STIMULATION OF CORPORATE CAR SHARING

Institutional work for organisational innovation adoption

Master's thesis

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Summary

Corporate car sharing, defined as the sharing of cars between multiple users, where an employer and/or employee is/are involved as a user and/or provider, has considerable environmental and practical benefits by increasing the utilised capacity of vehicles. Because scientific knowledge about corporate car sharing is still very scarce, this thesis studies how the adoption of corporate car sharing can be stimulated. To do so, research on innovation adoption/diffusion studies with institutional work is combined. These scientific disciplines have recently been bridged by other scholars, but rarely to analyse the adoption of non-technical innovations in organisations. The study has practical implications for organisations that market and/or adopt corporate car sharing. To find an answer to the research question, fourteen Dutch organisations that adopted corporate car sharing or planned to do so were studied. Semi-structured interviews with employees responsible for mobility in these organisations formed the main source of data.

Adoption, distinguished in an organisational and individual level, is influenced by the characteristics of the corporate car sharing arrangement as perceived by the adopting actor. This perception is influenced by institutions, which can in turn be influenced by institutional work. Several types of corporate car sharing are distinguished, respectively in order of current institutional embeddedness: sharing within organisations (B2E & E2E), between organisations (B2B & CSO), and between organisations and private persons (B2P, P2B & CSO). These different types exist in different institutional fields and therefore require different institutional work to shape institutions in favour of their adoption.

Mobility professionals (such as those interviewed during this study) stimulate individual level adoption by doing institutional work within their (adopting) organisations, whereas providers of corporate car sharing products and services mainly do institutional work to stimulate organisational level adoption. To effectively stimulate individual level adoption, employers should first establish an arrangement and enforce rules and procedures that are compatible with the organisation's internal characteristics and external conditions, and educate their employees about this. Interorganisational normative networks are a powerful stimulus for organisational level adoption: by enabling the sharing of experiences, challenges and best practices, it generates and enhances management support for corporate car sharing.

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Samenvatting

Zakelijk autodelen, gedefinieerd als het tussen meerdere gebruikers delen van auto's, gebruikt en/of aangeboden door een werkgever en/of werknemer, heeft aanzienlijke potentiële praktische- en milieuvoordelen, door het verhogen van de benutte capaciteit van voertuigen. Omdat wetenschappelijke kennis over zakelijk autodelen nog zeer schaars is, onderzoekt deze studie hoe de adoptie van zakelijk autodelen kan worden gestimuleerd, door literatuur over de adoptie/diffusie van innovaties en over institutioneel werk te combineren. Deze wetenschappelijke disciplines zijn eerder gecombineerd, maar zelden met aandacht voor de adoptie van niet-technische innovaties door organisaties. De scriptie heeft implicaties voor organisaties die zakelijk autodelen aanbieden en/of (willen) gebruiken voor hun eigen mobiliteit. Om een antwoord op de onderzoeksvraag te vinden, zijn veertien Nederlandse organisaties bestudeerd, die zakelijk autodelen toepassen voor hun mobiliteitsbehoeften, of dit eerder hebben gedaan. Semi-gestructureerde interviews met werknemers verantwoordelijk voor mobiliteit in deze organisaties vormden de belangrijkste informatiebron.

Adoptie, onderscheiden in een organisatorisch en individueel niveau, wordt beïnvloed door de eigenschappen van de autodeelvoorziening, zoals ervaren door de adopterende actor. Deze perceptie wordt op zijn beurt beïnvloed door instituties, die op hun beurt worden beïnvloed door institutioneel werk. Verschillende typen zakelijk autodelen worden onderscheiden, respectievelijk op volgorde van huidige geïnstitutionaliseerdheid: delen binnen organisaties (B2E en E2E), tussen organisaties (B2B en CSO), en tussen organisaties en particulieren (B2P, P2B en CSO). Deze verschillende typen bestaan in verschillende institutionele velden en behoeven verschillend institutioneel werk om instituties te vormen ten voordele van hun adoptie.

Mobiliteitsprofessionals stimuleren adoptie op individueel niveau door institutioneel werk binnen hun (adopterende) organisaties, terwijl leveranciers van autodeelproducten en -diensten dit vooral doen om adoptie te stimuleren op organisatorisch niveau. Om effectief individuele adoptie te stimuleren, moeten werkgevers eerst een autodeelvoorziening implementeren en bijbehorende regels en procedures handhaven, die passen bij de interne eigenschappen en externe omstandigheden van de organisatie, en hun werknemers hiervan op de hoogte brengen. Interorganisatorische netwerken zijn een krachtige stimulans voor adoptie op organisatorisch niveau: door het delen van ervaringen, uitdagingen en *best practices* mogelijk te maken, wordt ondersteuning voor zakelijk autodelen op managementniveau gecreëerd en versterkt.

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Preface

Utrecht, September 5, 2016.

During my first year of studies for the master's program Sustainable Business & Innovation at Utrecht University, the sharing economy was rapidly gaining both public as well as scholarly attention. Most of this attention went out to peer-to-peer sharing of products and services. Although this is highly valuable in the transition towards a sustainable economy, I was happy to see that sharing in a corporate context, which is particularly relevant to the field I am specialising in, was also developing.

I came into contact with *OndernemersCollectief Duurzame Mobiliteit* (OCDM) [Entrepreneurs' Collective Sustainable Mobility], a sector association of companies providing products and services that help organisations in making their mobility more sustainable. This contact led to a graduation internship, which in turn led to the end product that you are now reading. With this thesis, I hope to generate and diffuse knowledge on corporate car sharing, and thereby contribute to the commitment OCDM has made by signing the Green Deal Car Sharing on June 3, 2015. I express my gratitude to OCDM's board for granting me the opportunity to take up this challenge, especially to Monique Verhoef who has guided me throughout the process, shared her professional expertise with me and granted me access to her vast network. I would also like to thank Ruud de Groot and Marjolein van der Stok from Syndesmo, who have been highly helpful in discussions about the data collection strategies for this study, and invited me to a network meeting about corporate car sharing that aided the interpretation of the findings I gathered. Stephanie Hoogland from MobilityMIxx was also very helpful by introducing me to several of her clients, which led to valuable interviews. I would like to thank all interviewees for their time and honest insights in their challenges and successes during the implementation of their corporate car sharing efforts. I would like to thank all respondents who filled in the survey that was distributed for their time, insights and opinions.

This thesis was supervised by dr. Peter Pelzer from Utrecht University. I would like to thank him for his guidance; for sharing some of his research expertise with me, for his help in making difficult decisions and for providing valuable feedback on my work anytime I asked him to. He has made this thesis much better than it would have been without him. I thank Karla Münzel for providing additional valuable academic assistance and sharing car sharing-specific expertise. I would like to thank prof. dr. Koen Frenken, who was the second reader for this thesis and provided me with recommendations based on the research proposal, which also improved the quality of this study.

Even with a subject as interesting as corporate car sharing, the writing of a master's thesis has its unpleasant moments, when work gets difficult, stressful or boring. I would like to thank my girlfriend Níne for making these moments more bearable with her understanding and encouragement.

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List of abbreviations

B2B   Business-to-business
B2C   Business-to-consumer
B2E   Business-to-employee
B2P   Business-to-peer
CCS   Corporate car sharing
CSO   Car sharing organisation
E2E   Employee-to-employee
GHG   Greenhouse gas
IW   Institutional work
NGO   Non-governmental organisation
OCDM   OndernemersCollectief Duurzame Mobiliteit
P2B   Peer-to-business
TDM   Transportation demand management

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1. Introduction

At the twenty-first United Nations Framework Convention on Climate Change (2015) conference in Paris, 195 countries agreed that the emission of greenhouse gases (GHGs) should stop increasing as soon as possible, in order to keep global warming at least below 2, preferably 1.5 degrees Celsius, relative to 1990 levels. The current EU goals for GHG emission reduction were set in 2011: 20% by 2020, 40% by 2030 and 80-95% by 2050, relative to the level of 1990 (European Commission, 2015, p. 2). The Dutch government may even be required to realise a 25% CO_2-reduction by 2020 relative to 1990 (due to a recent court ruling which is under appeal at the time of writing). In line with EU goals, the Netherlands aim to reduce CO_2-emissions attributable to mobility and transport (which includes those from passenger cars) by 17% in 2030 and by 60% in 2050, relative to 1990 (European Commission, 2011; Sociaal-Economische Raad, 2013, p. 23). Although increasing adoption of fuel efficient, (plug-in) hybrid and electric vehicles are contributing to these goals (Energieonderzoek Centrum Nederland et al., 2015, p. 181), additional efforts are required: under current Dutch policy, a maximum emission reduction of only 17% will be achieved by 2020 (Rechtbank Den Haag, 2015).

Car sharing is an alternative to private car ownership that can contribute to the goals mentioned above. Its users have shown to reduce their car ownership and distance travelled by car, which in turn reduces the emission of GHGs and air pollutants, depletion of natural resources, congestion and demand for parking space. Additionally, the average shared car emits less GHGs and pollutants and is safer than the cars it replaces (Barth & Shaheen, 2002; Jorritsma, Harms, & Berveling, 2015; Loose, 2010; Nijland, Meerkerk, & Hoen, 2015; Rydén & Morin, 2005; Shaheen & Cohen, 2007)[1]. In addition, car sharing can free its users of the burdens of the private automobile (fixed costs and maintenance responsibilities) and of the lacking flexibility of traditional car rental (World Business Council for Sustainable Development, 2004, p. 140). Some car sharing organisations (CSOs) have dedicated parking spaces and settlements with local governments for discounted or free parking (Shaheen & Cohen, 2007, p. 86).

In the Netherlands, commercial car sharing has existed since 1994 (Nanninga & Eerdmans, 2006), but only started experiencing increasing growth fairly recently: as of spring 2015, a total of 16.617 cars were available for sharing, a 28% increase relative to 2014[2] (CROW-Kennisplatform Verkeer & Vervoer, 2015). A sixfold increase is still necessary to meet the goal of 100.000 shared vehicles (with low average CO_2-emission) by 2018, as set by the Dutch government in an energy agreement in 2013, and again in the *Green Deal Car Sharing* in 2015 (Kamp, Mansveld, & partijen, 2015; Sociaal-Economische Raad, 2013, p. 103). Corporate car sharing, defined as the defined as the sharing of cars between multiple users, where an employer and/or employee is/are involved as a user and/or provider, holds a considerable untapped potential to contribute to this goal (Verhoef et al., 2016, p. 8). Of the Dutch shared cars in 2015, 2.265 (14%) were available for sharing in the corporate segment (CROW-Kennisplatform Verkeer & Vervoer, 2015). Because the time periods of corporate (mostly during weekdays) and private (mostly during evenings and weekends) car use barely overlap, using the same vehicles for both can significantly increase their utilization rates (Reutter & Böhler, 2000; Rydén &

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[1] Quantifications of these benefits are based on studies of private car sharing. No studies have accurately quantified the environmental effects of corporate car sharing yet (Clark, Gifford, Anable, & Le Vine, 2015).
[2] This includes 'classic' station based, one-way, peer2peer, informal and corporate car sharing.

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Morin, 2005, p. 38; World Business Council for Sustainable Development, 2004, p. 140). This can enable CSOs to increase their profitability (Loose, Mohr, & Nobis, 2006, p. 376) and lower their rates, thereby increasing market growth (Millard-Ball, Murray, Schure, & Fox, 2005, pp. 5–20).

