bring the organisations closer to achieving their strategic goal while also providing greater value for additional stakeholders. This is also in line with Stjernborg and Mattisson (2016), who argue that societal interests are at the forefront in public organisations before financial interests, such as profits and return on investment (Piening, 2013). Still, as PTAs act in competitive environments and as resources for funding are scarce, an increased utilisation of strategic management concepts such as SCSR or CSV can be observed to assess the performance of these organisations (Llewellyn & Tappin, 2003; Piening, 2013; Johnsen, 2015). This further strengthens the claim that the concepts of SCSR, as well as CSV and the specific case of PTAs, can be brought together. Additionally, while emphasising the limited budgets and increased competition, Stjernborg and Mattisson (2016) highlight that those economic interests cannot be entirely neglected. This is since minimising costs will lead to more

efficient use of taxpayer money, thereby increasing the affordability of mobility services and providing greater value. Therefore, economic interests will also be included in the subsequent analysis. Lastly, with MaaS creating the opportunity to cooperate with privately controlled mobility providers, new forms of value co-creation for the private mobility providers and the PTA can arise. Confronting the interviewees with this case-specific definition helped solve the confusion and frame the context of the subsequent analysis.

## 4.2 Expected Results Following a MaaS Introduction

The first sub-chapter will solely illustrate an overview of the findings from the interviews of current and potential future problems that have been mentioned or identified by the interviewees and could therefore lead to possible results if successfully tackled. This may also include the issues that were supposed to be tackled by the individual pilots or projects the interviewees were involved in. However, the respective dependencies of MaaS to influence the targeted problems, as well as results for other stakeholders and obstacles, will be further discussed in the subsequent chapters 4.2.2 until 4.2.4.

### 4.2.1 Current and Future Problems that Might be Tackled

The potential of MaaS to reduce individual private car use, as considered by Rantasila (2015), Jittrapirom et al. (2017), Smith, Sochor and Karlsson (2018), Arias-Molinares and García-Palomares (2020) and Pangbourne et al. (2020), is highlighted by most respondents. Despite some interviewees being critical, for others, it was in many cases one of the goals of the respective projects the respondents have been involved in. As PT Expert B explains: *“The incentive [of our MaaS offer] was a bit that we want to make the private car obsolete and that is why we invested a lot”*. In the case of Operator C, their MaaS project focused on young people and nudging them away from cars by making *“young people continue to feel confident in the existing public transport and other transport networks”*.

In harmony with that, many of the environmental benefits resulting from limited car use are considered. Talking about congestion and air pollution, especially in cities, Operator A argues that *“mobility as a service platforms and schemes can [...] support this transition to a safer and more friendly city for people or for the inhabitants”*. Especially

Researcher A, Operator B and PT Expert B are discussing reduced emissions and pollution, mainly caused by reduced consumption of raw materials. *“If you go to the next bus stop, you will probably pass 200 cars just idling [...] and when I look at that massive waste of resources, it is clear that a societal consensus is required under which those [resources] are reorganised. [...] And we can already see now that half of the existing cars would be enough, probably even less”* (Operator B). Another discussed effect of fewer cars in cities is the topic of free space that would be saved and be available for more charitable things such as parks, green areas and playgrounds.

Lastly, all informants discussed the benefits achieved through changes in the mobility offer provided by PTAs when introducing MaaS. Increased accessibility and *“social participation”* (PT Expert B) are considered effects that were targeted and achieved with the MaaS projects conducted so far. As Researcher D describes: *“There are a lot of people that can solve a lot of their mobility needs with public transport, but not all of them. [...] And I think there is this potential of complementing public transport so that public transport, in general can be a more attractive solution for more people”*. Especially in the countryside and rural areas, this aspect of increased accessibility and possibilities for its inhabitants is essential for PTAs when introducing MaaS, as PT Expert A explained. The last benefit identified is the ability of MaaS, based on its design, to promote healthier modes of transport, as described by Researcher A: *“[It is important] to create a mobility system, which is also incentivising positive health developments because that is one of the biggest challenges in cities in Western societies [since] we have deteriorating health among many people because we are not active enough”*.

#### 4.2.2 Expected Benefits for the PTA

The expected benefits for the PTA are further split into economic and social benefits as well as the competitive advantage that could be expected through the introduction of a MaaS scheme.

##### 4.2.2.1 Economic

When considering the business case of MaaS provided by PTAs and whether the PTA could expect a significant economic benefit, the informant’s experiences and opinions diverge significantly. Regarding the technology necessary for MaaS in form of an app as

the interface, it is argued that, depending on the city, existing capabilities could be used to build on (Researcher A; PT Expert B). What that means is that the MaaS app is considered as one of the building blocks that could require the most development and, therefore, money. However, most of the functions it must provide, such as a ticketing and payment integration as well as the provision of real-time data, are already included in existing apps from PTAs and other mobility providers. It is considered that this should allow for a relatively easy scale-up at the beginning for trials and MaaS schemes with a relatively low number of different mobility providers. Another pragmatic solution suggested by PT Expert B is to integrate existing apps of individual mobility providers, each designed for their particular purpose, via interfaces into one combined platform provided by a MaaS provider such as a PTA. *“We now have a Ride Pooling Provider [in our City], and they have a fantastic app which is specifically made for their purpose. So, am I supposed to make it even better?”* PT Expert B highlights, on the other hand, that this could only work to a certain extent with a limited amount of different mobility providers. It would become increasingly more complicated when the platform is supposed to do *“everything itself”* while imitating the latest updates that each mobility provider is offering with their app.

A proponent of MaaS' profitability is Operator A arguing that the MaaS scheme implemented by their organisation is generating various revenue streams. On the business-to-business side, revenue is generated by licensing out a white label application utilised as the app for their own MaaS platform and by selling data generated through their service. However, for the possibility of licensing an app, it is expected that significant investments would be required to develop an all-purpose white label application that is easily adaptable to potential customers. This would contrast with the earlier discussed argument of a “pragmatic” solution that demands low investments, as proposed by PT Expert B. Regarding the revenue stream provided through the selling of data, Researcher C considered the specific case of PTAs losing access to their data if the PTA became part of a MaaS scheme provided by another, potentially private, organisation: *“So, all the operators might know is that someone is travelling with this app on my network, but it doesn't know where this person is travelling from and to. [...] So essentially, they would have to buy back the data to know how customers are using their services. And this is completely unfair. This is public money”*. While this might not be an

issue if the PTA itself were the MaaS provider, it might be an obstacle for other mobility providers to join the platform, given the necessity for a commercial agreement to gain back access to their data. Besides, using the generated data as a source of revenue would also contradict the from Goulding and Kamargiani (2018) identified principle of *data sharing and transport operator openness* as one of the “key raw ingredients” for a successful MaaS scheme.

On the business to customer side, the revenue streams identified by Operator A are generated through subscription fees or commissions collected from the individual mobility providers taking part in the MaaS scheme. However, this could be strongly objected based on information provided by other informants focussing on the generally thin margins in the mobility sector. MaaS is often compared to travel platforms such as *booking.com* and the profits those platforms make through their mediating, but PT Expert B objects to that argument: “*With taxi-rides or car-sharing you cannot earn a lot through mediating, that is different to Hotels*”. PT Expert B continues to argue that many mobility services currently lack a business model and do not know how to generate profits, supported by Researcher C: “*It’s really, really difficult. Even all the start-ups, the e-scooter companies and ride-hailing. None of them are making money; they’re surviving on venture capital*”. PT Expert B and Operator C consider only very few mobility services that have high enough margins to offer the possibility of generating revenues for a MaaS provider through commissions. Those services, however, are not considered to be the most sustainable. Operator C, therefore, considers the risk of private MaaS providers prioritising and promoting such services in favour of profit, which, however, would not be possible for PTAs and their goal of offering sustainable transport services. For the project Operator C was involved in, the only solution to make a revenue was “*to try to add enough value to the end-user that warrants the addition of a cost which is not actually a very attractive proposition*”.

Discussing the specific case of PTAs as MaaS providers, many informants turn to the fact that the sole business of running busses and trains is often not profitable and exists due to subsidies provided for its social benefits (Researcher D; Operator C; PT Expert A; PT Expert B; PT Expert C). This is also in line with Wright (2015) and Stjernborg and Matisson (2016), who argue that the strategic objective of a PTA is to increase social welfare instead of generating profits. PT Expert C, therefore, argues that as a PTA, they

*“are not at all in this obligation to act economically”*. This and various other reasons lead PT Expert B to the conclusion of PTAs being in a predestined position to become the providers of MaaS, thereby agreeing with Karlsson, Sochor and Strömberg (2016) and Smith, Sochor and Karlsson (2018). *“The PTA can do it because it has a business model. The PTA already has a lot of customers. It has to run that app there anyway. It has to have a local presence, and it doesn’t live off the margins anyway”* (PT Expert B).

Because PTAs are subsidised and commissioned with executing services of general interest, Operator B argues that societal and planetary impacts must be considered financially too: *“I say what if we don’t do it? So, how much greenhouse gas emissions can I avoid? I can monetise that”*. Operator B claims that PTAs must include subsidies and grants as well as the monetisation of greater benefits into their balance to ensure that this macroeconomic perspective will result in a positive profit for PTAs: *“In any case, the economic perspective always includes the subsidies and other financing options and dealing honestly with numbers”*. This is also in line with the stakeholder surplus perspective on value creation, which argues that every form of value creation that increases the well-being of the earth and its living organisms must be considered when assessing a company's performance (Brickson, 2007).

#### 4.2.2.2 Social

As briefly discussed in chapter 4.1, the in theory often considered aspect of MaaS reducing individual car use has been mentioned by most informants as well. The majority of projects the interviewees were involved in had reduced individual car use as a goal or identified indications of MaaS affecting individual car use. This is confirmed by the reports of the UbiGo project in Sweden (Karlsson, Sochor & Strömberg, 2016; Carlsson, 2020), the Sydney MaaS Trial (Hensher, 2021) and the NaviGogo project in Scotland (ESP Group, n.d.). In those projects, many trial participants responded that their views of car use had changed or felt like giving up on owning a car altogether after participating in the MaaS projects and trials. In UbiGo, it was found that individual car use of the participants was reduced by 48 per cent during the test (Smith, Sochor & Karlsson, 2022). This reduction in individual car use was supposedly caused by a significant increase in PT utilisation. This is indicated by the RealLab report from Hamburg, which found that during their test of a MaaS scheme, 96 per cent of trips were made with PT modes

(RealLabHH, 2022). Similar numbers are found for Whim, where 95 per cent of trips are conducted with PT modes (Rambøll, 2019). In the case of Whim, that would mean that users conduct an average of 2.15 daily trips with PT modes compared to the 1.6 trips made by an average citizen (Rambøll, 2019). As considered in the literature and by many respondents, reducing individual car use is often associated with reductions in emissions and pollution. The Sydney MaaS Trial indicates that is true since their test of different incentive packages to use more sustainable modes of transport has led to a reduction of up to 145kg of CO<sub>2</sub> per traveller per month (Hensher et al., 2021). However, regarding the relatively low number of executed MaaS trials and projects, Researcher D argues that “nothing is proven yet when it comes to MaaS. We can see some indications on that it can affect car ownership, that it can affect travel behaviour, that it can complement public transport. But we do not really know yet. There’s a lot of uncertainty still surrounding what MaaS can deliver”. Researcher A, Researcher B and Researcher C are overall more critical of MaaS’ potential to decrease individual car use for several reasons. It is considered that the circumstances and individual goals of a respective MaaS scheme will be deciding in its effects, considering that it could go “both ways” (Researcher A; Researcher B) depending on if the aim is to reduce car use or something else. PT Expert A argues that PTAs in the position of a MaaS provider will be obliged to prefer the more sustainable modes compared to private MaaS operators, who are more likely to prefer the more profitable modes, as discussed before. Researcher A, however, disagrees and argues that the framework and incentives put in place will be deciding for the effects MaaS could have. “You could actually put in place a framework that incentivises them to provide more sustainable solutions. So, I don’t think you can say that it always will have to be better or worse with the public or private solution” (Researcher A). This leads to a larger argument made by many informants (Researcher A; Researcher B; Researcher C; PT Expert B) that, while MaaS might play a significant part in the fight against individual car use, more incentives are necessary to actively make individual car utilisation less favourable and convince car drivers to change. “I think the reality is that some drivers are very addicted to the car and it would take more than an app to change their way, to get them out of the car and to using other means of transport, in particular public transport, we need more than that. We need policies that are really going to make it harder or less pleasant for drivers to drive around” (Researcher C). Considering the close involvement of PTAs with local municipalities and governments, each having the means to introduce

incentives tackling individual car use, this could be another reason for PTAs being in a favourable position to introduce MaaS and other means to support more sustainable transport modes. Additionally, this confirms the necessity of the *policies, regulations and legislation* “key raw ingredient” for the successful establishment of a MaaS scheme, as considered by Goulding and Kamargianni (2018).