1.1 Problem description

1.1.1 Societal problem

Although a niche market of early adopters has been established, corporate car sharing has yet to enter the 'mainstream' market majority. A recent trend sees more and more employers working to reduce their (lease) fleets, with the shared car being identified as one of the main alternatives (Vousten, 2015), but some demand-side barriers are suspected to inhibit the acceptance of corporate car sharing by employees. The most identified barrier is unfamiliarity; employees are not adequately informed about corporate car sharing and its benefits relative to other mobility alternatives (CROW-Kennisplatform Verkeer & Vervoer, 2015; Millard-Ball et al., 2005, Chapter 6; Verhoef et al., 2016, p. 8). Car sharing is often erroneously perceived as more expensive when daily costs of fuel and parking are taken into account, but incidental costs of insurances, license fees, smog tests, and maintenance are forgotten (Loose, 2010, p. 110; Millard-Ball et al., 2005, pp. 6–4). Many employees value their private car for its symbolic psychological value (Bamberg, 2014; Loose, 2010, p. 109; Wright & Egan, 2000), "(non-verbally) communicate[ing] their achievements, status, and values" (Gatersleben, 2014, p. 88). Some employees with a personally driven lease vehicle consider it a downgrade to give up or share this 'acquired secondary employment benefit' (Verhoef et al., 2016, p. 8). Additionally, taxation policy can make it relatively difficult and financially unattractive to use a leased car for both corporate and private purposes, thereby disincentivising the sharing of such vehicles with private persons (CROW-Kennisplatform Verkeer & Vervoer, 2015; Verhoef et al., 2016, pp. 8–9).

1.1.2 Scientific problem

Products and services related to car sharing themselves are generally not particularly innovative in a technological sense (Prettenthaler & Steininger, 1999; Truffer, 2003). However, they can be characterised as business model innovations (Schaltegger, Lüdeke-Freund, & Hansen, 2012), being part of the broader transition from individual ownership towards collaborative forms of consumption (Botsman & Rogers, 2011). In a socio-cultural sense, this is a radically innovative and potentially disruptive shift (Hobrink, 2014). Although currently marginal in terms of personal transportation market share, Frenken (2013) recognises potential for car sharing to become a serious alternative to private car ownership due to increasing returns to scale, low switching costs, opportunities for further innovations, and congruence with upcoming sustainability related institutions. Unsurprisingly, car sharing has captured the interest of innovation scholars, yielding a significant stream of literature over the past two decades (Barth & Shaheen, 2002; Prettenthaler & Steininger, 1999; Shaheen & Cohen, 2007; Truffer, 2003). However, most of these studies have focused on car sharing in the consumer market. The few scholars that have studied corporate car sharing were mainly focused on characterising users and their usage behaviour (Clark, Gifford, Anable, & Le Vine, 2015). So far, the processes, mechanisms and factors behind the adoption and diffusion of corporate car sharing have remained un(der)explored in the scientific community. By studying the stimulation of the adoption of corporate car sharing by organisations and their employees, this study aims to contribute to the closing of this knowledge gap. Additionally, recent research on the adoption and diffusion of innovations,

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especially in consumer markets but to a smaller extent also in business-to-business (B2B) markets, has mainly been focused on technology-based product innovations (Binz, Harris-Lovett, Kiparsky, Sedlak, & Truffer, 2016; Fuenfschilling & Truffer, 2016), rather than on business model innovations (Holmlund, Kowalkowski, & Biggemann, 2016). This study therefore aims to explore the applicability of insights acquired in these fields by testing them to the case of corporate car sharing, as a business model innovation in a B2B market.

Case studies in the empirical domain of transportation demand management (TDM) offer some theoretical background to the research problem since they study ways to influence individuals' voluntary travel behaviour. TDM studies have explored the discouraging of individual motorised (mainly passenger car) travel, mostly from a planning and public policy perspective and contributions have come from disciplines such as (social) marketing (Thøgersen, 2014), psychology (Bamberg, 2014), sociology, planning and engineering (Poulenez-Donovan & Ulberg, 1994). However, few studies have focused on the specific application of employer-based TDM instruments in corporate environments, i.e. to influence the voluntary travel behaviour of employees (Kearney & De Young, 1996; Lo, van Breukelen, Peters, & Kok, 2013; Modarres, 1993). This study therefore also aims to contribute to literature on the application of TDM instruments in an organisational context.

1.1.3 Client's problem

OndernemersCollectief Duurzame Mobiliteit (OCDM) is a sector association that serves the interests of its member companies, active in sustainable corporate mobility. Some of these members, united in OCDM's corporate car sharing working group, provide the corporate market with car sharing products and/or services. OCDM has signed the Green Deal Car Sharing, committing to the collection and diffusion of knowledge about corporate car sharing (Kamp et al., 2015, p. 8). So far, the working group has published a position paper that identifies opportunities, barriers and promising example cases of corporate car sharing (Verhoef et al., 2016). Additional insight in ways to overcome the identified barriers and exploit opportunities is still required however. Managerial implications of this study can be applied by OCDM's members to improve their products and services as well as their marketing.

1.2 Aim

This thesis studies the stimulation of the adoption of corporate car sharing. The implementation of managerial implications of this study by key actors in adopting organisations, CSOs, policy makers and/or other actors aiming to promote corporate car sharing has the potential to reap the practical and environmental benefits of corporate car sharing, respectively for its users and society as a whole. Empirically, it is analysed how the current institutional field of various forms of corporate car sharing in the Netherlands is shaped, which of these institutions are conducive or inhibitive for its adoption, and how these institutions are being shaped to stimulate the adoption of corporate car sharing. Theoretically, this study aims to make a contribution to the limited scientific knowledge in the empirical domain of corporate car sharing, by combining multiple theoretical perspectives.

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1.3 Research question

Based on the defined problem and aim, this study addresses the following core research question:

> *How can the adoption of corporate car sharing be stimulated?*

Four sub-questions are formulated:

1. *How can the adoption of corporate car sharing be understood?*
2. *To which extent do current institutions favour or hinder the adoption of corporate car sharing?*
3. *Which strategies are employed to shape institutions in favour of the adoption of corporate car sharing, and to which extent are these strategies perceived as successful?*
4. *How can institutions be shaped in favour of the adoption of corporate car sharing?*

Adoption is defined as currently using car sharing or planning to do so in the future. This broad definition enabled an inquiry into organisations that already have an operational car sharing arrangement, as well as those still implementing one or planning to do so, and those who have abolished an arrangement. In the next section, theory relevant to the research question is discussed, resulting in the presentation of a conceptual model for the stimulation of organisational innovation adoption. This section aims to provide an answer to the first sub-question. The third section describes the methods that were applied to collect and analyse the empirical data. Section four provides a description of the acquired empirical data, respectively contributing to the answering of the second sub-question in section 4.1 and of to the third sub-question in section 4.2. Section 4.3 synthesizes the empirical data in order to answer the fourth sub-question. Section five makes concluding remarks, taking all sub-answers together in a proposed answer to the core research question. Section six discusses the implications of the findings of this study, respectively for practice and for science. Finally, the limitations of this study are discussed and a number of recommendations for further research are made.

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2. Theory

This section discusses the main literature relevant to the research problem, and provides the basis for an answer to the first sub-question: *How can the adoption of corporate car sharing be understood?* In section 2.1, corporate car sharing is defined and its market features are briefly described. In section 2.2, a characterisation of organisational innovation adoption follows. Section 2.3 discusses main models that visualise processes and determinants of organisational innovation adoption. Building on these models, section 2.4 goes into further detail on the stimulation of organisational innovation adoption, respectively from the theoretical perspectives of innovation adoption / diffusion, institutional work and transportation demand management (TDM). Finally, the discussed strands of literature are synthesized, resulting in the presentation of a conceptual model for the stimulation of organisational innovation adoption.

2.1 Corporate car sharing

In this study, corporate car sharing is defined as the sharing of cars between multiple users, where an employer and/or employee is/are involved as a user and/or provider. In this definition, the employer is the organisation as a whole, and the employee is widely defined as an individual operating in that organisation. (Whether they are bound to the organisation with a contract and/or get paid for their activity is irrelevant.) Under organisations, governmental organisations, non-governmental organisations (NGOs) and companies are included. Multiple (sub)types of corporate car sharing are distinguished:

1. The sharing of vehicles within an organisation. This includes the sharing of vehicles that can be owned, leased or rented by employers or employees, for corporate use by employees.
   ⇒ business-to-employee (B2E) & employee-to-employee (E2E);
2. The sharing of vehicles between multiple organisations. This generally occurs where multiple organisations are clustered in close proximity to each other.
   ⇒ business-to-business (B2B) & external CSO providing flexible (station-based or free-floating) rental to multiple organisations
3. The sharing of vehicles between organisations and private persons, the latter including both employees (for private purposes) and non-employees (generally via peer-to-peer platforms).
   ⇒ business-to-peer (B2P); peer-to-business (P2B) & external CSO providing flexible (station-based or free-floating) rental to multiple organisations and private persons

(CROW-Kennisplatform Verkeer & Vervoer, 2015; Jorritsma et al., 2015; Kamp et al., 2015, p. 3; Verhoef et al., 2016)

Station-based or free-floating flexible rental of cars provided by an external CSO is considered corporate car sharing if an (employee of an) organisation makes use of such an arrangement for business trips and/or commutes. Whether this falls under type two or three depends on whether the CSO rents their cars out to (employees of) organisations exclusively (type 2) or to organisations as well as private persons (type 3).

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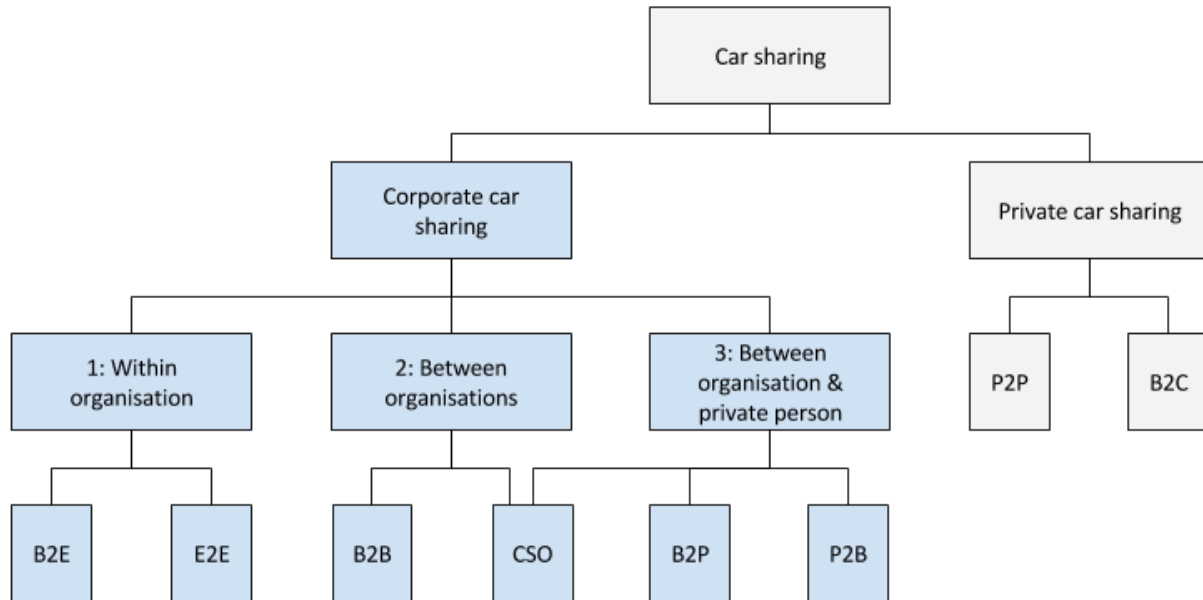
Fig. 1: Overview of types of (corporate) car sharing

Organisations that consider car sharing need to decide which form(s) of corporate car sharing (see Figure 1) is/are most suitable to the organisation's desired outcomes and current mobility arrangements and demands (Millard-Ball et al., 2005, pp. 5–41). Additionally, because these different forms entail the involvement of different actors as sharing partners, different strategies may be required to stimulate their acceptance. In organisations, car sharing competes mainly with private vehicle ownership and lease (Loose et al., 2006, p. 381). Other modes of transport can be considered complementary (see Figure 2).

Fig. 2: Shared cars as a corporate mode of transport. Adapted from Reutter & Böhler (2000).

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Organisations that are newly founded, have relocated, do not possess a company car or which plan to expand their fleet have been identified as a promising market for corporate car sharing, and smaller companies in the service sector (such as architectural and engineering firms) as early adopters. NGOs and governmental organisations can also be promising customers (Millard-Ball et al., 2005, pp. 5–38; Reutter & Böhler, 2000, p. 17). Generally, smal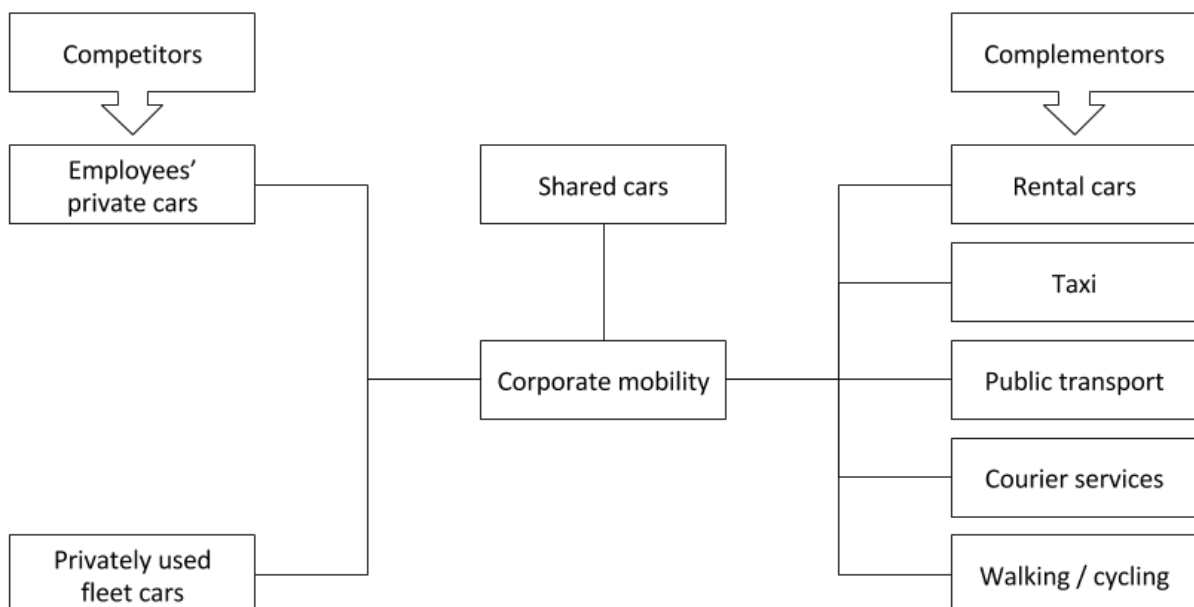l to medium sized cars are shared for visits to business relationships and the transportation of small amounts of goods (Reutter & Böhler, 2000, p. 16). Most corporate car sharing drivers are highly educated and between 26 and 45 years old (Millard-Ball et al., 2005) and tend to travel longer distances than B2C customers (Clark et al., 2015; Costain, Ardron, & Habib, 2012; Haefeli, Matti, Schreyer, & Maibach, 2006; Loose, 2010; Wilke & Bongardt, 2007). Employees who had previously used their private car for corporate purposes became more intensive car sharing users than sharers who did not drive a car before (Clark et al., 2015, p. 492).

2.2 Organisational adoption of innovations

Not every invention makes an innovation: innovations can only fulfill their potential to provide value to their target market and society as a whole, if they are actually adopted. Rogers defines adoption as "a decision to make full use of an innovation as the best course of action available" (2010, p. 37). In turn, an innovation can be defined as an idea or behavior that is new to an industry, market, or general environment. Multiple types of innovations can be distinguished. Firstly, a distinction can be made between the generation and the adoption of innovations (see Fig. 3). Damanpour & Daniel Wischnevsky (2006) stress the importance of this distinction based on the inconsistency of findings yielded by studies that attempted to conceptualise 'organisational innovation' as one single process. Damanpour & Daniel Wischnevsky define innovation from the viewpoint of the adopting organisation as "products, services or technologies that are new to the organization, but available elsewhere" (2006, p. 275) and argue that the adoption of innovations can contribute to organisational success, by "matching the organization's strategic requirements with capabilities and potentials of the innovations existing in the market" (2006, p. 275).

Fig. 3: Organisational innovation generation & adoption (based on Damanpour & Daniel Wischnevsky, 2006)

Secondly, scholars tend to distinguish incremental innovations and radical (or disruptive) innovations. In reality, this concerns a continuous scale of innovativeness rather than a dichotomy (Bucherer, Eisert, & Gassmann, 2012, p. 192). The order of magnitude of factors that influence adoption differ between innovations with different extents of incremental- or radicalness, but their direction is the same (Damanpour, 1991; Sharma, Lawrence, & Lowe, 2010). In this sense, the different types distinguished in section 2.1 can also be considered levels, since the third type entails sharing of cars between more different actors and differs more from traditional car ownership and usage than types two and one respectively, and can thus be considered more radical as an innovation. A third distinction with regard to innovations can be made between product innovations versus business model innovations (Bucherer et al., 2012). Damanpour & Evan (1984) find that business model innovations tend to be more radical and slower to be adopted than product innovations. Yet another distinction is made by

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Daft (2008, p. 429), who finds that administrative innovations (relating to an organisation's support activities) are best adopted through a top-down process, whereas technical innovations (relating to an organisation's core business) are best adopted through a bottom-up process. According to these distinctions and from the viewpoint of the adopting organisation, corporate car sharing can be considered an administrative innovation rather than a technical innovation, since employee mobility is supporting the core business of an organisation, rather than an inherent part of that core business. In addition, it is a business model innovation rather than a product innovation since the products involved are not particularly new[3], but the ways in which passenger car mobility is used and paid for all the more (Hobrink, 2014).

2.3 Models of organisational innovation adoption

Based on a literature study of quantitative research in the fields of marketing, management, organisation studies, information systems and innovation, Frambach & Schillewaert (2002) provide a model for organisational innovation adoption. The model divides the process of organisational adoption in an initiation stage, corresponding with organisation level adoption, and an implementation stage, corresponding with individual level adoption. The initiation stage stretches from the moment an organisation is aware of a particular innovation, until the decision to procure an innovation. This decision depends most importantly on the characteristics of the innovation, as perceived by the responsible decision maker(s) in the organisation. This perception can in turn be influenced by supplier marketing efforts, the adopting organisation's social network and other environmental influences. The latter also directly influences the adoption decision. The adoption decision is also influenced by characteristics of the adopting organisation. In the implementation stage, individual employees need to accept the innovation by deciding to use the product or service and continue to do so over a period of time. This latter stage is described as a process of individual innovation acceptance. The central factor in the model for innovation acceptance in organisations is the individual's attitude towards the innovation, which is in turn, influenced by social usage, personal characteristics, organisational facilitators and internal marketing (Frambach & Schillewaert, 2002).

Although Frambach & Schillewaert (2002) did not test and validate their model themselves, it was applied by Vonk et al. (2005) (to the case of Planning Support Systems [PSS]). Vonk et al. (2005) pose that the model is mainly applicable in cases where a top-down adoption decision is made, due to the two consecutive phases with different levels of analysis[4] (Vonk et al., 2005). Further, they argued that awareness, consideration and intent are not only relevant stages on the organisational but also on the individual level. Following these limitations they adapted the model by merging the separate stages into a single chain of relationships, where the organisational level is represented by the upper dashed boxes and the individual by the lower (see Fig. 4).

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[3] With the exception of innovation in telematics technology; this enables corporate car sharing by making it easier for employers and fleet managers to monitor vehicles and the driving behaviour of their employees (Clark et al., 2015, p. 478).

[4] For car sharing, this may not have compromised the applicability of the model, since administrative and business model innovations generally follow such top-down processes (Bucherer, Eisert & Gassman, 2012, p.195; Daft, 2008, p. 429).
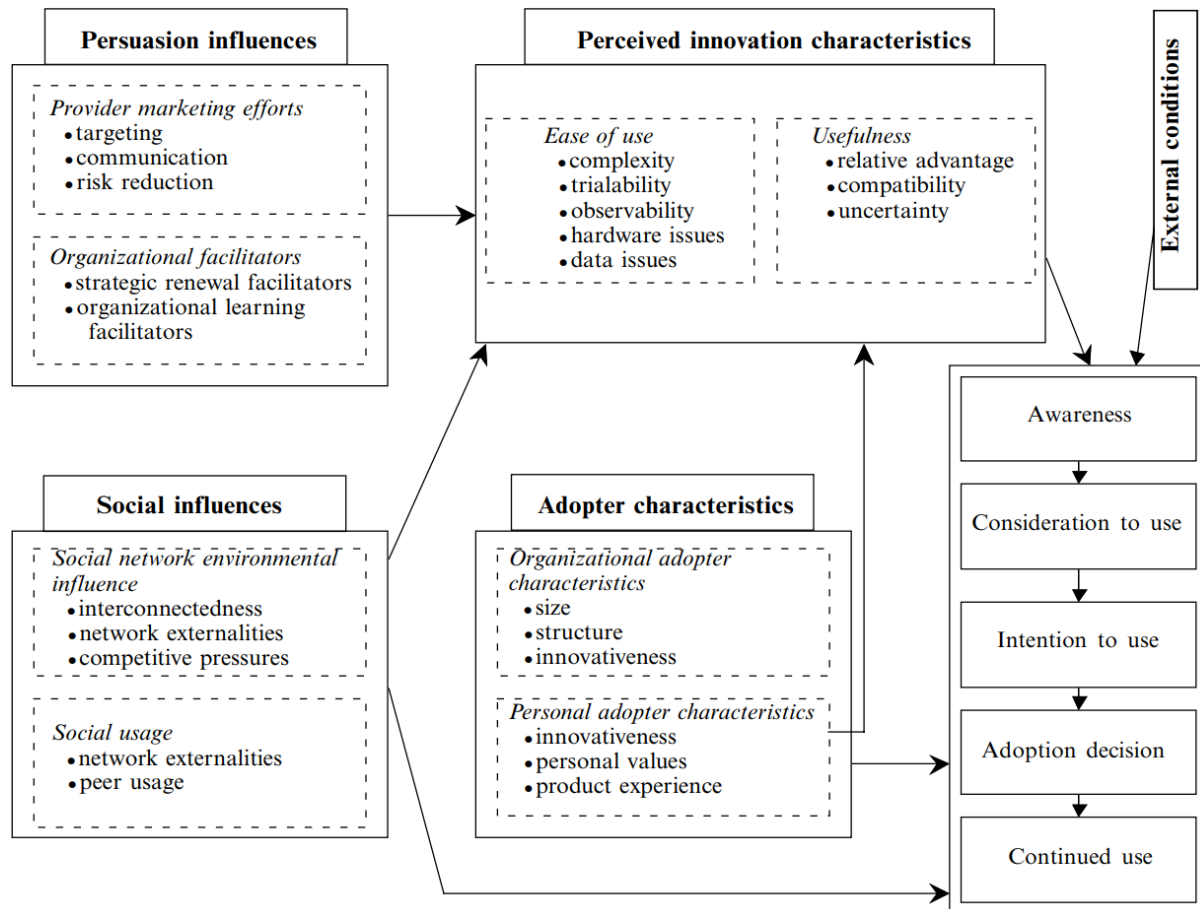
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Fig. 4: A conceptual framework of organisational PSS adoption, as adapted from Frambach & Schillewaert (2002) by Vonk et al. (2005),