Another considered advantage is that MaaS could help provide more efficient and cheaper modes of transport as well as open up a more comprehensive range of mobility options to people (Researcher A; Researcher B; Operator B; PT Expert B), as also expected by Kamargianni and Matyas (2017) and Arias-Molinares and García-Palomares (2020). This might be due to the earlier mentioned increased amount of data at the disposal of mobility providers, giving more insights into the population’s travel behaviour which could be served with more appropriate mobility modes. One example mentioned by Researcher A, Researcher B and Researcher D is that buses are sometimes used inefficiently if they only transport a number of people way below their maximum capacity. Such inefficiencies could be compensated with the appropriate data by providing smaller individual transport means, thereby saving public money. *“You can also have services that sort of save money because people are taking an e-scooter rather than riding on a bus. From a societal point of view, it’s not important that people are riding public transport for its own sake. If you can move yourself in a different way, which is cheaper for the taxpayers and better for the environment, then you should definitely do that”* (Researcher A).

Besides the debatable argument of lower private car use, such removal of unnecessarily large busses through the replacement of smaller transport modes could also help increase space in cities that could be utilised otherwise, as briefly discussed in chapter 4.1. Additionally, it is considered that MaaS can further help provide mobility solutions meeting different travel behaviours (Researcher A, Researcher B, PT Expert B), especially for rural areas and the “first and last mile” (Researcher A; Researcher B; PT Expert A). This is due to the various travel modes that would be at the traveller’s disposal, often referred to as *“bouquet of offerings”* (PT Expert B; PT Expert C). The first and last mile is described as an area between people’s houses and the next bus or train station and therefore part of the micromobility market which is expected to grow significantly in the upcoming years (Heineke et al., 2019). While the first and last mile is generally too expensive to serve by PTAs themselves, other mobility means could cover that mile,

thereby automatically making PTA services more attractive (Researcher A). Also, remote areas are considered especially expensive to serve by PTAs (Researcher D; Operator C; PT Expert A) and are often underserved. Because of that, significant parts of the population are excluded from easy access to culture, education and work if people do not have individual cars. This, however, could be tackled through the introduction of MaaS. According to Researcher D: *“If MaaS can help deliver mobility to unprofitable rural areas basically for less tax dollars, then they can, at least in theory, lower transport exclusion”*.

To conclude, PTAs are considered to be overall predestined and in the best position to become providers of MaaS with more comprehensive social benefits (Researcher A; Researcher B; Operator B; Operator C; PT Expert A; PT Expert B; PT Expert C). That is despite Researcher A’s earlier mentioned argument of private MaaS operators theoretically being just as well-positioned to promote sustainable transport modes with the right incentive. Researcher A also considers that for private providers, it has been complicated to set and significantly scale up MaaS solutions: *“So from that point of view, it might be easier for the public transport agencies or authorities to reach critical mass of customers and also to provide a solution that has a benefit for society”* (Researcher A). PT Expert B agrees in arguing that the expected social benefits of MaaS, such as more inclusion, more space and better living qualities in cities due to a reduced number of cars, are congruent with the goals of what PTAs are supposed to provide. This is also in line with literature (Wright, 2015; Stjernborg & Matisson, 2016). Again, taking a broader macroeconomic perspective due to the consideration of all potential social benefits, Operator B claims that PTAs must take a leading role in the provision of MaaS: *“If I see the dimension of the challenge in front of me, then I am obliged to do such experiments [as a PTA]. That’s what I have to expect from PTAs in the context of services of general interest that they use every opportunity to try things out”*.

#### 4.2.2.3 Competitive Advantage

As described by Hensher (2017), many respondents agree with the argument of PT solutions often being inflexible, leading to issues of exclusion, amongst others, as discussed before. It is therefore expected that through the provision of a MaaS scheme by a PTA, the whole range of services provided by the PTA would become more attractive,

as considered by Utriainen and Pöllänen (2018) and Arias-Molinares and García-Palomares (2020). This could lead to a competitive advantage for the PTA (Researcher A; Researcher D; Operator C; PT Expert A; PT Expert B). The competitive advantage would primarily be based on the opportunity to gap the by PTAs so far unserved first and last mile. However, this competitive advantage of PTAs over individual car use is still under the caveat that the provision of MaaS will have a significant enough impact to decrease individual car use, as discussed in the previous chapter. Researcher D, however, is more optimistic about the matter: *“So, I’m hoping that it can [...] improve the competitive advantage of public transport. I think it can do that. I’m not sure to what extent”*. Operator C argues that this competitive advantage would already be promoted by a higher exposure of the PTA to customers if a PTA branded MaaS App would now also allow serving the first and last mile: *“For public transport authorities, they’ll often only touch the customer when they board the bus or board the train or buy the ticket, whereas that is obviously the first mile of getting to the train station or the bus stop or beyond to that”*. For PT Expert B, this increased exposure also means that customers could be tied in more and that customer stickiness would increase, thereby increasing the competitive advantage.

A further competitive advantage of PTAs considered to help them prevail over other MaaS or mobility providers is their often strong and trusted brand (Researcher D; PT Expert B). While this and their already existing large customer base will help PTAs scale MaaS schemes, this is also an expected reason to make people more likely to try out new mobility services, potentially leading to advantages for further stakeholders.

#### 4.2.3 Expected Benefits for other Stakeholders

According to Kamargianni and Matyas (2017), Surakka et al. (2018), Arias-Molinares and García-Palomares (2020) and Polydoropoulou, Pagoni and Tsirimpa (2020), it is expected that MaaS will also have benefits for additional involved stakeholders such as IT and ICT providers and private mobility providers. Especially the latter is considered by the interviewed informants and is expected to profit from the integration in a MaaS scheme (Researcher A; Researcher B; Researcher C; Researcher D; PT Expert B; PT Expert). This is mainly considered due to the earlier mentioned existing customer base of PTAs, which would be opened to additional mobility providers if they entered the PTA’s

MaaS network. Additionally, the PTA's trust is expected to give more legitimacy to new mobility providers who might otherwise have a hard time attracting new customers. This benefit of gaining wider reach is therefore particularly considered for small mobility providers as PT Expert B explains: *"So for me, because I have so many customers, it has immediate value, but it also has great value for small providers like car sharers because I pass my customers to them"*. However, given that most trips in existing MaaS schemes are conducted with modes of PT, as described earlier with Whim and UbiGo, the potential benefit for additional mobility providers can be doubted. In the Whim report published by Rambøll (2019), it is claimed that *"findings suggest that Whim users are avid multimodalists, using both bicycles and taxis to solve the first/last mile problem"*. This favours the argument that further mobility providers are heavily utilised, thereby benefiting from the MaaS scheme. The results illustrated in the RealLabHH Report (2022) suggest, however, that the multimodality of trips generated is not that high, with 82.7 per cent of journeys being conducted with one transport mode, meaning that only 17.3 per cent of trips were completed with two or more mobility offerings. Such numbers and the disproportionately high use of PT modes leaves Researcher D wondering: *"If you look at the numbers from Whim, they mainly use public transport. So, if that's enough benefit for the small actors, I don't know"*. A further advantage other mobility providers would receive is the access to a broader database which would allow them, just like the PTAs themselves, to better plan their services and fleets required in respective areas. This, however, is only applicable under the caveat that data is shared freely and not utilised as a revenue stream.

However, a further potential benefactor of having access to MaaS that was not considered in the analysed literature are companies or organisations, as suggested by Researcher C, Operator A, PT Expert A, and PT Expert B. Operator A and PT Expert A consider the possibility of integrating tourist attractions into a MaaS scheme which would allow tourists to easier purchase ticketing to landmarks or museums. This would open a broader customer base to the attractions and could allow the MaaS provider a further opportunity to profit through commissions. PT Expert B, however, is more careful with what should be integrated into MaaS schemes to prevent the concept from losing its focus. At the same time, PT Expert B thinks that the integration of utility services could be a good fit since they are often affiliated with PTAs already. Researcher C describes the specific case of

company cars still having a high status in various countries, and the negative impacts of them, especially the cost for the companies that issue such vehicles. It is considered that those cars could be replaced if MaaS is normalised, and employees would get access to all other available mobility forms through MaaS, which in turn could be cheaper for companies and would have further benefits through the reduction of individually driven and “owned” vehicles. *“So, what we are moving towards is what we call the mobility budget. So, instead of automatically giving a company car to the employees, they can provide a mobility budget and MaaS that could be a great solution”* (Researcher C).

#### 4.2.4 Potential Obstacles

Considering potential obstacles when providing MaaS, the interviewed informants have raised many of the challenges already considered in the literature. One of the most mentioned problems is who the platform owner or MaaS provider should be (Researcher A; Researcher B; Researcher C; Researcher D; Operator B; PT Expert A; PT Expert B). This research considers the clearly defined case of a PTA taking that role, which according to many informants and literature is reasonable given that PTAs might be the most suitable to take the part of MaaS provider, as discussed before. Still, despite the PTA’s apparent suitable position, some shortcomings specific to PTAs are mentioned. Despite the argument raised by Operator B of PTAs having a duty to try out new things that potentially have more comprehensive benefits, he (Operator B), Researcher A and PT Expert B consider PTAs to be somewhat reluctant to take risks and to be notoriously slow in implementing new projects. Researcher A remembers the case of a PTA that was interested in MaaS, but the management did not feel responsible for taking on a leading role, thinking that it would be more suitable for a private organisation. The argument then was that their business is to provide PT and nothing beyond that, illustrating a silo thinking that was also mentioned by Operator C and PT Expert B. According to Operator B and PT Expert B, this attitude has also led to PTAs often focussing on existing barriers and taking those as an excuse to not push forward with potential trials and projects before trying out new mobility schemes. Such claims about worries from the PTA side were confirmed by PT Expert A, saying that *“It should be legislation, but not that much legislation, its policies and things like ‘we shouldn’t do that’, ‘we don’t know if this is good’. And then the financial department or some other parts of our organisation say, ‘No, we can’t do this’. We don’t know if we can and if we should”*. A further justified

concern is regarding the argument that PTAs are well-positioned to become the provider of MaaS since they are already backed by subsidies which will likely be necessary to roll out a MaaS scheme as considered by Karlsson, Sochor and Strömberg (2016) and Smith, Sochor and Karlsson (2018). Researcher A, Researcher B and Operator C, however, consider that argument carefully, considering that this would also mean that public money would be utilised to cross-subsidise private mobility providers such as car-, bike- and scooter-sharing services, among others. Regarding that issue and agreeing with the worries expressed by PT Expert A, Researcher A argues that *“there are some complexities there. And also what they [PTAs] are allowed to do. [...] There are quite clear regulations on what public authorities and different levels can do and cannot do”*. Such issues would therefore have to be considered and solved in the future involving all considered parties, such as the PTAs and private mobility providers, as well as politicians and municipalities.

Another widely considered obstacle is the willingness of different organisations to join a MaaS scheme, despite the previously discussed potential benefits various mobility providers would have through the integration into a broader MaaS platform. Researcher C, Researcher D, PT Expert A and PT Expert C consider the overall missing business case of MaaS schemes, leading to different expectations and demands, ultimately being the preventing cause from seeing a MaaS scheme come together. Missing trust (Operator C) as well as constantly expecting the worst and the general need to compete to *“defend their own turf”* (Operator B) have been identified as obstacles. Objecting to the argument of small mobility providers gaining access to a broader customer base, Operator A considers them as less likely to join a MaaS scheme since *“they are even fighting for the break even, and to give away a percentage of the revenue to the mobility as a service platform... I understand that it is not for them”*. Operator C considers the participation of other mobility providers could be hindered if the MaaS scheme’s goal is to be as sustainable as possible, leading to a situation in which less sustainable modes of individual mobility providers will be handicapped compared to other modes such as PT. All those described cases emphasise the need for a model that ensures an integration of both sustainable and profitable mobility service providers as described by Sarasini and Linder (2018) and the requirement of a shared vision of all integrated stakeholders as considered by Smith, Sochor and Sarasini (2018) and Butler, Yigitcanlar and Paz (2021).