Vowles et al. (2011) tested a similar factor model of innovation adoption on the organisational level to the case of professional-grade VoIP technology in New-Zealand. They found that (intention towards) adoption positively correlates with a high level of technology sensing & response, depth of knowledge resources, influence of champions, positive perception of user & producer network, and significant increase in benefits. No significant correlations were found for technology dissemination, innovation-related experience, depth of search, complements network and supplier marketing. The differences in dominant adoption factors between early adopters, majority and laggards found by Vowles et al. (2011) are congruent with Waarts et al.'s proposition that factors "will change as the diffusion of the innovation in the market progresses" (2002, p. 412). For this reason, they note that studies without such a consideration for the moment of adoption may find explanatory factors for (non-)adoption in the past but fail to predict future adoption patterns. Their study of the adoption of enterprise resource planning (ERP) software in Western European organisations showed that early adoption is mainly stimulated by organisational features such as general innovativeness and industry competitiveness, whereas for later adoption, practical implementation issues (such as budgets) become more important. In this same line of thinking, Kurnia & Johnston (2000) argue that 'first order' one way relationships of factor models such as those by Frambach & Schillewaert (2002) and Vowles et al. (2011) do not do justice to the dynamic processes of adoption and diffusion. Kurnia & Johnston (2000) come up with a 'second order' model for organisational innovation adoption that accounts for interactions between variables in both directions. They note that a first order factor model may be useful in cross-sectional studies where the characteristics of the organisation and innovation are

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largely fixed, yet in other situations their approach "promises to give greater depth of understanding of dynamic and complex interactions of organisations within the industry" (Kurnia & Johnston, 2000, p. 300). Kurnia & Johnston's (2000) case study of the adoption of efficient consumer response systems which are shared by multiple organisations in an industry indicates that different organisations follow different adoption trajectories, through a complex series of interactions. If these interactions lead to stable relationships between industry actors, adoption is more likely. The influence of the factors in the first-order model was also confirmed, but rather as necessary than as sufficient for successful adoption.

The majority of studies on (organisational) innovation, including those cited above have focused on macro level diffusion patterns, and only consider dichotomous decisions to either adopt a certain innovation or not. Makkonen et al. (2016) argue that these studies and models barely provide insight in the processes organisations go through to eventually arrive at (non-)adoption. To provide this insight, they study organisations' behavioural processes of innovation adoption, taking a customer-dominant logic and a micro-level adoption process perspective. Makkonen et al. (2016) pose that organisations cycle through continuous and specific adoption activities, driven by their goals, technical infrastructure, business relationships, and key individuals. They describe the continuous adoption activities as a neutral stage, where the company is on a constant lookout for needs to be coupled with potential solutions. Initiation marks the transition to specific adoption activities, when (a) specific need(s) is/are selected as requiring (a) solution(s). The adoption of one or more solutions marks the transition back to continuous adoption activities, where the adopted solutions become subject to eventual replacement by other solutions due to subsequent iterations through the cycle (Makkonen et al., 2016, p. 2487). Despite their behavioural focus, the main emphasis of the model by Makkonen et al. (2016) remains on the process leading up to the decision to adopt an innovation. Thus, their study and model do not provide much insight in determinants of (continued) use of innovations by employees.

2.4 Stimulation of organisational innovation adoption

The models discussed above included a number of factors that allow for agency of actors aiming to stimulate organisational innovation adoption: it was depicted that organisations and individual employees can be persuaded towards adoption by internal as well as external actors, providers can design their innovations in such a way that they are useful and easy to use, managers can set innovative goals and build supportive technical infrastructure, recruiters can hire innovative employees and internal change agents can build network relationships that favour the adoption of (certain) innovations. This paragraph goes into more detail on these and other ways to stimulate organisational innovation adoption, respectively from theoretical perspectives of innovation adoption/diffusion, institutional work and lastly for mobility innovations specifically, of transportation demand management (TDM).

2.4.1 Innovation adoption/diffusion

Although a number of scholars have tried to quantify the influence of organisational factors on the adoption of innovations, results have been largely inconclusive. Duncan (1976) proposed that higher bureaucratic control and lower complexity facilitate implementation, but Zmud (1982) found no support for this hypothesis for administrative innovations. Damanpour (1996b) found a stronger

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influence of organisational complexity on implementation than on initiation, whereas Damanpour & Schneider (2006) only find a positive influence on initiation but not on implementation. Damanpour (1996a) found no evidence for a relationship between implementation, and organisational formalisation and centralisation respectively. Damanpour & Schneider (2006, 2009) and Hoffman & Hegarty (1993) stress the importance of managers' characteristics: a pro-innovation attitude, liberal orientation and functional expertise positively correlate with organisational innovation (with a stronger correlation than managers' demographics and about as strong as organisational characteristics). Bucherer et al. further argue that top-management involvement is even more important for business model innovations than for technical innovations, since "new business models are affecting organizations usually in a broader manner and enforce organizational restructuring more often" (2012, p. 194).

Several authors have found significant positive relationships between different leadership styles (transactional, transformational, authentic), control mechanisms (input, behaviour, output) and organisational innovation (Černe, Jaklič, & Škerlavaj, 2013; Elenkov, Judge, & Wright, 2005; Hoffman & Hegarty, 1993; Jung, Chow, & Wu, 2003; Sharma et al., 2010). No consensus has been reached however, about which types of leadership and controls are most effective for which types of innovations, in which types of organisations, and under which conditions. Vowles et al. (2011, p. 1162) find that in organisations with influential champions (i.e. innovation proponents who do not necessarily need to be managers) and the ability to sense, respond to and understand new technology, diffusion of innovation is more likely and occurs sooner than in firms that lack these traits. Similarly, Makkonen et al. argue that managers should facilitate the "constant questioning of current performance and routines" (2016, p. 2488), as well as the identification and matching of potential needs and solutions. To achieve this, they recommend managers to develop "mechanisms to initiate exploratory activities [...], build networks with suppliers and other industry actors, and engage in continuous interaction and benchmarking to gain knowledge on and be a part of the technology development" (Makkonen et al., 2016, p. 2488). Consistent with Kurnia & Johnston's (2000) second-order model (see section 2.3), they argue that by doing so, adopting organisations can shape the characteristics of innovations (relative advantage, compatibility, complexity, trialability, and observability) to their needs. Additional to formal organisation-level activities, Makkonen et al. (2016) recommend managers to grant employees, particularly front-line personnel with hands-on experience, time, incentives and/or rewards for voluntary exploratory activities (including networking). To address the matching of needs with solutions and the possible time-lag between the two, they recommend a database for "warehousing categorized information on potential solutions and needs, and setting out corresponding action plans" (Makkonen et al., 2016, p. 2488). Finally, Makkonen et al. (2016) argue that identified need-solution couplings demand formal projects with supporting procedures for the establishment and management of project teams and the monitoring and reporting of progress and results.

In contrast to Vowles et al. (2011), Waarts et al. (2002) did find a significant influence of supplier (marketing) activities (both for early and later adopters), and advise suppliers to take the dynamics of adoption factors throughout the innovation life-cycle into account. In an early stage, marketing should be primarily focused on innovations' credibility, compatibility and strategic competitive value, whereas in a majority stage, scalability, trialability, gradual implementation and the implementation period should be addressed.

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2.4.2 Institutional work

According to Lawrence & Suddaby, "the diffusion of innovation throughout a field involves substantial institutional work on the part of organizational actors who must persuade others in their organizations of the merits of the innovation, experiment with the innovation in an effort to understand it and how it might apply to their own situations, modify it in order to gain internal legitimacy, and forge practical connections for the new structure or practice" (2006, p. 247). Lawrence, Suddaby & Leca define institutions as ¨those (more or less) enduring elements of social life that affect the behavior and beliefs of individuals and collective actors by providing templates for action, cognition, and emotion, nonconformity with which is associated with some kind of costs" (2011, p. 53). A distinction can be made between formal institutions on the one hand, including rules, laws, policies and regulations, and informal institutions on the other, which are socially embedded norms, values, and other conventions and codes of behavior (Klein Woolthuis, Hooimeijer, Bossink, Mulder, & Brouwer, 2013, p. 91; North, 1991, p. 4; Pacheco, York, Dean, & Sarasvathy, 2010).

In turn, institutional work is defined as a physical or mental effort aimed at affecting institutions. Albeit controversially, the study of institutional work thereby takes a perspective of embedded agency: actors are not only influenced by the institutions they are part of, but also actively and purposively influence them. The perspective has been accused by institutional determinists of overestimating the influence that actors can purposively exert on their institutional environment (Battilana, Leca, & Boxenbaum, 2009, p. 67; Fuenfschilling & Truffer, 2016, p. 299). Battilana et al. (2009) and Fuenfschilling & Truffer (2016, p. 310) find that agency is larger in times of crisis and environments with weak, heterogeneous and/or conflicting existing institutions. This does not mean however, that such situations make it easy for single (groups of) actors to shape the institutional field to their needs, since efforts to disrupt old institutions can be blocked by "institutional defenders, who benefit from the status quo" (Battilana et al., 2009, p. 78). In this regard, Fuenfschilling & Truffer (2016, p. 299) pose that more institutional work is required to stimulate the adoption of innovations that are more incompatible with current socio-technical regimes. Since innovations themselves can also be influenced by institutional work, they conclude that in general, socio-technical change depends on a dynamic interplay between technological innovation, regime particularities and actor strategies.

To gain more insight in the strategies employed by institutional entrepreneurs, Lawrence & Suddaby (2006) formulated a typology of institutional work (see Table 1). Applying this this typology to the case of technical innovations in drinking water production in California, Binz et al. (2016) pose that innovations go through three phases; respectively from innovation & local validation, to diffusion, to general validation, and that each phase corresponds with certain predominant forms of institutional work (see Table 2). It is still underexplored to which extent the same efforts are required for non-technical innovations, but it seems that such innovations can break with an existing regime in much the same way. The case of corporate car sharing entails a transition from a regime where cars are driven by single employees exclusively, to one where personal and shared car usage coexist. The cultural norm of private car usage and ownership, and fiscal and insurance policies related to this are examples of institutions that need to change in order to facilitate car sharing (Frenken, 2013, p. 16). Specific insights in the effectuation of such changes in mobility behaviour are provided by research in the empirical domain of transportation demand management, discussed in the next section.

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Table 2: Typology of institutional work (adapted from Lawrence & Suddaby, 2006).

Creating institutions	Political work	Advocacy	The mobilization of political and regulatory support through direct and deliberate techniques of social persuasion
		Defining	The construction of rule systems that confer status or identity, define boundaries of membership or create status hierarchies within a field
		Vesting	The creation of rule structures that confer property rights
	Reconfiguring belief systems	Constructing identities	Defining the relationship between an actor and the field in which that actor operates
		Changing normative associations	Re-making the connections between sets of practices and the moral and cultural foundations for those practices
		Constructing normative networks	Construction of interorganizational connections through which practices become normatively sanctioned and which form the relevant peer group with respect to compliance, monitoring and evaluation.
	Altering the boundaries of meaning systems	Mimicry	Associating new practices with existing sets of taken-for-granted practices, technologies and rules in order to ease adoption
		Theorising	The development and specification of abstract categories and the elaboration of chains of cause and effect
		Educating	The educating of actors in skills and knowledge necessary to support the new institution
Maintaining institutions	Ensuring adherence to rule systems	Enabling work	The creation of rules that facilitate, supplement and support institutions, such as the creation of authorizing agents or diverting resources
		Policing	Ensuring compliance through enforcement, auditing and monitoring
		Deterring	Establishing coercive barriers to institutional change
	Reproducing existing norms and belief systems	Valorizing & demonising	Providing for public consumption positive and negative examples that illustrates the normative foundations of an institution
		Mythologising	Preserving the normative underpinnings of an institution by creating and sustaining myths regarding its history
		Embedding & routinising	Actively infusing the normative foundations of an institution into the participants day to day routines and organizational practice
Disrupting institutions	Disconnecting sanctions		Working through state apparatus to disconnect rewards and sanctions from some set of practices, technologies or rules
	Dissociating moral foundations		Dissociating the practice, rule or technology from its moral foundation as appropriate within a specific cultural context
	Undermining assumptions and beliefs		Decreasing the perceived risks of innovation and differentiation by undermining core assumptions and beliefs

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Table 2: General characteristics of legitimation processes (Binz et al., 2016, p. 254).

Legitimation phase	Core mechanism	Predominant forms of institutional work
Innovation and local validation	Establishing 'local' legitimacy in a specific application area (e.g. niches)	Creating new institutions: Constructing normative networks, theorising and changing normative associations
Diffusion	Interaction with wider institutional structures and broader audiences	Shaping / aligning institutions: Advocacy, political work, valorising/demonising, educating, mimicry and imagery
General validation	Stabilising the taken-for-grantedness into a new 'configuration that works'	Maintaining institutions: Political work, advocacy and mythologising

2.4.3 Transportation demand management

Transportation demand management (TDM) is defined by Meyer as: "any action or set of actions aimed at influencing people's travel behavior in such a way that alternative modes of transport are presented and/or congestion is reduced" (1999, p. 576). Meyer distinguishes three categories of instruments: "(a) offering travelers one or more alternative transportation modes or services that result in higher per vehicle occupancy, (b) providing incentives/disincentives to reduce travel or to push trips to off-peak hours, and/or (c) accomplishing the trip purpose through non-transportation means" (Meyer, 1999, p. 576). Efforts to promote car sharing fall under the first type and are often part of such a broader TDM program (Millard-Ball et al., 2005, pp. 5–40). TDM programs can be initiated by various actors, including governments, providers of alternative travel modes, NGOs and organisations aiming to change their internal mobility (Winters, 2000). Kearney & De Young describe the ideal (organisational) TDM program as follows: "(1) will initiate significant changes in individual behaviour, (2) will not cause unintended side effects such as increased driving during non-work hours, (3) will encourage the durability of changed behaviours without continual financial support, (4) will be cost effective and (5) may result in a generalization of behaviour to other realms" (1996, p. 389). Under a TDM program, two main types of applicable instruments exist. 'Hard' or 'upstream' instruments are 'forced upon' travellers. In the case of corporate car sharing, this would include the applicable fiscal policy, parking space infrastructure, reservation and key systems and restrictions on individual car ownership imposed on employees by their employers. 'Soft' or 'downstream' measures influence individuals' voluntary behaviours via their knowledge and attitudes. This includes informing and educating employees about car sharing and its practical and environmental benefits, promotional events such as car sharing days and social interventions such as car sharers' groups (Bamberg, 2014; Thøgersen, 2014). Translating this into institutional vocabulary, hard measures would correspond with formal institutional work and soft measures with informal institutional work. Synergies can occur when these influence means are combined (Stern, 1999).

Soft/downstream TDM instruments tend to be most effective when targeted at people who have recently undergone 'life-changing moments', since such moments often lead to reconsideration of mobility habits[5]. Examples of life-changing moments are a new residence and/or workplace, a divorce or a new-born child (Fujii & Taniguchi, 2006; Oakil, Ettema, Arentze, & Timmermans, 2013; Prillwitz, Harms, & Lanzendorf, 2006; Thøgersen, 2009; Verhoeven, Arentze, Timmermans, & der Waerden, 2005). Soft TDM programs that target commuters with individualised communications and ask the

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[5] Suggested explanations of this phenomenon are the habit discontinuity hypothesis (when context change disrupts individuals' habits, a window opens in which behavior is more likely to be deliberately considered) and the self-activation hypothesis (when values that are incorporated in the self-concept are activated, these are more likely to guide behavior) (Verplanken, Walker, Davis, & Jurasek, 2008).

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target group to make a commitment for their planned travel behaviour are more effective than those that do not (Bachman & Katzev, 1982; Brög, Erl, & Mense, 2002; Fujii & Taniguchi, 2006). Based on a case study of TDM social marketing campaign pilots in six cities in the EU, Anable (2013a, p. 2) emphasises the cost-effectiveness of identifying those target segments that are most likely to be willing to change their travel behaviour, the importance of discouraging non-drivers from developing a car habit in the future and the suitability of challenges to attract attention (with prizes as a motivator for behavioural change). Even in case of success, "regularly 'refreshing' campaigns is essential to maintain good behaviour as well as to encourage further transport mode shift" (Anable, 2013b, p. 40). Bamberg summarises that "car use reduction interventions may be most effective if they simultaneously attempt to change people's attitudes, beliefs, and intentions; create situational and dispositional circumstances that are conducive for effective self-regulation of personal behaviour change goals; and, in addition, change impulsive influences on behaviour" (2014, p. 146). Lo et al. (2013, p. 20) find that business travel is more easily influenced by organisational norms and managerial control than commuting. Parking fees are still a promising instrument to influence commuting travel behaviour however, since they are often the most decisive factor in employees' commuting travel mode choice (Chan & Shaheen, 2012; Millard-Ball et al., 2005, pp. 5–40; Poulenez-Donovan & Ulberg, 1994, p. 1). Lo et al. advise TDM policy makers to gauge "the relative strength of obstacles on the individual, organizational, and societal level in order to determine appropriate interventions" (2013, p. 20) and warn that similar strategies are likely to yield different results in different organisations.

2.5 Conceptual model

Below, a conceptual model of the stimulation of organisational innovation adoption is presented (see Fig. 5). Following Frambach & Schillewaert (2002), it describes adoption on the organisational as well as the individual level. Thereby, the model includes two units of analysis; the organisation and the individual employee. It does so, because the relevant factors that influence the dependent variable (depicted on the right), namely the organisational adoption of innovations, have shown to overlap these levels to a large extent. Although Kurnia & Johnston (2000) are right in noting that in the real world, adoption (and institutionalisation) processes show complex interrelations, the model aims to remain understandable and therefore simplifies reality by showing the main (first-order) relationships relevant for the stimulation of organisational innovation adoption.

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Informal institutional work
- Constructing identities
- Changing normative associations
- Altering the boundaries of meaning systems
- Valourising and demonising
- Mythologising
- Dissociating moral foundations
- Undermining assumptions and beliefs

Creating
Maintaining
Disrupting

Informal institutions
- Norms
- Values
- Innovativeness

Perceived innovation characteristics

Ease of use
- Complexity
- Trialability
- Observability

Usefulness
- Relative advantage
- Compatibility
- Uncertainty

Organisational innovation adoption

organisational + individual level

Formal institutions
- Network effects
- Policies (organisational/governmental)

Formal institutional work
- Political work
- Constructing normative networks
- Ensuring adherence to rule systems
- Embedding and routinising
- Disconnecting sanctions

Creating
Maintaining
Disrupting

Fig. 5: Conceptual model of institutional work to stimulate organisational innovation adoption

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Depicted in the middle of the model is the central factor influencing the organisational innovation adoption: the innovation characteristics, as perceived by the adopting actor (organisation or individual). The two main elements of these characteristics determining adoption are the perceived ease of use and usefulness. These elements are influenced firstly by the factual characteristics of the innovation (such as the technical systems it is based on, not indicated as a separate factor), and secondly by the frames that determine the perception of the adopting actor. These frames are in turn influenced by the innovation's institutional field. In the top and bottom layers of the model, the typology of institutional work by Lawrence & Suddaby (2006) is integrated, indicating which types of institutional work affect which institutions.

The top part of the model depicts how informal institutional work targets informal institutions: these are adopter characteristics, which are distinguished in organisational and individual norms, values and innovativeness. The bottom part of the model depicts how formal institutional work targets formal institutions. This includes the policies that adopting actors are subject to and networks they are part of. Individual employees are (mainly) subject to their employers' organisational policies and are part of a network of peer (non-) car sharers; mainly their colleagues. These peers can increase or diminish the utility of a car sharing arrangement because of network effects (increasing returns to scale) and exert peer influence on their colleagues. Organisations are subject to governmental policy and can be part of interorganisational networks that can stimulate and/or maintain adoption. Due to the agency perspective of the model and this study, the middle layer of the model only includes those factors which can be influenced by institutional work. Other exogenous factors that cannot be (directly) influenced by institutional work, such as the factual characteristics of the innovation, organisational size and structure, adopters' prior experience with the innovation and life-changing events may influence adoption, but are assumed ceteris paribus and excluded from the model, as these factors do not contribute to an answer to the core research question[6].

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[6] These factors may nonetheless be relevant to assess the likelihood of success when doing institutional work to stimulate adoption by a specific organisation or individual.

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3. Methods

To find answers to the formulated research questions, the theory and conceptual model (see Fig. 5) of the stimulation of organisational adoption of innovations in general needed to be confronted to the specific case of corporate car sharing. To do so, qualitative data was collected in fourteen organisations that have adopted a corporate car sharing arrangement, have tried, or are still trying to do so. The qualitative research approach allows for an in-depth analysis of the innovation adoption/diffusion and institutional work literatures that the study builds upon and enabled the identification of issues and/or factors that were not previously covered in and/or discovered from these literatures. The inclusion of multiple organisations as units of analysis allows the inclusion of multiple types of corporate car sharing and the identification of distinctive features of these different types, as well as enhances the generalisability of the findings (Bryman, 2003, p. 143). Due to the scarcity of scientific knowledge about the adoption of corporate car sharing, and about how institutional work should be done, a grounded theory approach was taken, inductively developing theory based on the acquired empirical data. Hypotheses were derived that can be (deductively) tested in future quantitative research (Bryman, 2003, p. 139; Corbin & Strauss, 1990, p. 11).

3.1 Data collection

The data was mainly collected by means of semi-structured face-to-face interviews with employees responsible for mobility decision making and/or management in the studied organisations (see Table 3). Having some extent of structure safeguarded the comparability of the data acquired from the different cases, while openness for new directions in the interviews enabled the identification of new and unexpected issues, topics and factors (Bryman, 2003, pp. 122–124). A first series of contacts with (six) interviewees was made at a meeting where multiple mobility professionals interested in corporate car sharing shared their experiences, ideas and questions with each other. This meeting itself was also helpful for the understanding and interpretation of the acquired data. In addition, one of the companies participating in the OCDM corporate car sharing working group played a key role in the acquisition of interviewees, by providing contact with three of their clients. Four additional interviews were acquired by searching the internet for corporate car sharing projects and contacting responsible mobility employees via e-mail.