To a lesser extent, technical obstacles, as described by Masini, Silva and Balador (2020) and Butler, Yigitcanlar and Paz (2021), were considered by informants as well. Here, the argument was that especially smaller PTAs might lack the necessary technical skills (Researcher C; Operator A; PT Expert A). In the case of PT Expert A's organisation, one of the significant issues was integrating a common payment service for all provided mobility options. However, those problems might be tackled by starting with a rather pragmatic solution previously described and mentioned by PT Expert B. Another solution could be the collaboration with a third party specialised in such issues, as suggested by Operator A, thereby agreeing with the arguments made by Singh (2020), Stehlin, Hodson and McMeekin (2020) and Butler, Yigitcanlar and Paz (2021) that further organisations such as IT specialists will be required for a successful MaaS establishment.

The last and probably most concerning obstacle, however, is a relatively low customer response to MaaS trials, as mentioned by Researcher C, PT Expert B and PT Expert C. This disagrees with the claim that MaaS might be the solution to solve all inconveniences caused by the vast amount of existing mobility services as described by Utriainen and Pöllänen (2018) and Arias-Molinares and García-Palomares (2020). Additionally, this would also mean, that the *citizen familiarity and willingness* "key raw ingredient", considered crucial for the success of MaaS schemes by Goulding and Kamargianni (2018), would not be fulfilled. On the one side, this is reasoned with customers rather sticking to their familiar transport modes as described by PT Expert C considering PT: *"Most people use the same routes and lines all the time anyways. They have absolutely no need to find out anything new about it"*. Another problem is the previously discussed issue of private car ownership and that it will take more than just an app to move people away from their cars and into using various other transport modes. This is especially problematic with low-income demographics and the case of company cars, where individually owned vehicles are perceived as considerable status symbols (Researcher C; Operator B; PT Expert B; PT Expert C). Another concern raised is that customers might be overwhelmed with an oversupply of different mobility options leading PT Expert C to compare MaaS to a wholesale food market: *"You can only get lost, and then there is a 150-meter isle of yoghurt. That doesn't make anyone happy because I can't find anything. I'm overwhelmed by all the junk"*. PT Expert B and PT Expert C both claim that this lack of customer response has been a mood dampener making them question the overall

necessity for MaaS, considering that customers might be happier with the current situation in which a smartphone with all apps of mobility services they use is enough of a “MaaS platform”.

### 4.3 Levels of SCSR

While it is the overarching goal of the thesis to investigate how the implementation of a MaaS scheme would help PTAs to enhance their SCSR, the following will analyse the potential of MaaS to improve SCSR and create shared value by separating the analysis into the three levels developed in the conceptual framework.

#### 4.3.1 Reconceiving Products and Markets

Regarding the first level, several interviewees see potential that the introduction of a MaaS scheme would lead to a disruption of the current business model of PTAs and that it would change products and markets in a way that could lead to a beneficial development for society. For example, Operator B highlights that PTAs need to “*disrupt their own business model*” to be able to respond to the increasing pressure from ambitious environmental regulations and increasing pressure from travellers demanding more convenience. In that sense, MaaS can be a viable solution since it allows PTAs to broaden their mobility-related scope significantly and to think “*beyond their usual existing silo boundary*” (Operator C) of being solely focussed on bus and train services (Researcher A; Researcher B; Researcher D; Operator B; PT Expert B). Most visible is this shift to a broader scope in the ticketing strategies of PTAs since MaaS requires the establishment of integrated ticketing and smart cards (Researcher C). While PTAs are currently focussing on selling on-demand or prepaid tickets, Researcher D highlights the opportunity of designing “*flex tickets*” that one can use throughout a defined period and where one receives lower prices for accessing mobility solutions. In that way, MaaS would change the products and the business model of PTAs. Considering the shift in the business model of PTAs, the previously mentioned societal issues such as individual car use can be targeted at the same time, as highlighted by Researcher D: “[...] *it would help the public transport authorities to update their product strategies so that they can reach more consumer groups*”. In that way, the reconfiguration of the PTA’s products and markets is in line with Porter and Kramer’s (2011) claim that the reconfiguration must

lead to opportunities that reduce social harm and integrate underserved markets. Additionally, while the shift in the products and markets of PTA's is still in their core business of providing mobility, there is a close fit between the change and the PTA's mission and objectives, thereby confirming Husted and Allan's (2007; 2009) dimension of *centrality* for SCSR activities. Connecting to the principle of *centrality*, Researcher A also highlights that MaaS can only be successful when the PTA is also reconsidering its aim and objectives: "*Basically, they have to define what the market is*". Researcher A continues to argue that PT is already the backbone of mobility, as also mentioned by Smith, Sochor and Karlsson (2018), but that it can be improved by offering first and last mile solutions, thereby increasing the market penetration of environmentally friendly modes of transport. However, this requires the reconsideration of the PTA's role in society and if it perceives itself as the authority for all mobility-related solutions. Operator B adds to that by arguing that PTAs could establish themselves as "*a new entity that is capable of reordering the market of mobility services in a smart and innovative way*". Still, as PT Expert A argues, the reconfiguration of the PTA's mission can only be achieved when there is sufficient support from the local politicians to broaden the scope, thereby connecting to the discussion in chapter 4.2.4 that PTAs are traditionally reluctant to change, requiring local politicians to enforce change. Following the SCSR principles by Heslin and Ochoa (2008), another opportunity to enhance SCSR is to develop new markets that can serve customers demanding more environmentally friendly products. In line with this argumentation, PT Expert B highlights the potential for the PTA when introducing MaaS to diversify its product portfolio, thereby better serving the needs of the customers and making PT more attractive. This also agrees with Hensher (2017) who argues that PTAs can shift towards a more customer-focused service providing more flexibility and alternatives when implementing MaaS.

However, even though the reconfiguration of products and markets shows significant potential for PTAs to diversify their product portfolio and tap underserved markets, thereby also bringing greater societal value, the reconfiguration can also lead to problems in terms of control. While PTAs have a high degree of control over their operators provisioning the traditional PT services such as trains and busses, the PTA would have less control over the new mobility providers joining the platform. As Researcher D highlights, "*if you [...] integrate the services from providers that are not [...] contracted*

*by you, [...] you have much less control over what they are delivering and the quality of that*". In that scenario, the reconfiguration of products and markets can also lead to a potentially harmful situation where new mobility providers exploit the platform to promote modes of transport that are less environmentally friendly or provide poor quality, thereby reducing the overall potential of enhancing the SCSR of the PTA. Still, the loose governance of additional mobility providers through a MaaS scheme also illustrates a significant shift in a PTA's governing activities. As Wright (2015) highlights, traditional ways of governance include the contracting of mobility operators to perform services that provide a much higher degree of control.

In summary, the empirical findings show that introducing a MaaS scheme could yield significant potential to enhance the SCSR of a PTA when reconceiving the existing products and markets and broaden the current scope. However, to fully tap these potentials, a certain degree of control over the platform and the new mobility providers must be ensured.

#### 4.3.2 Redefining the Organisation's Value Creation

Considering the second level, Porter and Kramer (2011) define in their model that SCSR activities should focus on mitigating economic costs within the value chain, which are creating societal problems but also financial constraints for the firm. However, as already established in the conceptual framework, the second level of this thesis will not only focus on economic gains within the value chain but will also consider gains in value creation defined by the stakeholder surplus perspective, such as societal wealth (Brickson, 2007).

As already established in chapter 4.2.2.1, several interviewees highlight that MaaS is not providing significant potential in creating value when only focussing on the economic perspective. However, since it is the role of the PTA to act within the public interest and increase social welfare (Wright, 2015), economic values cannot be considered the strategic priority of PTAs, thereby making the PTA especially appropriate for setting up a MaaS scheme. This is in line with Operator B, who argues that *"if you view value creation from a systemic point, you quickly end up in a situation where monetary aspects are smaller than other aspects such as greenhouse gas emissions or convenience"*. Connecting to the discussion of setting a new mission for PTAs in chapter 4.3.1, Operator B continues that it is essential to be aware of the different possibilities of value creation

when implementing MaaS. A PTA needs to set up objectives that specifically target these value gains in terms of accessibility, promoting environmentally friendly transport and convenience. Therefore, taking the PTA's mission of increasing societal wealth into account, MaaS is providing significant potential to redefine the value creation of PTAs by allowing the authority to steer the whole mobility sector into a direction that is creating greater value for society (Researcher A and Operator C). With PTAs being closely interwoven with local politics, Operator C highlights that PTAs can balance different goals of creating value and setting up the MaaS scheme accordingly to the current policies: *"There may be a budget somewhere that helps us to achieve the policy benefit where actually we don't need to make money off [...] because it is helping us increase our accessibility or the air quality"*. This is also in line with Researcher B, who argues that MaaS can be an essential tool to create additional value for broader stakeholders of the PTA, even though it cannot be the only solution: *"How do we actually contribute to a local neighbourhood, for example? Or how do we increase the level of employment through our products? [...] I guess MaaS could probably improve it, but it is not the game changer"*. That again highlights that MaaS could yield significant potential for redefining the PTA's value creation but that the scheme will only be effective when supported by appropriate policies.

While Husted and Allen's (2007; 2009) dimension of *appropriability* is intertwined with Porter and Kramer's (2011) second level, this dimension also mainly considers how financial benefits from SCSR activities can be captured by the firm (Burke & Logsdon, 1996; Latapí Agudelo, Jóhannsdóttir & Davídsdóttir, 2019). However, even though financial benefits are limited, as discussed earlier, MaaS can still yield potential for PTAs to capture economic value and other forms of value. For example, Operator A emphasises that establishing a MaaS scheme allows for the collection of extensive traffic data, leading to an *"X-ray of the shared mobility within a city"*. This offers the possibility to utilise the data to enable the PTA to make better and faster decisions, leading to decreasing economic costs and, for society, to a more affordable PT. Additionally, when sharing (or selling) the data with other mobility providers, the value creation of these providers can also be expanded since they *"know how they are performing compared to their competition or what should be the ideal fleet size to start within a city"* (Operator A). However, connecting to the discussion in chapter 4.2.2.1, even though selling the data

might generate economic value for the PTA, it would contradict Goulding and Kamargiani's (2018) principle of *data sharing and transport operator openness*. Therefore, sharing the data with other mobility providers might prove to create more value in the long run, especially considering that a PTA does not focus on economic gains but concentrates on greater societal gains, which can be achieved by collaboratively sharing collected data. Additionally, considering the value chain, while the PTA is responsible for the PT and, therefore, needs to maintain several mobility stations, the integration of new mobility providers would create the opportunity to share these stations to decrease operating costs (PT Expert B). Another way to capture value from MaaS is for the PTA to cross-subsidise between transport silos (Operator C, PT Expert B). As Operator C highlights, while some PT lines are unprofitable, alternative modes of transport such as e-scooters or carsharing could be more efficient on these lines, thereby "*reducing the public purse burden on running the bus and train service*" and ultimately increasing the affordability of mobility for society.

Lastly, another significant potential to redefine the value creation of the mobility provision of PTA's through MaaS is by including long-distance trips into the scheme. As Researcher C highlights: "*So, linking up a long-distance mode like a train or a plane and then linking that up with the urban leg of those trips, I think that there is huge value and I think there is a legitimacy for European legislation in this area because at the end of the day, the commission wants to make it easier for people to travel from one country to the next, from one city to the next*". This is also confirmed by the findings from the UbiGo trial in Gothenburg, where participants expressed the desire that the MaaS scheme would cover all travel needs, including long-distance travel to other cities and countries (Karlsson, Sochor & Strömberg, 2016).

In summary, it can be said that the empirical findings indicate significant potential for PTA to enhance their SCSR when implementing a MaaS scheme within the second level of *Redefining the Organisation's Value Creation*. However, this value creation cannot only be limited to economic values but must be broader defined, including the value creation of involved stakeholders.

### 4.3.3 Enabling Local Cluster Development

Within the third level, it will be discussed how introducing a MaaS scheme may lead to a mutually beneficial local cluster development. According to Porter and Kramer (2011), local cluster development involves partnering with different stakeholders to close gaps in the local surroundings and improve productivity.