By means of the interviews, an insight was gained in the types of car sharing being adopted, its position within the broader mobility policy of the organisations, the institutions respectively driving or inhibiting the adoption of corporate car sharing, the work done to shape these institutions in favour of corporate car sharing and the perceived successfulness of these efforts. Initial questions were asked as openly as possible in order to prevent bias towards the expected phenomena based on the theory, and to enable the identification of new phenomena. (See appendix A for the list of interview questions.) Potential observer errors such as suggestive formulation of interview questions were kept to a minimum by careful establishment of and adherence to this interview protocol. Total exclusion of such errors is difficult, if not impossible however, since the semi-structured nature of the interviews requires improvised prodding for more detail and questioning in unexpected areas (Saunders, Lewis, & Thornhill, 2009, p. 157). Additional questioning in later interviews was also informed by insights from earlier interviews (Corbin & Strauss, 1990, p. 6). At the end of each interview, interviewees were asked

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for documentation with regard to the discussed subject matter. If such documentation was available and accessible, it was studied and analysed (Table 3 lists which interviews were supplemented with additional data sources). Several conversations with the commissioner of this study, CSO employees and others working in the corporate car sharing industry contributed to the understanding and interpretation of the collected data.

Interviewing only one person in most cases is sensitive to participant error and bias and may have thereby compromised the reliability of the study (for example because interviewees may have forgotten to mention essential details or painted an overly positive picture of the work they were involved in) (Saunders et al., 2009, p. 156). It is likely that valuable insights from different perspectives could have been obtained from other relevant actors within the studied cases (such as other employees, CSOs, NGOs, competent governmental authorities and sector associations). Through data triangulation, this may have resulted in a higher reliability and thus more complete and balanced answers to the research questions. Due to time limitations however, a limited number of interviews could be conducted and analysed. To obtain insights as broadly as possible, a larger number of organisations was favoured over a larger number of interviewees per organisation, since this was deemed most suitable in the underexplored empirical domain of corporate car sharing. The interviewees were expected to be the most reliable source of in-depth information on policy and issues related to mobility in the organisation. Through their professional interaction with both external suppliers of products and services related to corporate car sharing, and the employees as users of these products and services, as well as by studying additional secondary data, some of the other aforementioned actors could be indirectly considered. This grants access to different levels of reality and partly mitigates the aforementioned threat to the validity of the study, by allowing some extent of triangulation (Bryman, 2003, p. 147).

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Table 3: Overview of data sources

Org. type	Interviewee job title	CS type	#shared cars	Status	Extra docs:	Ref#
Research, consultancy & training (for profit)	(Former) account manager mobility & transport	B2B E2E	1 fleet + 3 E2E	Discontinued	y	1
Engineering research, consultancy & training (for profit)	Senior Consultant & Manager Facilities	B2E CSO	±20	Operational / discontinued	y	2
Heavy transport equipment (for profit, multinational)	- Facility manager - Fleet manager	B2E	±200 (dept)	Operational + exploratory	n	3
Financial services (for profit, multinational)	Project & change manager compensation & benefits	B2B B2E	0	Exploratory	n	4
Financial services (for profit)	Advisor facility services	E2E	Variable	Discontinued	y	5
Energy provider (for profit)	Manager HR administration & payroll	B2E	11	Operational	n	6
Water management (non-profit)	- (Former) mobility coördinator - Fleet manager	B2E	±30	Operational	n	7
Drinking water (non-profit)	CFO	B2E B2B	9 fleet, 3 coöp	Operational	y	8
Education & research (non-profit)	Sustainability coördinator	B2E B2B	5 fleet, 1 coöp	Operational	y	9
Education & research (non-profit)	Sustainability manager	B2B	2	Operational	y	10
Education & research (non-profit)	Program manager sustainable business operations	B2E	6	Operational	y	11
Regional government	Contract manager	B2E CSO	15	Operational + exploratory	y	12
Regional government	Facility manager	B2E	9	Operational	y	13

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3.2 Data analysis

Interviews were recorded (after permission to do so was obtained), and transcribed. All transcripts and secondary data sources were coded (in QSR NVivo qualitative research software). In contrast to a pure grounded theory approach where entirely new theory emerges from the data, this study builds upon existing theory. Most importantly, mentioned efforts to stimulate corporate car sharing were coded according to the typology of institutional work by Lawrence & Suddaby (2006). A risk of this approach is that the researcher can be tempted to force the data onto the theory (Ramalho, Adams, & Huggard, 2015). In this study, this could mean interpreting every action by every actor mentioned by an interviewee as one of the types of IW, either for or against corporate car sharing. It would however, be wasteful for scientists not to build upon each other's contributions. Therefore the coding process built upon the categories by Lawrence & Suddaby (2006) but remained open to conceptual additions and adjustments. Mechanisms behind causal chains from institutional work to institutions and adoption, as well as categories for the current institutional field of corporate car sharing were not identified from previous literature, and therefore emerged from the data during the coding process (Corbin & Strauss, 1990).

The analysis of the collected data delved into the processes of institutional work, searching for patterns in barriers encountered, strategies employed and perceived success in the stimulation of individual level adoption of corporate car sharing. Acquired data was also analysed for differences and similarities between the different types of car sharing, studied organisations and employees. Based on this analysis, a number of hypotheses for the stimulation of organisational innovation adoption were (inductively) formulated, which may be further (deductively) tested in future (quantitative) research, and thereby contribute to a larger degree of certainty about the topics of this study. Observer error and bias from compromising the reliability of this study (some information may have been misunderstood and/or wrongly interpreted in confirmation with the expected findings based on the studied theory) (Saunders et al., 2009, p. 157). To mitigate this threat, the findings were verified with the interviewees and the commissioner of this study, by asking them whether the findings were consistent with their professional experience and making adjustments where necessary.

The core research question and fourth sub-question inquire into ways in which adoption can best be stimulated, but the answering of this question relies on the third sub-question; to which the applied strategies were perceived as successful. Since in most of the studied cases this is in effect an ex-interim cross-sectional study, the effects of the implemented stimulation strategies were often still unclear. In addition, it is very difficult to explain different outcomes to the application similar strategies in different cases; as the conceptual model (see Fig. 5) visualises, adoption depends on a plethora of adopter and environmental characteristics. Although this is a limitation to the validity of this study (Saunders et al., 2009, p. 157), a ceteris paribus analysis of a range of strategies is unattainable in the real world and a longitudinal research method was not feasible due to time limitations. Where possible, parallels are drawn and comparisons are made based on the anecdotal and subjective evidence of the successfulness of institutional work efforts as perceived by the interviewees.

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4. Findings

4.1 Current institutional field of corporate car sharing

This section describes the current institutional field of corporate car sharing in the studied organisations, as described by the interviewees (and in secondary data). It provides the basis for an answer to the second sub-question: *To which extent do current institutions favour or hinder the adoption of corporate car sharing?* Firstly, the corporate car sharing initiatives encountered in the studied organisations are described. Next, institutions conducive and inhibitive to corporate car sharing are respectively discussed.

4.1.1 Overview of corporate car sharing arrangements

From the interviews and their acquisition, it was apparent that private car ownership is still the institutional norm. The majority of interviewed organisations provide at least some of their employees with personally allocated (lease) vehicles, often on a functional basis (exceeding a certain minimum threshold of business trip kilometers per year) and sometimes also as a secondary employment benefit. The types of car sharing depicted in Fig. 1 seem to be levels in order of their current institutional embeddedness; B2E sharing within organisations being the most widespread and P2B sharing between private persons and organisations the least.

Most of the interviewed organisations offered a fleet of vehicles shared by multiple employees, i.e. B2E fleet vehicles [2,3,6,7,8,9,11,12,13]. Some spread their fleet vehicles over multiple locations where the organisation was situated [1,6,7,11]. The fact that most of these organisations had their arrangement for multiple years already (some over ten), is another indication that this is the most institutionalised form of corporate car sharing. Generally, shared B2E fleets are accessible for reservation by all employees (sometimes isolated for specific departments) on company cost. However, they are mainly targeted at non-lease drivers and non-car commuters. A trend is that organisations outsource their facility activities, including mobility and car sharing, in order to be able to focus on their core business as much as possible [6,13]. Reservation, administration and key systems are generally procured from external suppliers, and vehicles leased including maintenance, insurance and cleaning. One interviewee established a working group composed of intensive fleet vehicle users, to formulate requirements for their new tender [13]. A few of the interviewed organisations applied logistics systems they already used (for example for the reservation of meeting rooms) [7,8,9], or worked with self-built systems [3,11].

A smaller number of organisations had an E2E arrangement that enabled lease drivers to share their cars with their non-lease-driving colleagues [1,4,5]. On the individual level, these arrangements were not (yet) adopted as much as B2E fleet vehicles; one interviewee noted that *"employees came up with all sorts of reasons not to share their car"* [1]. In another organisation, a core group of employees shared their car in exchange for a financial reward. This interviewee noted that employees who shared their lease car generally had it as a secondary employment benefit. Functional lease drivers did not share their car, as they were expected to do a major part of their work 'on the road' [5].

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One project saw a cluster of organisations that had established a coöperation to own and manage a fleet of (electric) cars for use by all participants. They recognised favourable conditions for this project: an area with multiple organisations in close proximity, well accessible by public transport, but congested by car and a lack of parking space [8,9,10]. The businesses shared cars with each other, but effectively, they had a hybrid B2B/CSO arrangement due to the established organisational entity. Currently, a pilot is being prepared to test the sharing of these vehicles with residents of a nearby apartment building during evenings and weekends, to increase the utilised capacity. This would then add a B2P component to the B2B / CSO arrangement, and was the only example of car sharing between organisations and private persons encountered in the studied cases.

> *"It would be optimal, and we are currently working on that, if the cars could also be used by residents of the apartment buildings, to increase the utilised capacity and eventually reduce the number of required cars and parking spaces in the neighbourhood"* [8].

Another coöperation interviewee stressed that sharing with private persons could be a way to increase the utilised capacity and cost efficiency of the arrangement, but not a reason to increase capacity, fearing that adding a private component could distract participants from their core business.

> *"We need to watch out not to develop a product that is already being offered by commercial parties. We need to stick to the core, which is corporate car sharing, and offer a product that otherwise would not be offered because it is commercially uninteresting"* [10].

Local B2B fleet sharing arrangements were attempted by two other interviewed organisations, but failed due to a lack of interest and commitment among potential sharing partner organisations [1,12]. Other interviewees expressed an interest, but their organisations had not taken any concrete initiatives yet [3,4]. (One was hesitant due to the lower density of organisations in their area [3].) Another B2B car sharing arrangement was trialed in an organisation which had a neighbour with excess fleet capacity: here, it did not concern a fleet equally shared by multiple organisations, but one organisation acting as a car provider and the other as a user [1].

It can be concluded that most organisations can adopt corporate car sharing in one way or another, due to the variety of available arrangements. There is no universally applicable formula however; organisational and environmental characteristics determine which car sharing arrangement(s) best fit(s) an organisation's mobility needs (see appendix B for an overview). The types of car sharing depicted in Fig. 1 seem to be levels in order of their current institutional embeddedness; B2E sharing within organisations being the most widespread and P2B sharing between private persons and organisations the least.

4.1.2 Institutions conducive to corporate car sharing

Many of the interviewed organisations worked with (or on) car sharing arrangements in order to improve the accessibility of their office; they had a lack of (affordable) parking space [4,6,9,10] and/or were situated in a congested area [3,5,8,9,10,11].

> *"It is going to help us that there will soon be constructions to the intersection around the corner, because that will be a year of misery. As soon as there is misery, people are more eager to look for alternatives"* [3].