In line with this definition, all interviewees see the potential for MaaS to create SCSR in this level. In fact, several interviewees consider the collaboration with local stakeholders as a requirement to establish a MaaS scheme in the first place (Operator A, Operator C). For example, Operator A highlights that *“public transport authorities need to work hand-in-hand with these mobility providers. [...] Level three needs to be done. And it is being done”*. This also confirms the claim by Kamargianni and Matyas (2017) as well as Arias-Molinares and García-Palomares (2020) that the involvement and collaboration between a range of different actors such as transport operators or data providers is required. Regarding how the collaboration can bring value, Operator C responded that only the collective of different modes of transport, including PT and private mobility solutions to complement public services can bring new value to travellers, thereby potentially incentivising a shift towards more sustainable modes of transport. To add to that, PT Expert C emphasises that the old competitive mindset in the mobility sector should be reconsidered since *“we will need every solution, really every solution”* to cope with the ambitious goals of municipalities to sharply increase the share of sustainable modes of transport. Therefore, MaaS can bring substantial value since it can improve and complement existing services from the PTA by collaborating with other mobility providers. This is in line with PT Expert B, who argues that it must be the goal for the PTA to answer all possible variations of mobility-related problems and to achieve this spectrum of solutions, a collaboration with other mobility providers is necessary. While Porter and Kramer (2011) claim that the productivity can also be improved when collaborating with local stakeholders, Operator B sees potential in improving the overall productivity of the system since different modes of transport can be aligned, thereby ensuring that the most efficient mode of transport is chosen for a particular mobility-related problem: *“So, one provider is implementing the large vessels, meaning buses or trains, while another provider is implementing micro vessels”*. Additional value will be especially provided to small mobility providers since, as Operator C highlights, they can

provide their services to a much broader range of customers compared to the situation where they would have marketed their services by their own. This is also confirmed by Researcher C, who argues that during the emergence of new mobility providers such as e-scooter providers, there was not a high willingness to collaborate with the PT since they were perceived as competition. Today, however, “*they all want to work with public authorities, they really see that there is a value in working with public authorities from themselves*” (Researcher C). Still, even though this may indicate that a collaboration with other mobility providers might be established without resistance, Operator C indicates that there might be resistance from larger mobility operators since they are already well established by themselves and perceive PT as their competitors. While PTAs follow the hierarchy of “*walking first, then cycling, then public transport, then shared services and then private car*”, large mobility providers might be disincentivised since the platform is not creating a fair marketplace, and their service might be “*pushed down in favour of a public transport offer*” (Operator C). This is also confirmed by Operator B and PT Expert C, who state that mobility providers tend to “*defend their own turf*”, restricting them from collaborating, as already discussed in chapter 4.2.4. Additionally, findings from the Sydney MaaS trial show that building relationships and trust between mobility providers can be considered a crucial challenge when establishing MaaS schemes (Hensher, 2021). This also connects to the claim by Nikitas et al. (2017) and Butler, Yigitcanlar and Paz (2021) that mobility providers are concerned about the loss of existing customer relationships, restricting them from participating in MaaS schemes.

Therefore, several interviewees highlight the importance of establishing a trustful and transparent public-private partnership to ensure that the value creation is shared fairly between the participants. For example, Researcher C highlights the earlier discussed importance of the PTA sharing data openly and giving participants access to this data to improve their services. PT Expert B adds to that by claiming that the PTA should not focus on “*earning money on the margins but earning money on the effect*”. Furthermore, results from the UbiGo trial confirm that MaaS relies on trustful collaboration and cooperation where boundaries between private and public operators need to disappear (Karlsson, Sochor & Strömberg, 2016). This aligns with the theory of value co-creation by Prahalad and Ramaswamy (2004), who argue that new value can be created through collaboration by interacting with stakeholders.

While MaaS will not only require close collaboration with different mobility providers, it will also require a partnership with local municipalities and politicians to ensure that greater values for society will be tapped. This brings PTAs in a prime position to establish a MaaS scheme since they *“are already on-site and networked with politics”* (PT Expert B). Furthermore, as Operator C claims, the development of local clusters can bring additional value to society since the PTA as a public body could use MaaS *“as a conduit [...] to incentivise private transport operators to act responsibly within the market”*.

Lastly, when it comes to Porter and Kramer’s (2011) claim that the third level can also close gaps in local surroundings, several interviewees argue that the collaboration with local stakeholders through a MaaS platform can help PTAs reach underserved, rural areas. For example, Researcher C and Operator B discuss the importance of collaborating with large employers in local surroundings to provide employees with a mobility budget instead of a company car, thereby supporting the shift towards more sustainable modes of transport and requiring the establishment of a functioning MaaS system. In that way, a local MaaS system would also lead to the localisation of profits since employees are disincentivised to purchase private cars from multinational corporations and instead purchase transport services from local organisations (Operator B). Furthermore, the local cluster could even be broadened by including commercial services such as utilities or banking (PT Expert B) or the tourist industry (Operator A; PT Expert A).

In summary, the interviewees agree in seeing significant potential for PTAs to enhance their SCSR when implementing a MaaS scheme by collaborating with local stakeholders leading to mutually beneficial local clusters. Still, the crucial success factor is making the platform attractive for all stakeholders to be willing to join the scheme.

#### 4.3.4 Relevance of the Three Levels to Enhance the Strategic Corporate Social Responsibility of Public Transport Authorities

As the discussion of the three levels has illustrated, the empirical findings indicate potential in all three levels to enhance the SCSR of PTAs. While the first level provides the potential to broaden the existing scope of PTAs and give PTAs a new mission to integrate all mobility services, the second level emphasises the potential of MaaS to create economic but also greater values for the PTA and involved stakeholders. The third level illustrates that MaaS could enhance the SCSR by developing mutually beneficial local

clusters, thereby improving mobility services and accessibility in rural areas as well as providing potential for additional mobility provider to co-create value. Still, even though all levels show potential, several interviewees see differences in relevance when mapping the levels on a time scale. As Operator A and Operator B highlight, establishing collaborations and a broad consensus (level 3) can be considered the requirement to develop a MaaS scheme. The other two levels can be tackled in subsequent discussions with involved stakeholders as soon as these collaborations are created.

## 4.4 Overview of the Discussed Empirical Findings

In Table 3 the findings discussed in chapter 4.2 and 4.3 are summarised for a comprehensive overview.

Themes		Findings
Expected Results Following the Introduction of a MaaS Scheme		
Current and Future Problems that might be Tackled by a MaaS Scheme		<ul style="list-style-type: none"> <li>- Reduce individual private car use by incentivising other means of transport making the private car obsolete</li> <li>- Environmental Benefits from limited car use including reduced emissions, air pollution and reduced consumption of raw materials</li> <li>- Reduce the social exclusion, especially in rural areas, by increasing the accessibility through the offering of a variety of mobility solutions</li> <li>- Promoting healthier modes of transport</li> </ul>
Expected Benefits for the PTA	Economic	<ul style="list-style-type: none"> <li>- Pragmatic MaaS solutions are expected to be achievable with relatively low financial investment</li> <li>- While the selling of data could be a potential revenue stream, this might not be viable for PTAs and following the interest of providing overall more efficient mobility solutions</li> <li>- Margins of individual mobility providers are overall not expected to be high enough for PTAs to collect significant commissions</li> <li>- Profitability might only be achievable by taking a macroeconomic perspective and monetising social gains</li> </ul>
	Social	<ul style="list-style-type: none"> <li>- MaaS is considered as one important part to decrease individual car use but not expected to be enough</li> <li>- MaaS has been found to contribute to CO2 reduction by travellers when incentivising more sustainable modes</li> <li>- Access to data provided by various mobility providers could contribute to planning and using all available modes more efficiently and sustainably</li> <li>- This would lead to more available space in cities, less tax money being spend on mobility, more accessibility for the population and less pollution caused by mobility</li> </ul>
	Competitive Advantage	<ul style="list-style-type: none"> <li>- MaaS could help PTAs widen their mobility offer and close service gaps that are so far unprofitable or neglected by PTAs thereby increasing PTAs' competitiveness</li> <li>- PTAs often being strong and trusted brands with a significant existing customer base have an already existing competitive advantage to prevail over other potential MaaS providers</li> </ul>
Expected Benefits for Additional Stakeholders		<ul style="list-style-type: none"> <li>- Other, especially smaller mobility providers could benefit from accessing the existing customer base of PTAs and further mobility providers. However, PTAs were so far found to be the most utilised services in MaaS schemes</li> <li>- Further services as well as tourist attractions are discussed to have potential advantages from joining MaaS schemes</li> <li>- Companies are expected to have financial advantages when providing their employees access to MaaS instead of company cars</li> </ul>
Potential Obstacles		<ul style="list-style-type: none"> <li>- PTAs are reluctant to taking risks and might be further hindered by policies in establishing a MaaS scheme (cross-subsidising private mobility providers could be an issue)</li> <li>- A MaaS scheme that focusses exclusively on sustainable transport modes could repel certain mobility providers since they might be at a disadvantage</li> <li>- General fear of competition and losing market share could repel individual mobility providers from participating</li> <li>- PTAs might lack the necessary technical skills to fully develop a functioning MaaS service</li> <li>- Customer response to existing MaaS schemes has been underwhelming at times, thereby giving doubt for the necessity of MaaS</li> </ul>
Levels of SCSR within the Context of a MaaS Implementation by a PTA		
Which Levels of SCSR are Fulfilled?	Level 1	<ul style="list-style-type: none"> <li>- Potential to disrupt the own business model by significantly broadening the mobility-related scope of PTAs (thinking beyond the existing transport silos)</li> <li>- Shift in the ticketing strategy towards integrated ticketing and smart cards</li> <li>- MaaS allows for the redefinition of the market and to set broader strategic objectives, covering all mobility-related problems (being the entity to reorder the market in an innovative, smart and sustainable way)</li> <li>- Diversify the product portfolio, thereby reaching underserved markets and customers</li> </ul>
	Level 2	<ul style="list-style-type: none"> <li>- Positive value creation in a systemic perspective where monetary aspects but also other aspects such as greenhouse gas emissions or convenience are considered</li> <li>- Steer the mobility sector into a direction that is creating greater values for society in terms of societal wealth, accessibility, convenience and environmentally friendly transport</li> <li>- Collection of traffic data to make the mobility system more efficient and effective</li> <li>- Cross subsidise between transport silos to ensure that the most effective and efficient mode of transport is chosen for a specific mobility problem</li> <li>- Linking the urban leg of MaaS with long distance provider to increase value creation</li> </ul>
	Level 3	<ul style="list-style-type: none"> <li>- Collaboration with local stakeholders is the requirement to set up a MaaS scheme</li> <li>- Complementing existing services with additional services brings new value to travellers, thereby making the whole system more attractive</li> <li>- Collaboration allows PTAs to have an answer to all mobility-related problems</li> <li>- Aligning different modes of transport to create a more efficient and well-functioning system</li> <li>- Mobility providers have the opportunity to co-create value with the PTA</li> <li>- Collaborate with local stakeholders such as employers to bring MaaS to currently underserved areas</li> <li>- Integrating additional stakeholders such as utilities or the tourist industry</li> </ul>

Table 3: Overview of Discussed Empirical Findings

## 4.5 Revised Conceptual Framework

As the analysis and discussion of the empirical data emphasise, there is a correspondence between establishing a MaaS scheme and its subsequent results with the theory of CSV and SCSR. All three levels described in the conceptual framework, *Reconceiving Products and Markets*, *Redefining the Organisation's Value Creation* and *Enabling Local Cluster Development*, were addressed by the interviewees in terms of how MaaS could enhance the SCSR of a PTA. In that way, the conceptual framework's assumption of a positive correlation between the results of a MaaS introduction and the SCSR of a PTA is confirmed. Still, even though the interviewees have addressed all three levels, the framework needs to be adapted since several interviewees revealed a significant distinction between the levels when mapping them against a time scale. Therefore, the third level *Enabling Local Cluster Development* is placed before the introduction of a MaaS scheme in the framework since it was highlighted that collaboration is a requirement to make MaaS viable in the first place. To establish an effective MaaS platform, a close cooperation between different mobility providers and local municipalities is required to offer travellers the complete picture of mobility solutions. This, however, is also questioning whether the cluster development should even be considered a level of SCSR since it is instead a requirement to create opportunities to enhance SCSR. While the level was deducted from Porter and Kramer's (2011) third level and Husted and Allen's (2007; 2009) dimension of *centrality*, this finding leaves room for the discussion of whether the cluster development should be considered a level of SCSR.

Only with enough complementors, allowing for multimodal transportation, a MaaS platform is truly creating additional value. Having established these collaborations, a MaaS scheme can yield significant benefits for the PTA and other stakeholders, as mentioned by the interviewees. While it is the main objective of a PTA to create social welfare, societal gains resulting from a MaaS scheme were included in benefits for the PTA. Considering only the economic perspective, MaaS will not deliver significant potential for a PTA. However, monetising the greater social benefits such as sustainable transportation, mobility inclusion, and accessibility will lead to a positive balance. Lastly, a MaaS introduction can also bring a competitive advantage for PTAs since they can increase their attractiveness and utilise their strong brand. Additionally, other

stakeholders would benefit since mobility providers, for example, can access the broad customer base, thereby increasing their reach. Having established these positive benefits for additional stakeholders through a MaaS introduction, a self-reinforcing loop between the third level *Enabling Local Cluster Development*, and the results becomes apparent. MaaS is only viable through the collaboration of different mobility providers, and additional mobility providers are further attracted the more successful the platform will be.

Further, the results highlight that a MaaS introduction has significant potential to positively influence the SCSR of a PTA within the first and second levels established in the conceptual framework. Regarding the first level, *Reconceiving Products and Markets*, PTAs can increase their SCSR by broadening their mobility-related scope and giving themselves the new strategic objective of being the solution to all mobility-related problems, thereby also potentially tapping underserved markets. Considering the second level, *Redefining the Organisation's Value Creation*, the PTA has the potential to steer the mobility sector in a direction that enhances the social welfare, thereby mitigating risks that social welfare would suffer when a private company implements the MaaS scheme. Additionally, PTAs can potentially make the whole mobility system more efficient and effective when acquiring extensive data about travel behaviour. This will lead to the opportunity to cross-subsidise between different transport silos and ultimately to a more affordable PT.

In summary, the analysis of empirical data in relation to the literature review provided the opportunity to revise and enhance the preliminary conceptual framework established in chapter 2.4. The revised conceptual can be observed in Figure 3.

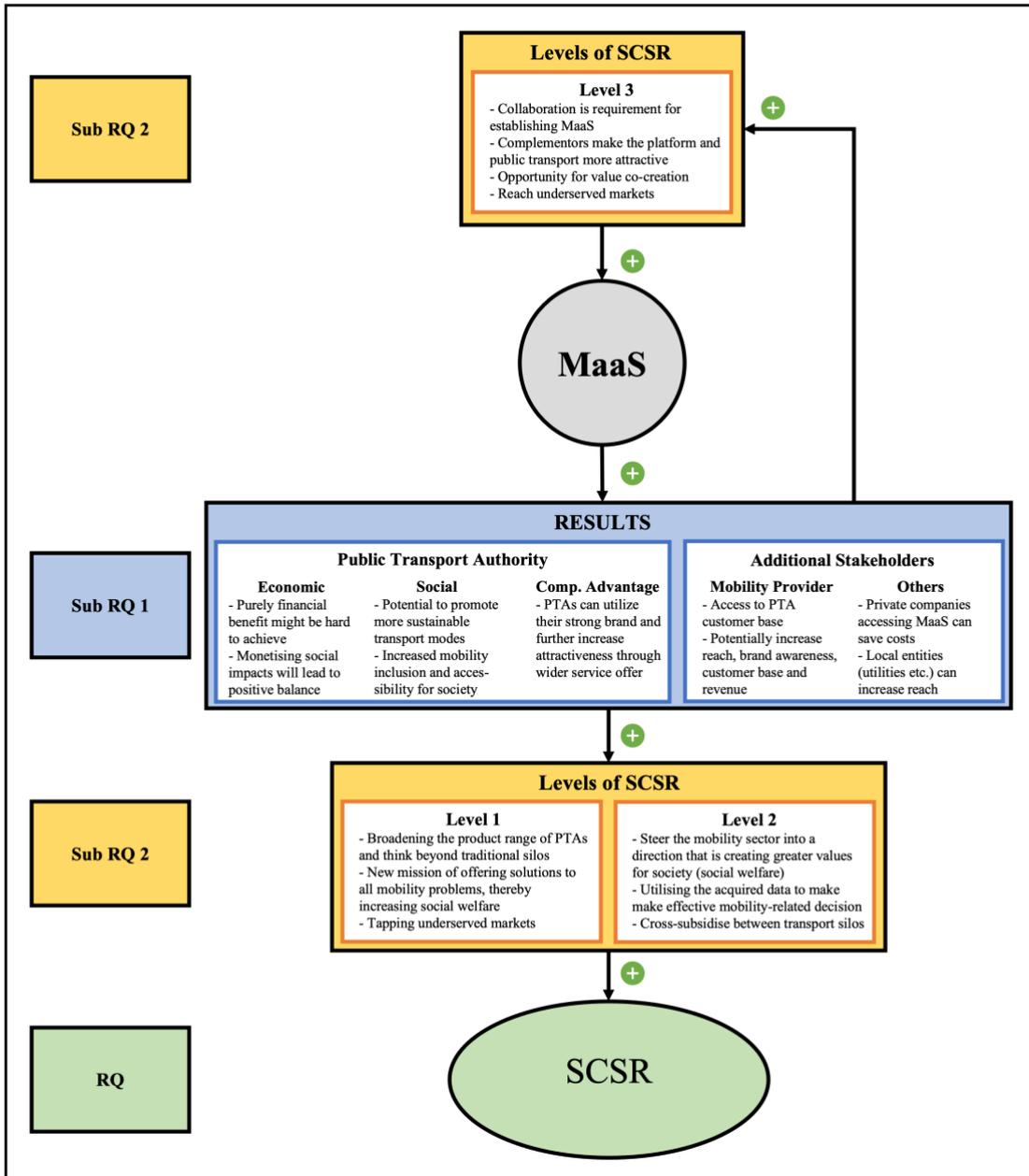


Figure 3: Revised Conceptual Framework

## 5. Conclusion

This final chapter will answer the research questions before giving further implications on theory, managerial actions, and policies. The thesis will close with its limitations and potential for future research.

### 5.1 Answers to the Research Questions

To help answer the main research question and identify how the establishment of a MaaS scheme provided by PTAs can create value and enhance the PTA's SCSR, the first sub research question was: *Which results can be expected for the public transport authority, society and other stakeholders after a strategic corporate social responsibility focussed provision of MaaS?*

The research has demonstrated that for PTAs, an economic advantage is debatable purely financially. However, when considering a macroeconomic perspective under which positive societal results would be monetised, establishing a MaaS scheme could be profitable for PTAs. This is not least to the fact that this research has demonstrated that societal advantages could be expected, which would further help to fulfil the duty of PTAs. The most confirmed positive result for society is increased accessibility through a broader range of mobility options. This would be most applicable in rural areas and on the first and last mile, which are so far often fragmentarily served by PTAs. While this would provide direct and tangible results for society, it is also expected that PTAs and other transport offerings could be planned more efficiently, which would lead to savings in tax money. Additionally, while it is considered that the introduction of a MaaS scheme would not solely reduce individual car use, MaaS provided by a PTA, together with additional necessary policies and incentives, is expected to have a positive effect on reducing the utilisation of individual cars. This could lead to further positive results associated with fewer cars, such as fewer emissions and pollution, less resource consumption and more available space in cities. Lastly, other stakeholders, such as private mobility providers, could benefit from participating in a MaaS scheme under the caveat that a framework and vision is developed that will nurture a fruitful cooperation of all invested stakeholders.

To further connect the previously mentioned potential results of a MaaS scheme with the concepts of SCSR and CSV, the second sub research question was asked: *Which levels of strategic corporate social responsibility would be fulfilled by the expected results of a MaaS scheme introduction?*

The empirical analysis illustrated that all three levels show potential for a PTA to enhance their SCSR by establishing a MaaS scheme. The first level is fulfilled by the PTA's opportunity to broaden its mobility-related scope, thereby giving itself a new mission and potentially reaching underserved markets. The opportunity to utilise MaaS to steer the whole sector in a direction that is increasing the overall welfare for society, which is the main objective of PTAs, then fulfils the second level. This can be achieved by cross-subsidising between different transport silos and utilising acquired data about travel behaviour to design a more effective and efficient transport system. The third level can be considered a requirement to establish a MaaS scheme. An effective MaaS platform requires a close collaboration between different mobility providers and local municipalities to offer travellers the complete picture of mobility solutions. In that sense, it can be questioned whether the cluster development should be even considered as a level of SCSR or if this is instead a requirement to create opportunities to enhance SCSR. Still, as different mobility providers on the platform can complement each other, thereby providing opportunities for value co-creation and the reach of underserved markets, additional potential for creating SCSR can be observed in the third level.

With the help of the answers to the two sub research questions, this thesis's main research question can be answered: *How could the establishment of a MaaS scheme provided by public transport authorities create value and enhance the public transport authority's strategic corporate social responsibility?*

The research demonstrated that the concept of MaaS could yield positive results in economic, social and competitive perspectives for the PTA while also creating greater values for society and other stakeholders such as private mobility providers. In that sense, the notion of SCSR is confirmed since the concept of MaaS cannot be considered a necessary expense for PTAs to improve their image. The concept would instead significantly alter and improve the core business of PTAs. Additionally, the research highlighted that MaaS is characterised by a high level of collaboration and interconnectedness of different actors and stakeholders. Beyond the PTA, other mobility

providers, as well as society and local municipalities, can benefit from a MaaS introduction which also highlights the potential to enhance the SCSR of a PTA. This collaborative setting within the MaaS concept illustrates a particular cascade effect where benefits for the PTA automatically trigger further benefits for other involved stakeholders, which several informants of this research also highlighted. For example, while MaaS would allow to cross-subsidise transport silos and plan a city's mobility more effectively and efficiently, the PTA could benefit from decreased costs. At the same time, additional mobility providers could benefit by providing services for travellers that would be too expensive to be serviced by the PTA. Municipalities and society would ultimately benefit from a more affordable transport system and increased accessibility.

At this point, since it was the purpose of this research to investigate the specific case of a PTA introducing a MaaS scheme, the analysis of empirical findings illustrates that PTAs are well suited to take on the role of the MaaS provider. With PTAs having the increase of societal wealth as their primary objective before profit maximisation, these organisations can better cope with the constrained business case provided by MaaS. Additionally, as several interviewees highlighted, with PTAs already being well connected to local politicians as a public entity and having a strong brand as well as existing resources such as apps and mobility stations, the applicability is further strengthened. Still, it must also be argued that private mobility providers could take on the role of a MaaS provider as well when they are instructed with clear policy guidelines to ensure that greater societal values besides the profit orientation of these companies are recognised in the scheme. This, however, would bring additional obstacles for a private mobility operator, which is why the PTA could be better suited to introduce a MaaS scheme.

## 5.2 Theoretical Implications

As mentioned in this thesis' problem discussion, the missing empirical grounding in SCSR literature regarding what results can be expected and how these activities can lead to values for all involved stakeholders was identified as the research gap to be closed through this research. With the developed conceptual framework, different concepts and principles of SCSR from Husted and Allen (2007; 2009) and Porter and Kramer (2011) were synthesised to provide a holistic framework. Through applying this framework to

the case of a PTA's MaaS introduction, it was possible to provide clear implications on how MaaS would benefit the PTA and other stakeholders. Additionally, it allowed identifying how these results affect the PTA's SCSR in the defined three levels of the conceptual framework. The refined conceptual framework provided an updated view of how a PTA's SCSR can be enhanced by introducing MaaS. The third level is considered a requirement rather than a potential field to create SCSR in this specific case. In that sense, this research contributes to SCSR literature by providing an example grounded on empirical findings on how SCSR activities such as introducing a MaaS scheme can yield significant results. At the same time, the thesis contributes to expanding the scope of SCSR to public organisations such as PTAs since these entities act with a different strategic focus. While these organisations are not having the maximisation of profits as their main strategic objective, their perspective on value creation and SCSR is shifting. Therefore, the thesis successfully combined the concept of SCSR with the broader stakeholder surplus perspective on value creation, thereby making the concept applicable to the case of public organisations. In summary, the thesis closed the identified research gap by combining the three fields of MaaS, SCSR and value creation systems.

### 5.3 Managerial Implications

This research has illustrated the potential of introducing a MaaS scheme to increase the SCSR of PTAs. Considerable advantages are expected for the PTA, such as more efficient utilisation of its vehicles and better fulfilling its duty to provide mobility to the people. This consequently has significant benefits for society. Besides, PTAs could improve their branding and prove their innovativeness by becoming one of the few non-private organisations to implement MaaS.

In this research, no distinction was made between individual PTAs and the different services they may each provide. With many PTAs already testing additional mobility services beyond the conservative bus and tram solutions, each PTA is advised to individually assess which shortcomings its current mobility offer has and which other mobility providers would be required to tackle those shortcomings. Here, the dialogue with additional service providers is of utmost importance to begin early with developing a framework and vision that will ensure the long-lasting satisfaction of all involved stakeholders.

Lastly, with PTAs so far rarely being the providers of MaaS schemes, it requires pioneering PTAs to test different MaaS models and configurations to find long-lasting and sustainable solutions. Having identified PTAs to be in an advantageous position to establish themselves as MaaS providers, it is therefore advised that PTAs consider MaaS as a viable option and use their already existing network with municipalities and policymakers to become accelerators of this relatively new mobility solution.