The trialability of corporate car sharing seems to be a stimulus for the adoption of corporate car sharing: multiple studied organisations worked with pilots and experiments to gain experience, with

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E2E and B2B arrangements but also with (the more conventional) B2E fleets [1,2,5,12]. These trials were launched on a small scale, in one case with only one B2E vehicle [1] and in another with a small subset of employees as a 'testing team' [12]. (Three of these pilots did not turn into structural arrangements however, and were discontinued for reasons discussed in section 4.1.3). Most interviewees positively experienced the compatibility of their corporate car sharing arrangement with their other mobility arrangements and/or policy measures [1,2,3,4,5,6,7,8,10,12,13]. Many organisations facilitate and stimulate non-car commuting with their B2E car sharing arrangements: by having cars available on-site, employees do not need to bring their own car to work if they have a business trip during the day [1,5,6,9,10,11,12,13]. Good public transport infrastructure in the neighbourhood of the office is an essential enabler for this to work [1,5,6,7,8,9,10] and especially when combined with (financial) incentives for non-car commuting, employees are stimulated to adopt corporate car sharing for business trips [4,6,7,8,10,12,13]. This policy was shown to be successful in one of the organisations: the employees who had adopted the shared B2E arrangement used it for 29% of their business trips and used their (e-)bicycle for 66,5%, and public transport for 50,5% of their commutes. They drove a car for only 7,7% of their commutes. 91% of these shared B2E fleet vehicle users rated this arrangement (very) positively[7] [13]. An employee in another organisation even testified to be willing to sell their second private car, if the B2E pilot would become a permanent arrangement [1]. However, other employees commuted with their private car, even on days that they drove a fleet vehicle on a business trip, the most likely explanation being that they deem the reimbursement (often 19ct/km since this is the maximum tax-free amount) insufficient to cover the variable cost of running their private car [1,10]. In one organisation, 30% did this during a pilot where the fleet vehicle was free and the private car reimbursement amounted €0,28/km [1]. Another interviewee did not know how many employees were enabled by the fleet vehicle to commute by public transport, and noted that this is important data that should be gathered in the future [10]. Alternatively, a number of other interviewees mentioned that their shared fleet actually enabled them to save costs by reducing the reimbursement of private vehicle usage and/or the provision of personal lease vehicles: one organisation reported a decrease in declaration of private vehicle usage and an increase in fleet vehicle usage after having lowered their reimbursement [12]. Yet others are hoping to compensate for confiscated personal lease cars by providing fleet vehicles [4,7].

Many interviewed organisations considered to start working with mobility budgets [1,2,3,5,8,10,13], or already did so [4,6]. These are transport arrangements where employees are provided with a budget, which they are free to flexibly spend on their travel behaviour according to their own demands and preferences. Money that is left over can be (partially) kept by employees. If the budget runs out, employees themselves have to pay any remaining travel costs. This stimulates them to be more cost-conscious in their mobility decisions and behaviour. The organisations in this study that worked on or with a mobility budget included shared cars as one of the possible modes of transport that employees could spend their budgets on. Mobility budgets can thus be a driver for corporate car sharing, since they are a financial incentive for employees not to drive a (generally more expensive) lease vehicle. In one of the organisations, approximately 100 out of the 750 who qualified for a mobility budget decided not to drive a personal lease car [6]. Lastly, some organisations saw it as a benefit that they could flexibly manage their fleet; they could take a vehicle out when a single employee needed a car regularly but temporarily, for instance in a project, or add a vehicle when a former lease driver left the organisation [3,7,10].

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[7] No information about the opinion of non-users is available.

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Each of the interviewees reported that corporate sustainability was a reason for the organisation to pursue car sharing; [1,2,3,4,5,6,7,8,9,10,11,12,13]. Interviewees reported that 40-60% of employees commute individually by car [1,9,10,11] and mobility generally causes a significant part of an organisation's GHG emissions. For most of them, this was a reason to share fuel-efficient, electric and/or biofuel vehicles [6,7,8,9,10,11,12,13]. Similarly, some interviewees mentioned that the organisation's desire to control the type of vehicles employees show up in at professional contacts was a reason for their B2E fleet (as an alternative to employees' private vehicles), for representativity reasons [6,8,12] and some noted that corporate car sharing was a way for the organisation to convey a sustainable image [5,8,9,11].

> *"Because we do not know what kind of vehicles employees themselves bring to work, we want to have a sustainable vehicle available for business trips [...]"* [12].

Car sharing projects in organisations are also often (partly) externally driven: especially local governments try to reduce congestion by stimulating alternative modes of transportation and commuting during off-peak hours, and target employers to reach this goal [1,2,3,5,8,9,10,11]. Car sharing arrangements can then be among the employers' contributing strategies.

Support from higher management levels can be either a driver [3,5] or a barrier [1,4,5,9] for corporate car sharing. A change in top management position can therefore boost or dampen corporate car sharing projects [5]. (More about inhibitive institutions is discussed in the next section.)

> *"Top management is slowly starting to realise that we have to act; not only we but everyone. If we all wait and see - that inevitably ends in one way or another. We can wait for the government to place more asphalt but that doesn't help. We've become convinced of that by now"* [3].
> *"There was much support for the pilot from the former chair of our board of directors; it was high on her agenda. That support disappeared; the new chair has other priorities"* [5].

Table 4: Institutions conducive to corporate car sharing (organisational level)

Institution type	Description	CCS applicability	References
Informal	Corporate sustainability (organisational values)	All	1-13
	Representativity / image / promotion	All, particularly B2E, E2E & B2B	5,6,8,9,11,12
	Top mgmt support / leadership	All	3,5
Formal	Compatibility with mobility policy	B2E, B2B & CSO	1,2,3,4,5,6,7,8,9,10,12,13
	Car accessibility problems	All except B2P	3,4,5,6,8,9,10,11
	Public transport infrastructure	All except B2P	1,5,6,7,8,9,10
	External drivers (projects)	B2E, E2E, B2B, CSO	1,2,3,5,8,9,10,11

4.1.3 Institutions inhibitive to corporate car sharing

Cost

Cost was perceived by many interviewees as an important barrier inhibiting organisations from adopting (and expanding) corporate car sharing arrangements [1,2,4,5,10,11,12]. Larger arrangements enjoy economies of scale; the more vehicles are utilised, the less they cost per kilometer, due to the spreading of fixed costs. This is especially true for B2E fleet arrangements which not only entail the

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leasing of vehicles but also the procurement of systems that facilitate the logistics, administration, reservation and key management. These costs are lower per vehicle and per kilometer if spread over larger numbers of vehicles and thus, such arrangements are generally encountered in larger organisations. Still, even one of the largest studied organisations experienced cost constraints: top management would not allocate money to a car sharing arrangement without a solid business case, but collecting the required travel behavior data in support of that business case would already require an investment in telematics equipment [4]. Another interviewee noted that *"car sharing is not our core business so we cannot explain withdrawals from education to invest in cars"* [11].

Of course, what the car sharing arrangement in question forms an alternative to is crucial in determining whether it has a return on investment. This can be best illustrated by a pilot 'fleet' of just one shared vehicle that was abolished because it turned out to be more expensive per kilometer than the reïmbursement for private vehicles (€0,28/km):

> *"For the management board, this was the only criterion; a pure cost focus. That is why the fleet car was abolished. My point was that if a fleet car would replace only one lease car, the business case would have already been solid"* [1].

Fiscal policy

Most of the interviewees identified the Dutch fiscal policy applicable to company cars as an institution inhibiting shared B2E fleet arrangements, in terms of the individual level adoption as well as utilised capacity. The studied organisations did not allow their employees to use fleet cars for private purposes [1,2,3,7,8,9,10,12,13], since this incurs extra taxation under Dutch fiscal policy (naturally, this also excludes B2P sharing). Although commutes are not seen as private but as business usage, the organisations did generally not allow them due to the entailed additional administrative burden of proving that vehicles were indeed not being used for private purposes [1,10,12,13]. This causes the utilised capacity of the vehicles to be suboptimal, firstly because the vehicles do not serve all the purposes they could, and secondly because some employees find driving to and from the office before and after a business trip too much of a hassle, which may lead them to decide to make the business trip directly from home with their own car [1,2,11,12]. For the employees who do travel with a fleet vehicle, it lengthens their travel movements (with associated costs, time and environmental impacts). An interviewee from an organisation that did not have a car sharing arrangement identified fiscal policy as a barrier against organisational level adoption:

> *"The policy that trips need to be registered does not make it any easier. Then I will have to invest in telematics systems even though I do not care about all that. Employees are now not allowed to bring the car home in the evening; when that happens, the fiscal authorities immediately want to collect taxes"* [4].

In 2014, an arrangement was established that enables organisations to 'rent out' shared B2E fleet vehicles to employees for private use, with the intention of increasing capacity utilisation. Under this arrangement, the employee pays the employer a market conform rental tariff over which VAT is incurred, instead of the fixed annual taxation as applicable to regular private usage of company vehicles (a percentage of catalogue price of the vehicle) (Vereniging van Nederlandse Autoleasemaatschappijen & Belastingdienst, 2014). None of the studied organisations used this arrangement however, interviewees being put off by the administrative burden (obligatory ride registration with certified telematics) [3], and employees by the high cost; at a market conform tariff, it is generally more convenient to rent a car closer to home instead of at the workplace. Others were not

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aware of the arrangement [12]. No clear fiscal regulation exists for the renting of company vehicles to non-employees for private use, and none of the organisations considered this an option. A visitor at a car sharing network meeting noted that under current Dutch legislation, doing so would require a company to be registered as a rental company, and one public-sector interviewee noted that for governmental organisations, this could not be an option because of a Dutch law that prevents market interference by the government [12].

Lacking flexibility

In the past, only being able to drive a fleet vehicle from and to the office was not such a problem because it was the norm for employees to work at the office every day. Recent developments towards flexible working (from home) however mean that employees do not commute to work every day anymore. Four interviewees noted that this development has caused the office-based B2E fleet car arrangement to lose its value and therefore explored new forms of mobility and car sharing [2,4,5,12].

> *"I think we implemented the shared fleet very nicely back in 2009 and it has been well utilised, but our employees' needs have changed and we are now looking for a solution to this challenge"* [12].
> *"Especially in this day and age of flexible working, fleet vehicles have become old-fashioned. Then the fiscal authority wants you to pick up a car over here and put it back afterwards in the evening. You don't want to expect your employees to do that anymore"* [5].

This lack of flexibility for individual users led two organisations to try a subscription to a station-based CSO (used by other organisations and private persons). One of these organisations quit due to negative experiences with errors in the reservation and key logistics systems. That year, the station-based vehicles (which are mainly intended for short round trips) were used about 50 times. More often, the organisation rented cars from a 'classic' rental company, since this is less expensive if a car is needed for an entire day [2]. The other organisation had positive experiences with the pilot however, and as a next phase will try to circumvent the problem of lacking flexibility by moving a number of cars from the central office (where the entire fleet used to be based) to a number of different locations of the organisation, so that employees can pick up their car closer to their homes. If it turns out that these externally placed vehicles are insufficiently used, they can be moved back to the central office [12].

Organisational inertia

Even though the studied organisations were selected because they had taken an initiative towards car sharing or had expressed an interest in doing so, most dealt with inertia in one way or another. (In other organisations this is most likely to be the crucial barrier causing them to take no initiative at all.) In some organisations, day-to-day responsibilities caused the interviewees and/or their colleagues to invest a suboptimal amount of time in the management and/or internal promotion of the car sharing arrangement [9,10,11]. One interviewee argued that car sharing often ends up low on the priority list, because *"it is rather a nice to have than a need-to-have"* [9]. In multiple organisations, a lack of invested time and/or money led to the usage of suboptimal systems to manage the sharing of vehicles, leading to underutilised capacity [3,9,11]. In some organisations, insufficient monitoring of employees' mobility behaviour has led to a lack of important knowledge on which to base decisions related to the management of a car sharing arrangement [4,9,10].