## 5.4 Policy Implications

Despite not being the focus of this research, the necessity of suitable policies has been identified as a crucial building block for the successful establishment of a MaaS scheme. Especially regarding PTAs, it was found that such authorities often feel restricted regarding what they are allowed or supposed to do when it comes to new mobility solutions such as MaaS. Cross-financing private mobility providers was such an identified issue. It is advised that governments and municipalities actively support PTAs in developing frameworks that allow for fair treatment of all involved mobility and service providers. Additionally, it is recommended that municipalities pass policies that incentivise PTAs to establish new mobility solutions such as MaaS. This could solve some of the obstacles PTAs currently face when planning to establish a MaaS service. Supporting the facilitation of a PTA provided MaaS scheme will help municipalities and governments better utilise mobility options in their areas, ultimately supporting governments and their PTAs to fulfil their goal of offering sustainable, better and more flexible mobility solutions to the people.

## 5.5 Limitations

Despite the results and answers to the research questions, this thesis has limitations. Firstly, with the authors being of German nationality and the interview partners being located in Sweden, Germany, the UK, Spain and Belgium, the results of this thesis are only valid within the European jurisdiction. Therefore, considering that the governance of the mobility sector and the privatisation of this sector is diverging in other geographical areas of the world, which is heavily affecting the responsibility and the role of PTAs, the results are not generalisable to locations outside of the European jurisdiction.

Additionally, while the success of MaaS depends on several conditions and stakeholders, these specific characteristics were disregarded since the research was not investigating a particular case of MaaS implementation but rather how it could be implemented in general. Furthermore, any technological implications like designing the MaaS app or establishing suitable back-end systems were disregarded, even though these obstacles can potentially affect the success of a MaaS introduction, thereby also affecting the potential to contribute to the PTA's SCSR.

Lastly, even though it was the goal of the research to provide a tangible example of how SCSR could be put into practice, the findings cannot be generalised to other sectors considering the implementation of SCSR activities since the case of MaaS for PTAs is sector-specific and includes several specific characteristics such as PTAs being public entities. Therefore, special care must be taken whether the particular features of this research apply to other sectors before generalising the findings.

## 5.6 Future Research

Considering the previously mentioned limitations, this thesis offers the potential to investigate different streams in future research. Firstly, the case of this thesis was limited to the European jurisdiction, thereby offering the possibility for future research to examine the issue of MaaS in a similar setting in other jurisdictions where the governance of the mobility is significantly diverging from the European model. In that way, it can be observed whether the governance of the mobility sector does have a significant impact on the success of MaaS and its potential to enhance SCSR of the PTA or similar public entities. Additionally, with the thesis investigating the specific case of a PTA being the operator of the MaaS platform, future research could focus on investigating if other private mobility operators would yield similar results when implementing a MaaS scheme. As several interviewees argued, the claim that PTAs are especially suitable for implementing a MaaS scheme could be questioned, making additional research into this question insightful.

Furthermore, as mentioned in chapter 4.5, the revised conceptual framework revealed a debate about the level of cluster development in the SCSR concept, based on Husted and Allen (2007; 2009) as well as Porter and Kramer (2011). Therefore, further research

investigating whether the development of local clusters can be considered a potential level of SCSR creation or if this is instead a requirement to establish SCSR activities in the first place can significantly contribute to SCSR literature.

Lastly, with the research focussing on the potential impacts of a MaaS introduction, long-term studies accompanying a specific MaaS scheme from taking the first pioneering steps to implementing the technology, could be insightful to investigate practical obstacles and equip the developed case with empirical grounding further.

## References

Accenture. (2019). The United Nations Global Compact – Accenture Strategy CEO Study on Sustainability 2019 [pdf], Available online: <https://www.accenture.com/th-en/insights/strategy/ungcceeostudy> [Accessed 12 May 2022]

Alves, H., Fernandes, C., & Raposo, M. (2016). Value Co-Creation: Concept and contexts of application and study, *Journal of Business Research*, vol. 69, pp. 1626-1633

Alvesson, M., & Sköldbberg, K. (2018). Reflexive Methodology: New vistas for qualitative Research, 3rd edn, Thousand Oaks, CA: SAGE Publications

Ambrosino, G., Nelson, J. D., Boero, M., & Pettinelli, I. (2016). Enabling Intermodal Urban Transport Through Complementary Services: From flexible mobility services to the shared use mobility agency: Workshop 4: Developing inter-modal transport systems, *Research in Transportation Economics*, vol. 59, pp. 179-184

American Public Transport Association. (2007). Public Transportation: Benefits of the 21<sup>st</sup> Century [pdf], Available online: <https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/report-apta.pdf> [Accessed 09 April 2022]

Arias-Molinares, D., & García-Palomares, J. C. (2020). The Ws of MaaS: Understanding mobility as a service from a literature review, *IATSS Research*, vol. 44, no. 3, pp. 253-263

Atasoy, B., Ikeda, T., Song, X., & Ben-Akiva, M. E. (2015). The Concept and Impact Analysis of a Flexible Mobility on Demand System, *Transportation Research Part C: Emerging Technologies*, vol. 56, pp. 373-392

Attard, M. (2020). Mobility Justice in Urban Transport - The case of Malta, *Transportation Research Procedia*, vol. 45, pp. 352-359

Baron, D. (2001). Private Politics, Corporate Social Responsibility, and Integrated Strategy, *Journal of Economics & Management Strategy*, vol. 10, no. 1, pp. 7-45

Baron, D. P., Harjoto, M. A., & Jo, H. (2009). The Economics and Politics of Corporate Social Performance, *Rock Center for Corporate Governance at Stanford University*, working paper, no. 45, Stanford Graduate School of Business

Baxter, P., & Jack, S. (2008). Qualitative Case Study Methodology: Study design and implementation for novice researchers, *The Qualitative Report*, vol. 13, no. 4, pp. 544-559

Bell, E., Bryman, A., & Harley, B. (2019). *Business Research Methods*, 5th edn, Oxford, UK: Oxford University Press

Belu, C., & Manescu, C. (2013). Strategic Corporate Social Responsibility and Economic Performance, *Applied Economics*, vol. 45, pp. 2751-2764

Bennett, A. (2004). Case Study Methods: Design, use, and comparative advantages, in: D. F. Sprinz & Y. Wolinsky-Nahmias (eds), *Models, Numbers, and Cases: Methods for Studying International Relations*, Ann Arbor, MI: The University of Michigan Press, pp. 19-55

Blaikie, N. (2009). *Designing Social Research: The Logic of Anticipation*, 2nd edn, Cambridge, UK: Polity Press

Bosch-Badia, M. T., Montllor-Serrats, J., & Tarrazon, M. A. (2013). Corporate Social Responsibility from Friedman to Porter and Kramer, *Theoretical Economics Letters*, vol. 3, pp. 11-15

Boulangé, C., Gunn, L., Giles-Corti, B., Mavoa, S., Pettit, C., & Badland, H. (2017). Examining Associations Between Urban Design Attributes and Transport Mode Choice for Walking, Cycling, Public Transport and Private Motor Vehicle Trips, *Journal of Transport & Health*, vol. 6, pp. 155-166

- Bowen, H. R. (1953). *Social Responsibilities of the Businessman*, New York, NY: Harper
- Bowman, C., & Ambrosini, V. (2007). Firm Value Creation and Levels of Strategy, *Management Decision*, vol. 45, no. 3, pp. 360-371
- Brickson, S. L. (2007). Organizational Identity Orientation: The genesis of the role of the firm and distinct forms of social value, *The Academy of Management Review*, vol. 32, no. 3, pp. 864-888
- Brooks, J., McCluskey, S., Turley, E., & King, N. (2015). The Utility of Template Analysis in Qualitative Psychology Research, *Qualitative Research in Psychology*, vol. 12, no. 2, pp. 202-222
- Bryman, A., & Bell, E. (2015). *Business Research Methods*, 4th edn, Oxford, UK: Oxford University Press
- Burke, L., & Logsdon, J. M. (1996). How Corporate Social Responsibility Pays off, *Long Range Planning*, vol. 29, no. 4, pp. 495-502
- Butler, L., Yigitcanlar, T., & Paz, A. (2021). Barriers and Risks of Mobility-as-a-Service (MaaS) Adoption in Cities: A systematic review of the literature, *Cities*, vol. 109, pp. 1-20
- Carlsson, H. (2020). Evaluation of UbiGo Stockholm [pdf], CIVITAS, Available online: [https://civitas.eu/sites/default/files/eccentric\\_m3.5.\\_evaluation\\_of\\_ubigo\\_stockholm.pdf](https://civitas.eu/sites/default/files/eccentric_m3.5._evaluation_of_ubigo_stockholm.pdf) [Accessed 14 April 2022]
- Casadó, R. G., Golightly, D., Laing, K., Palacin, R., & Todd, L. (2020). Children, Young People and Mobility as a Service: Opportunities and barriers for future mobility, *Transportation Research Interdisciplinary Perspectives*, vol. 4, pp. 1-11
- Chang, S. K. J., Chen, H.-Y., & Chen, H.-C. (2019). Mobility as a Service Policy Planning, Deployments and Trials in Taiwan, *IATSS Research*, vol. 43, no. 4, pp. 210-218

Cooper, P., Tryfonas, T., Crick, T., & Marsh, A. (2019). Electric Vehicle Mobility-as-a-Service: Exploring the “tri-opt” of novel private transport business models, *Journal of Urban Technology*, vol. 26, no. 1, pp. 35-56

Corbin, J., & Strauss, A. (2015). *Basics of Qualitative Research: Techniques and procedures for developing grounded theory*, 4th edn, Thousand Oaks, CA: SAGE Publications

Cottrill, C. D. (2020). MaaS Surveillance: Privacy considerations in mobility as a service, *Transportation Research Part A: Policy and Practice*, vol. 131, pp. 50-57

Crane, A., Graham, C., & Himick, D. (2015). Financializing Stakeholders Claims, *Journal of Management Studies*, vol. 52, no. 7, pp. 878-906

Crane, A., Palazzo, G., Spence, L. J., & Matten, D. (2014). Contesting the Value of “Creating Shared Value”, *California Management Review*, vol. 56, no. 2, pp. 130-153

Creswell, J. W., & Creswell, J. D. (2018). *Research Design – Qualitative, quantitative, and mixed methods approaches*, 5th edn, Thousand Oaks, CA: SAGE Publications

Davis, K. (1973). The Case For and Against Business Assumption of Social Responsibilities, *Academy of Management Journal*, vol. 16, no. 2, pp. 312-322

de los Reyes, G., Scholz, M., & Smith, N. C. (2017). Beyond the “Win-Win”: Creating shared value requires ethical frameworks, *California Management Review*, vol. 59, no. 2, pp. 142-167

Deloitte. (2021). *The Future of Urban Mobility* [pdf], Available online: [https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/public-sector/ca-en-public-sector-Urban%20Mobility%20Rpt-VRT-EN-v4\\_AODA.pdf](https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/public-sector/ca-en-public-sector-Urban%20Mobility%20Rpt-VRT-EN-v4_AODA.pdf) [Accessed 22 March 2022]

Dembek, K., Singh, P., & Bhakoo, V. (2016). Literature Review of Shared Value: A theoretical concept or management buzzword?, *Journal of Business Ethics*, vol. 137, pp. 231-267

Diener, E., & Crandall, R. (1978). *Ethics in Social and Behavioral Research*, Chicago, IL: The University of Chicago Press

Dubois, A., & Gadde, L. E. (2002). Systematic Combining: Abductive approach to case research, *Journal of Business Research*, vol. 55, pp. 553-560

Eißel, D., & Chu, C. P. (2013). The Future of Sustainable Transport System for Europe, *AI & Society*, vol. 29, pp. 387-402

ESP Group. (n.d.). NAVIGOGO – Scotland’s first MaaS pilot [pdf], Available online: <https://static1.squarespace.com/static/5cee5bd0687a1500015b5a9f/t/5d5c0a6c3e4b3a0001242602/1566313071168/NaviGoGo-Pilot-report.pdf> [Accessed 19 April 2022]

Expósito-Izquierdo, C., Expósito-Márquez, A., & Brito-Santana, J. (2017). Mobility as a Service, in: H. Song, R. Srinivasan, T. Sookoor & S. Jeschke (eds), *Smart Cities: Foundations, principles and applications*, New York, NY: Wiley & Sons, pp. 409–436

Ferrero, I., Hoffman, W. M., & McNulty, R. E. (2014). Must Milton Friedman Embrace Stakeholder Theory?, *Business and Society Review*, vol. 119, no. 1, pp. 37-59

Fletcher, M., & Plakoyiannaki, E. (2011). Case Selection in International Business: Key issues and common misconceptions, in: R. Piekkari and C. Welch (eds), *Rethinking the Case Study in International Business and Management Research*, 1st edn, Cheltenham, UK: Edward Elgar Publishing, pp. 171-191

Freeman, R. E. (2010). *Strategic Management: A stakeholder approach*, Cambridge, UK: Cambridge University Press

Friedman, M. (1970). A Friedman Doctrine – The social responsibility of business is to increase its profits, *The New York Times*, Available online: <https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html> [Accessed 02 April 2022]

Galvagno, M., & Dalli, D. (2014). Theory of Value Co-Creation: A systematic literature review, *Managing Service Quality*, vol. 24, no. 6, pp. 643-683

Goulding, R., & Kamargianni, M. (2018). The Mobility as a Service Maturity Index: Preparing the cities for the mobility as a service era, *Proceedings of 7th Transport Research Arena TRA 2018*, Available online: <https://discovery.ucl.ac.uk/id/eprint/10063087/> [Accessed 18 May 2022]

Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied Thematic Analysis*, Thousand Oaks, CA: SAGE Publications

He, B. Y., & Chow, J. Y. J. (2020). Optimal Privacy Control for Transport Network Data Sharing, *Transportation Research Part C: Emerging Technologies*, vol. 113, pp. 370-387

Hedrick, T. E., Bickman, L., & Rog, D. J. (1993). *Applied Research Design: A practical guide*, *Applied Social Research Methods Series*, vol. 32, Newbury Park, CA: SAGE Publications

Heikkilä, S. (2014). *Mobility as a Service - A proposal for action for the public administration, Case Helsinki - Liikkuminen palveluna - Toimenpide-ehdotus julkishallinnolle, esimerkkitapauksena Helsinki*, Master Theses, School of Engineering, Aalto University, Available online: <https://aaltodoc.aalto.fi/handle/123456789/13133> [Accessed 02 April 2022]

Heineke, K., Kloss, B., Scurtu, D., & Weig, F. (2019). Micromobility's 15,000-Mile Checkup, in: T. Möller, A. Padhi, D. Pinner & A. Tschiesner (eds), *The Future of Mobility is at our Doorstep – Compendium 2019/2020* [pdf], McKinsey & Company, pp.107-114, Available online: <https://www.mckinsey.com/~media/McKinsey/Industries/Automotive%20and%20Assembly/Our%20Insights/The%20future%20of%20mobility%20is%20at%20our%20doorstep/The-future-of-mobility-is-at-our-doorstep.ashx> [Accessed 09 April 2022]

Henderson, D. (2009). Misguided Corporate Virtue: The case against CSR; And the true role of business today, *Economic Affairs*, vol. 29, no. 4, pp. 11-15

Hensher, D. A. (2017). Future Bus Transport Contracts Under a Mobility as a Service (MaaS) Regime in the Digital Age: Are they likely to change?, *Transportation Research Part A: Policy and Practice*, vol. 98, pp. 86-96

Hensher, D. A. (2021). Mobility as a Service (MaaS) – The Sydney Trial and Lessons Learnt [pdf], Available online: <https://imoveaustralia.com/wp-content/uploads/2021/04/David-Hensher-iMOVE-MaaS-Trial-slide-deck-April-2021.pdf> [Accessed 15 April 2022]

Hensher, D. A., Ho, C. Q., Reck, D. J., & Smith, G. (2021). The Sydney Mobility as a Service (MaaS) Trial - Design, Implementation, Lessons and the Future [pdf], Available online: <https://imoveaustralia.com/project/project-outcomes/sydney-maas-trial-final-report/> [Accessed 14 April 2022]

Heslin, P. A., & Ochoa, J. D. (2008). Understanding and Developing Strategic Corporate Social Responsibility, *Organizational Dynamics*, vol. 37, no. 2, pp. 125-144

Ho, C. Q., Hensher, D. A., Mulley, C., & Wong, Y. Z. (2018). Potential Uptake and Willingness-To-Pay for Mobility as a Service (MaaS): A stated choice study, *Transportation Research Part A: Policy and Practice*, vol. 117, pp. 302-318

Hoerler, R., Haerri, F., & Hoppe, M. (2019). New Solutions in Sustainable Commuting—The attitudes and experience of European stakeholders and experts in Switzerland, *Social Sciences*, vol. 8, no. 7, pp. 220-239

Hrelja, R., Rye, T., & Mullen, C. (2018). Partnerships Between Operators and Public Transport Authorities: Working practices in relational contracting and collaborative partnerships, *Transportation Research Part A*, vol. 116, pp. 327-338

Husted, B. W., & Allen, D. B. (2007). Strategic Corporate Social Responsibility and Value Creation Among Large Firms, *Long Range Planning*, vol. 40, pp. 594-610

Husted, B. W., & Allen, D. B. (2009). Strategic Corporate Social Responsibility and Value Creation, *Management International Review*, vol. 49, pp. 781-799

Husted, B. W., & de Jesus Salazar, J. (2006). Taking Friedman Seriously: Maximizing profits and social performance, *Journal of Management Studies*, vol. 43, no. 1, pp. 75-91

Jittrapirom, P., Caiati, V., Feneri, A.-M., Ebrahimigharehbaghi, S., Alonso-Gonzales, M. J., & Narayan, J. (2017). Mobility as a Service: A critical review of definitions, assessments of schemes, and key challenges, *Urban Planning*, vol. 2, pp. 13–25

Jittrapirom, P., Marchau, V., van der Heijden, R. and Meurs, H. (2020). Future Implementation of Mobility as a Service (MaaS): Results of an international Delphi study, *Travel Behaviour and Society*, vol. 21, pp. 281-294

Johnsen, Å. (2015). Strategic Management Thinking and Practice in the Public Sector: A strategic planning for all seasons?, *Financial Accountability & Management*, vol. 31, no. 3, pp. 243-268

Johnston, M. P. (2014). Secondary Data Analysis: A method of which the time has come, *Qualitative and Quantitative Methods in Libraries (QQML)*, vol. 3, no. 3, pp. 619-626

Kamargianni, M., & Matyas, M. (2017). The Business Ecosystem of Mobility-as-a-Service, Proceedings of 96th Transportation Research Board Annual Meeting, Available online:

[https://discovery.ucl.ac.uk/id/eprint/10037890/1/a2135d\\_445259f704474f0f8116ccb625bdf7f8.pdf](https://discovery.ucl.ac.uk/id/eprint/10037890/1/a2135d_445259f704474f0f8116ccb625bdf7f8.pdf) [Accessed 18 May 2022]

Karlsson, I. C. M., Sochor, J., & Strömberg, H. (2016). Developing the 'Service' in Mobility as a Service: Experiences from a field trial of an innovative travel brokerage, *Transportation Research Procedia*, vol. 14, pp. 3265-3273

Lambert, D. M., & Cooper, M. C. (2000). Issues in Supply Chain Management, *Industrial Marketing Management*, vol. 29, no. 1, pp. 65-83

Lantos, G. P. (2001). The Boundaries of Strategic Corporate Social Responsibility, *Journal of Consumer Marketing*, vol. 18, no. 7, pp. 595-630

Latapí Agudelo, M. A., Jóhannsdóttir, L., & Davídsdóttir, B. (2019). A Literature Review of the History and Evolution of Corporate Social Responsibility, *International Journal of Corporate Social Responsibility*, vol. 4, article no. 1, pp. 1-23

Laudal, T. (2018). Measuring Shared Value in Multinational Corporations, *Social Responsibility Journal*, vol. 14, no. 4, pp. 917-933

Leung, L. (2015). Validity, Reliability, and Generalizability in Qualitative Research, *Journal of Family Medicine and Primary Care*, vol. 4, no. 3, pp. 324-327

Levy, J., Buonocore, J. J., & von Stackelberg, K. (2010). Evaluation of the Public Health Impacts of Traffic Congestion: A health risk assessment, *Environmental Health*, vol. 9, no. 65, pp. 1-12

Li, Y., & Voegelé, T. (2017). Mobility as a Service (MaaS): Challenges of implementation and policy required, *Journal of Transportation Technologies*, vol. 7, pp. 95-106

Lieberman, M. B., Balasubramanian, N., & Garcia-Castro, R. (2018). Toward a Dynamic Notion of Value Creation and Appropriation in Firms: The Concept of Measurement of Economic Gain, *Strategic Management Journal*, vol. 38, no. 6, pp. 1546-1572

Lieberman, M. B., Garcia-Castro, R., & Balasubramanian, N. (2017). Measuring Value Creation and Appropriation in Firms: The VCA model, *Strategic Management Journal*, vol. 38, no. 6, pp. 1193-1211

Llewellyn, S., & Tappin, E. (2003). Strategy in the Public Sector: Management in the wilderness, *Journal of Management Studies*, vol. 40, no. 4, pp. 955-982

Low, J. (2000). The Value Creation Index, *Journal of Intellectual Capital*, vol. 1, no. 3, pp. 252-262

Lund University. (2022). Processing of Personal Data at Lund University, Available online: <https://www.lunduniversity.lu.se/about-university/contact-us/processing-personal-data-lund-university> [Accessed 13 April 2022]

Lyons, G., Hammond, P., & Mackay, K. (2019). The Importance of User Perspective in the Evolution of MaaS, *Transportation Research Part A: Policy and Practice*, vol. 121, pp. 22-36

Masini, B. M., Silva, C. M., & Balador, A. (2020). The Use of Meta-Surfaces in Vehicular Networks, *Journal of Sensor and Actuator Networks*, vol. 9, no. 1, pp. 15-33

Maxwell, J. A. (2009). Designing a Qualitative Study, in: L. Bickman & D. J. Rog (eds), *The SAGE Handbook of Applied Social Research Methods*, 2nd edn, Thousand Oaks, CA: SAGE Publications, Chapter 7

McWilliams, A., & Siegel, D. S. (2011). Creating and Capturing Value: Strategic corporate social responsibility, resource-based theory, and sustainable competitive advantage, *Journal of Management*, vol. 37, no. 5, pp. 1480- 1495

Melis, A., Prandini, M., Sartori, L., & Callegati, F. (2016). Public Transportation, IoT, Trust and Urban Habits, International Conference on Internet Science, Available online: [https://www.researchgate.net/publication/306525703\\_Public\\_Transportation\\_IoT\\_Trust\\_and\\_Urban\\_Habits](https://www.researchgate.net/publication/306525703_Public_Transportation_IoT_Trust_and_Urban_Habits) [Accessed 18 May 2022]

Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*, San Francisco, CA: Jossey-Bass Publishers

Metz, D. (2018). Developing Policy for Urban Autonomous Vehicles: Impact on congestion, *Urban Science*, vol. 2, no. 2, pp. 33-44

Meurs, H., Sharmeen, F., Marchau, V., & van der Heijden, R. (2020). Organizing Integrated Services in Mobility-as-a-Service Systems: Principles of alliance formation applied to a MaaS-pilot in the Netherlands, *Transportation Research Part A: Policy and Practice*, vol. 131, pp. 178-195

Moon, H.-C., & Parc, J. (2019). Shifting Corporate Social Responsibility to Corporate Social Opportunity Through Creating Shared Value, *Strategic Change*, vol. 28, pp. 115-122

Moon, J. (2014). *Corporate Social Responsibility: A very short introduction*, Oxford, UK: Oxford University Press

Narupiti, S. (2019). Exploring the Possibility of MaaS Service in Thailand, Implications from the Existing Conditions and Experts' Opinions on “Who Should be the MaaS Provider in Bangkok?”, *IATSS Research*, vol. 43, no. 4, pp. 226-234

Nikitas, A., Kougiyas, I., Alyavina, E., & Njoya Tchouamou, E. (2017). How Can Autonomous and Connected Vehicles, Electromobility, BRT, Hyperloop, Shared Use Mobility and Mobility-as-a-Service Shape Transport Futures for the Context of Smart Cities?, *Urban Science*, vol. 1, no. 4, pp. 36-56

Noble, H., & Smith, J. (2015). Issues of Validity and Reliability in Qualitative Research, *Evidence-Based Nursing*, vol. 18, no. 2, pp. 34-35

Norberg, P. (2020). CSR Politics of Non-Recognition: Justification fallacies marginalizing criticism, society, and environment, *Business Ethics, the Environment & Responsibility*, vol. 29, no. 4, pp. 694-705

Noy, C. (2008). Sampling Knowledge: The hermeneutics of snowball sampling in qualitative research, *International Journal of Social Research Methodology*, vol. 11, no. 4, pp. 327-344

Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate Social and Financial Performance: A meta-analysis, *Organization Studies*, vol. 24, no. 3, pp. 403-441

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2013). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research, *Administration and Policy in Mental Health Services Research*, vol. 42, pp. 533-544

Pangbourne, K., Mladenovic, M.N., Stead, D., & Milakis, D. (2020). Questioning Mobility as a Service: Unanticipated implications for society and governance, *Transportation Research Part A: Policy and Practice*, vol. 131, pp. 35-49

Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods: Integrating theory and practice*, 4th edn, Thousand Oaks, CA: SAGE Publications

Piening, E. P. (2013). Dynamic Capabilities in Public Organizations, *Public Management Review*, vol. 15, no. 2, pp. 209-245

Polydoropoulou, A., Pagoni, I., & Tsirimpa, A. (2020). Ready for Mobility as a Service? Insights from stakeholders and end-users, *Travel Behaviour and Society*, vol. 21, pp. 295-306

Porter, M. E. (1985). *Competitive Advantage: Creating and sustaining superior performance*, New York, NY: Free Press

Porter, M. E., & Kramer, M. R. (2006). Strategy & Society: The link between competitive advantage and corporate social responsibility, *Harvard Business Review*, vol. 84, no. 12, pp. 78-92

Porter, M. E., & Kramer, M. R. (2011). Creating Shared Value, in: *Harvard Business Review* (eds), *HBR's 10 Must Reads. vol. 2: on strategy*, Boston, MA: Harvard Business School Publishing, pp. 155-184

Prahalad, C. K., & Ramaswamy, V. (2004). Co-Creating Unique Value with Customers, *Strategy & Leadership*, vol. 32, no. 3, pp. 4-9

PWC. (2016). 19th Annual Global CEO Survey: Redefining business success in a changing world [pdf], PricewaterhouseCoopers, Available online: <https://www.pwc.com/gx/en/ceo-survey/2016/landing-page/pwc-19th-annual-global-ceo-survey.pdf> [Accessed 12 May 2022]

Ragin, C., & Amoroso, L. M. (2011). *Constructing Social Research - The unity and diversity of method*, Thousand Oaks, CA: SAGE Publications

Rambøll. (2019). WHIMPACT – Insights from the world's first mobility-as-a-service (MaaS) system [pdf], Available online: [https://ramboll.com/-/media/files/rfi/publications/Ramboll\\_whimpact-2019.pdf](https://ramboll.com/-/media/files/rfi/publications/Ramboll_whimpact-2019.pdf) [Accessed 15 April 2022]

Rantasila, K. (2015). The Impact of Mobility as a Service Concept to Land Use in Finnish Context, International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART), Available online: <https://ieeexplore.ieee.org/document/7399229> [Accessed 18 May 2022]

RealLabHH. (2022). Wir verändern Mobilität – Erkenntnisse des Reallabors Hamburg für eine digitale Mobilität von morgen [pdf], Available online: <https://reallab-hamburg.de/news/abschlussbericht-zum-reallabor-hamburg-veroeffentlicht/> [Accessed 09 May 2022]

Rodrigue, J. P. (2020). *The Geography of Transport Systems*, London, UK: Routledge

Rowley, J. (2012). Conducting Research Interviews, *Management Research Review*, vol. 35, no. 3, pp. 260-271

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative Interviewing: The art of hearing the data*, 2nd edn, Thousand Oaks, CA: SAGE Publications

Russo, M. V., & Fouts, P. A. (1997). A Resource-Based Perspective on Corporate Environmental Performance and Profitability, *The Academy of Management Journal*, vol. 40, no. 3, pp. 534-559

Sarasini, S., & Linder, M. (2018). Integrating a Business Model Perspective into Transition Theory: The example of new mobility services, *Environmental Innovation and Societal Transitions*, vol. 27, pp. 16-31

Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students*, 7th edn, New York, NY: Pearson Education Limited

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students*, 8th edn, New York, NY: Pearson Education Limited

Schaltegger, S., Lüdeke-Freund, F., & Hansen, E. G. (2012). Business Case for Sustainability – The role of business model innovation for corporate sustainability, *International Journal of Innovation and Sustainable Development*, vol. 6, no. 2, pp. 95-119

Schrieck, M., Wiesche, M., & Krcmar, H. (2021). Capabilities for Value Co-Creation and Value Capture in Emergent Platform Ecosystems: A longitudinal case study of SAP's cloud platform, *Journal of Information Technology*, vol. 36, no. 4, pp. 365-390

Sethi, S. P. (1975). Dimensions of Corporate Social Performance: An analytical framework, *California Management Review*, vol. 17, no. 3, pp. 58-64

Shafer, W. E., & Lucianetti, L. (2018). Machiavellianism, Stakeholder Orientation, and Support for Sustainability Reporting, *Business Ethics: A European Review*, vol. 27, pp. 272-285

Sharma, S., & Vredenburg, H. (1998). Proactive Corporate Environmental Strategy and the Development of Competitively Valuable Organizational Capabilities, *Strategic Management Journal*, vol. 19, no. 8, pp. 729-753

Siggelkow, N. (2007). Persuasion with Case Studies, *Academy of Management Journal*, vol. 50, no. 1, pp. 20-24

Singh, M. (2020). India's Shift from Mass Transit to MaaS Transit: Insights from Kochi, *Transportation Research Part A: Policy and Practice*, vol. 131, pp. 219-227

Singhapakdi, A., Karande, K., Rao, C. P., & Vitell, S. J. (2001). How Important are Ethics and Social Responsibility? A multinational study of marketing professionals, *European Journal of Marketing*, vol. 35, no. 2, pp. 133-153

Smith, G., & Hensher, D. A. (2020). Towards a Framework for Mobility-as-a-Service Policies, *Transport Policy*, vol. 89, pp. 54-65

Smith, G., Sochor, J., & Karlsson, I. C. M. (2018). Mobility as a Service: Development scenarios and implications for public transport, *Research in Transportation Economics*, vol. 69, pp. 592-599

Smith, G., Sochor, J., & Karlsson, I. C. M. (2019). Mobility as a Service: Development scenarios and implications for public transport, *Public Management Review*, vol. 21, no. 1, pp. 116-137

Smith, G., Sochor, J., & Karlsson, I. C. M. (2022). Adopting Mobility-as-a-Service: An empirical analysis of end-users' experiences, *Travel Behaviour and Society*, vol. 28, pp. 237-248

Smith, G., Sochor, J., & Sarasini, S. (2018). Mobility as a Service: Comparing developments in Sweden and Finland, *Research in Transportation Business & Management*, vol. 27, pp. 36-45

Stehlin, J., Hodson, M., & McMeekin, A. (2020). Platform Mobilities and the Production of Urban Space: Toward a typology of platformization trajectories, *Environment and Planning A: Economy and Space*, vol. 52, no. 7, pp. 1250-1268

Stjernborg, V., & Mattisson, O. (2016). The Role of Public Transport in Society – A case study of general policy documents in Sweden, *Sustainability*, vol. 8, no. 11, pp. 1120-1136

Streeton, R., Cooke, M., & Campbell, J. (2004). Researching the Researchers: Using a snowballing technique, *Nurse Researcher*, vol. 12, no. 1, pp. 35-46

Sumantran, V., Fine, C., & Gonsalvez, D. (2017). *Faster, Smarter, Greener: The future of the car and urban mobility*, Cambridge, MA: MIT Press

Surakka, T., Härrä, F., Haahtela, T., Horila, A., & Michl, T. (2018). Regulation and Governance Supporting Systemic MaaS Innovations, *Research in Transportation Business & Management*, vol. 27, pp. 56-66

Sutton, J., & Austin, Z. (2015). Qualitative Research: Data collection, analysis, and management, *The Canadian Journal of Hospital Pharmacy*, vol. 68, no. 3, pp. 226-231

Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to Qualitative Research Methods: A guidebook and resource*, Hoboken, NJ: John Wiley & Sons

Utriainen, R., & Pöllänen, M. (2018). Review on Mobility as a Service in Scientific Publications, *Research in Transportation Business & Management*, vol. 27, pp. 15-23

Van Audenhofe, F. J., Korniiichuk, O., Dauby, L., & Pourbaix, J. (2014). The Future of Urban Mobility 2.0 [pdf], Arthur D. Little, Available online: [https://www.adlittle.com/sites/default/files/viewpoints/2014\\_ADL\\_UITP\\_Future\\_of\\_Urban\\_Mobility\\_2\\_0\\_Full\\_study.pdf](https://www.adlittle.com/sites/default/files/viewpoints/2014_ADL_UITP_Future_of_Urban_Mobility_2_0_Full_study.pdf) [Accessed 08 April 2022]

Vartanian, T. P. (2011). *Secondary Data Analysis*, New York, NY: Oxford University Press

Votaw, D. (1972). Genius Becomes Rare: A comment on the doctrine of social responsibility, *California Management Review*, vol. 15, no. 2, pp. 25-31

Weick, K. E. (1996). Drop Your Tools: An allegory for organizational studies, *Administrative Science Quarterly*, vol. 41, no. 2, pp. 301-313

Windsor, D. (2017). Value Creation Theory: Literature review and theory assessment, in: D. M. Wasieleski & J. Weber (eds), *Business and Society 360: Stakeholder Management*, vol. 1, chapter 4, pp. 75-100

Wright, S. (2015). A European Model for Public Transport Authorities in Small and Medium Urban Areas, *Journal of Public Transportation*, vol. 18, no. 2, pp. 45-60

Yin, R.K. (2018). *Case Study Research and Applications: Design and methods*, 6th ed., Thousand Oaks, CA: SAGE Publications

Zhang, C., Wang, M., Dong, J., Lu, W., Liu, Y., Ni, A., & Yu, X. (2022). Factors and Mechanism Affecting the Attractiveness of Public Transport: Macroscopic and microscopic perspectives, *Journal of Advanced Transportation*, vol. 2022, pp. 1-16

# Appendix I: Interview Questionnaire

To begin with, we want to thank you very much for taking the time and participating in our study. As briefly mentioned in our approaching email we aim to investigate the potential of MaaS to create strategic corporate social responsibility for public transport authorities. To reach that goal the questionnaire to first examine the general potential and expected benefits of a MaaS implementation. Those benefits will be further discussed within three levels of strategic corporate social responsibility that have been identified during the theoretical research of this study.

We wanted to provide you with the questionnaire beforehand to enable you to familiarise and gather your thoughts around the questions. Please feel free to get back to us at any time if questions may arise.

Please note that the questions might slightly vary during the interview if we want to explore deeper into matters of particular interest.

## **General information:**

- The interview will be recorded to produce a transcript which will be provided to you.
- The actual recording will be destroyed after the completion of our research project.
- The transcript will be analysed by the research investigators Nick Reimer and Timo Schirwitz and access beyond that will be limited to the researcher's supervisor and examiner Matts Kärreman and Thomas Kalling.
- Even though there is no risk associated with your participation we want to point out your right to stop the interview and withdraw from the research at any time.

We are looking forward to the interview with you and once again thank you very much!  
Nick Reimer and Timo Schirwitz

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**A. Introductory Question**

1. Could you briefly elaborate on the MaaS projects or trials your organisation has conducted so far?
2. Please explain the role your organisation would play in future MaaS schemes.

**B. Issues to be tackled by MaaS and potential benefits as well as obstacles**

*Considering that the concept of strategic corporate social responsibility aims to create value by tackling societal issues, this section is about identifying societal issues as well as potential benefits and obstacles which might be addressed by a MaaS introduction.*

1. Which current and potential future problems could be tackled by public transport authorities when they provide MaaS?
2. Which benefits can be expected for public transport authorities?
  - a. Economic Perspective
  - b. Social Perspective
  - c. Competitive Advantage Perspective
3. Which potential obstacles do you see for a public transport authority planning to implement a MaaS scheme?

**C. Levels of strategic corporate social responsibility**

*Orienting towards Porter and Kramer's (2011) concept of 'Creating Shared Value', this research developed three levels to enhance the strategic corporate social responsibility of public transport authorities: "Reconceiving Products and Markets", "Redefining the Organisation's Value Creation" and "Enabling Local Cluster Development".*

1. In what way do you think MaaS has the potential to change products or markets of public transport authorities?
2. How could MaaS increase the value creation within the broader value chain of public transport authorities?
3. How and with which local stakeholders could the implementation of MaaS lead to a mutually beneficial local cluster development?
4. Concluding, which level(s) do you see as most suitable for public transport authorities to create strategic corporate social responsibility by implementing MaaS?