Environmental circumstances

Not every type of corporate car sharing can be applied in every organisation. One interviewee noted regarding the applicability of a B2B arrangement: "Here, it is somewhat different than on a compact

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business district. This is an industrial site, everything is located a bit farther away from each other" [3]. Other organisations encountered a lack of interest when seeking B2B sharing partners in the neighbourhood [1,2,12]. One interviewee noted that the absence of an urgent accessibility problem hindered the car sharing project [1]. However, another did have such a problem in the form of a lack of parking space, but actually saw that as a barrier to place shared B2E fleet vehicles, because those would take up parking space themselves [4].

Technical problems

Some organisations experienced technical problems, mainly with the reservation, key and administration systems and electric charging infrastructure, especially in the early development stages of their car sharing arrangements. This caused some negative experiences among employees with regard to the ease of use [1,10,12,13] and also created a risk of spreading word of mouth, preventing colleagues from adopting car sharing [10]. Especially those organisations working with full electric [8,9,10,11] and compressed natural gas [7,12,13] vehicles experienced this, because these vehicles work differently than the traditional gasoline fuel cars employees are used to and because the technologies they are based on are generally younger. In order to minimise negative experiences, one organisation held back in the promotion of their CCS arrangement to their employees until such startup-problems were overcome [8]. Although the coöperation sharing a fully-electric fleet had a reservation system that automatically catered for recharging time [8], another organisation did this manually in their self-built system, leading to the practice of the cars only being driven once per day [11].

> *"We outsource because we think the market is able to provide innovative products and services, but sometimes we encounter difficulties to achieve this within current supplier contracts. [...] When I asked our car sharing supplier how they will ensure that electric cars will only be available for reservation from the moment they have enough charge, they looked as if they were asked that question for the first time. [...] Now, three hours are added for charging after each reservation, but I would prefer a system that detects the exact required charging time"* [13].

Individual level barriers

A commonly identified barrier inhibiting the adoption of established corporate car sharing arrangements by individual employees, is a lack of awareness of these arrangements. Interviewees generally attributed this lack of awareness to inadequate promotion [1,5,9,10]. Awareness does not guarantee adoption however. Multiple interviewees found that employee behaviour is guided by habits, and noted that a general fear of and resistance to change inhibits them from trying car sharing as a new mode of transportation [3,4,5,7,9,11,13]. A main underlying institution employees hold on to, is that of private car ownership and use [1,3,4,5,9,13]. Interviewees recognised differences in the employee acceptance of different types of car sharing. On the demand side, employees were found to be more willing to drive a shared B2E vehicle than a E2E vehicle [1,3]. An explanation for this was the fear of damaging the vehicle, which was considered worse if it concerns a colleague's personal vehicle than if it is a fleet vehicle [1]. On the supply side, it proved difficult to stimulate employees to share their personal lease vehicles with colleagues [1,3,4,5]. Some reasons given in an internal survey were that firstly, some employees did not want to go through the hassle of indicating in the reservation system when their car was available, secondly that they were afraid that their colleagues would not take good care of their car, and thirdly that they wanted to be flexible and able to drive home at any time. In this organisation, only three employees conditionally made their car available (Panteia, 2014).

Some interviewees mentioned a difference in attitudes between the older generation of employees, who see the private car as a status symbol, and the younger generation, who want to be mobile but

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are not as interested in ownership [5,6]. Adoption of a car sharing arrangement tends to occur more smoothly in organisations that did not previously provide their employees with personally driven cars. In such cases, the shared car is an additional service, in contrast to the more radical transition from private to shared usage required for adoption by former lease drivers [7,9,10].

One interviewee recalled a negative experience trying to steer away from personal lease in the past. A sales department used to fill their time making client visits, and therefore drove functional lease cars and worked based from home. Due to the economic recession and the transition towards online shopping, the employees in this department had started working at the office, and only sporadically made a physical sales visit. When the company made the decision to take back the lease vehicles of this department, employees took their employer to court and the judge ruled that the cars needed to be given back due to the contract granting a right to a lease vehicle. Now the department manager wants to update this department's job description, so that the number of lease cars can be reduced, but fears resistance from employees if (s)he does so [4].

Privacy

The usage of telematics equipment in shared cars can provoke resistance due to privacy concerns [5]. Two regional governments were quite self-restrictive in the analysis of collected data, in anticipation of possible concerns among employees, and also in order to follow the organisation's general culture of mutual trust. This meant that the collected data would only be checked if suspicions of fleet vehicle misuse existed, but not structurally [12,13].

Availability

A lacking availability of shared vehicles could have been a barrier inhibiting the adoption of corporate car sharing by individual employees, but most of the studied organisations had arranged an extra buffer for situations where all shared fleet vehicles were booked, in the form of additional rental cars (or even taxi [7]), thereby ensuring that this cannot form a problem [2,3,6,8,9,10,13]. An interviewee noted that she did not receive complaints from employees when all fleet vehicles were reserved; her experience was that employees were generally creative in finding other ways to get from A to B [7]. Another interviewee from an organisation that respectively abolished their B2E and E2E arrangements noted the same [5]. There were interviewees who noted that some early adopting employees were very intensive users of their B2E arrangement in the beginning, because they could practically use these vehicles as their own, at any time. With more adopters however, the utilised capacity of these fleet cars increased and this 'benefit' diminished, driving these early adopters to make reservations sooner in advance [11].

Carelessness

Some organisations with shared (mainly B2E fleet) vehicles experienced some extent of carelessness with vehicles in terms of tidiness and damages: it seems that employees are more careful with their own vehicles than shared vehicles [12]. One interviewee experienced that if a vehicle is clean and undamaged, it is likely to stay that way, whereas if a vehicle is already somewhat dirty and damaged it is likely to become worse [6]. To cater for this, most organisations had procured a cleaning service and an extensive insurance (meaning that claims would not be charged to employees). Although none of the organisations encountered excessive damages, there were differences among the studied organisations in the extent to which employees notify the employer of damages that were inflicted on

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the vehicle during their usage: some only had positive experiences [12], whereas others complained of unnotified damages [8, 13].

Table 5: Institutions hindering corporate car sharing

Type of institution	Adoption lvl hindered	Description	Applicability	References
Informal	Organisational + individual	Inertia / resistance to change / lack of time / other priorities	All	3,9,10,11
		Carelessness (damage, littering, fines)	B2E & E2E in particular Possibly B2B & CSO	6,8,13
		Lacking awareness	All	1,5,9,10
	Organisational	Insufficient monitoring, data & insight	B2E & CSO in particular. E2E & B2B to some extent	4,7,9,10
	Individual	Private ownership norm / status	All, E2E in particular	1,3,4,5,6,7,9,10,13
		Privacy	B2E, E2E & B2B in particular	5,12,13
Formal	Organisational + individual	Fiscal policy	B2E & B2P in particular B2B & E2E to some extent	1,2,3,4,7,8,9,10,11 12,13
		Technical problems	All	1,8,10,11,12,13
	Organisational	Environmental circumstances	All	1,2,3,4,12
		Cost	B2E, B2B & CSO	1,2,4,5,10,11,12
	Individual	Lacking flexibility	B2E in particular B2B & E2E to some extent	2,4,5,12

4.2 Institutional work to stimulate corporate car sharing

This section provides a description of the institutional work done by the interviewees and other actors to shape an institutional field favourable to corporate car sharing. It thereby provides the basis for an answer to the third sub-question: *Which strategies are employed to shape institutions in favour of the adoption of corporate car sharing, and to which extent are these strategies perceived as successful?* Section 4.2.1 describes work to replace old unfavourable institutions (as discussed in section 4.1.3) with new institutions and section 4.2.2 describes work to maintaining existing conducive institutions (as discussed in section 4.1.2).

4.2.1 Creating an institutional field conducive to corporate car sharing

Educating
The type of institutional work most applied by the studied organisations is the *education* of employees. Main topics employees are informed and instructed about are the existence of an arrangement, changes relative to prior mobility arrangements, stimulation incentives, intended usage, rules and procedures surrounding the sharing of cars, reservation, key and administration systems. (In the organisations with full electric and CNG vehicles, employees are also instructed about how to use these cars.) The interviewees had leading roles in these communications, often together with communication departments, department secretaries, service desk / reception employees and

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suppliers of car sharing products and services. They organised this via several channels; direct personal communication and instruction with employees, e-mail, intranet, events and physical materials such as posters/banners, flyers, and company magazines/newsletters. Besides these internal communications, some organisations also communicated through external press to generate attention for corporate car sharing [1,5], and one local branch of a larger organisation presented their experiences with car sharing on a headquarter level [5]. In the organisations that had already had their B2E fleet for many years, current education mainly targeted newly hired employees, as the others already knew what was available to them and how it worked [2,7]. Two interviewees noticed that sharing activity fluctuated together with internal communication efforts [5,9]. One interviewee stated that "*you can only start promoting as soon as you have your systems settled, because otherwise the chance of disappointments is just too high*" [8]. After the coöperation had hired a project manager responsible for promotion and instruction, the project was significantly boosted. He instructs organisations and employees that have already shown an interest and targets promotion at those who have not yet done so [8,9,10]. In two cases, interviewees were uncertain about the specialism of service desk/reception employees regarding the car sharing arrangement and consequently the continuity of the provided information, attributing this to inadequate training and instruction [9,11].

One organisation estimated that at least 80% of all employees were aware of the fleet vehicle, about 25% were interested and 15% had actually driven it [1]. In another organisation, about 100 out of 800 (±12,5%) employees had an account on the car sharing platform [10] and yet another had 316 members out of 1200 employees (26%) [13]. In general, fleet car use is taken up by a small active core of early-adopting employees who structurally rely on the arrangement, and a larger, more slowly growing group who incidentally fall back on it [8,9,10,11,12]. One interviewee noted that it is key to guide the latter incidental users through their 'try-out' period, since reservation, key systems and vehicles can be experienced as difficult to use due to unfamiliarity. In the core group, satisfaction is generally high because they are familiarised with the car sharing arrangement and use it routinely [12]. By nature, these early adopters are more tolerant of technical startup problems [8,10].

Mimicry
Of course, corporate car sharing itself is not completely new and builds upon existing products and services, such as traditional car rental and personal car lease. The largest institutional divergence however, lies in the change from private to shared *usage*. Similar to the systems used for the payment of public transport (an industry where this same transition had already been institutionalised), CSOs provided multiple of the studied organisations with systems that used cards and/or smartphones instead of keys to access shared cars [2,8,9,10,12,13]. Within organisations, mimicry was practiced in some sense that reservations for fleet vehicles could be made within existing systems that employees were already familiar with, for examples for the reservation of meeting rooms [7,8,9,11]. This does not always enhance the ease of use however: two interviewees recognised limitations in the suitability of existing systems for car sharing [7,11].

Constructing normative networks
In effect, the coöperation and community of organisations locally sharing a fleet of electric vehicles meant the construction of a normative network; these organisations work together in their decision making with regard to the shared fleet and have become each other's peers in how they make use of their fleet [8,9,10]. Besides these B2B CCS specific networks, there were also interorganisational networks which were focused on regional accessibility and mobility in general, usually commissioned by

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governmental organisations (as discussed in section 4.1.1) [1,2,3,5,8,9,10,11]. In most of these cases, car sharing initiatives were among the outcomes of the coöperation in these networks [1,2,5,8,9,10].

The closing of the Green Deal Car Sharing marked the establishment of another normative network, for car sharing in general but with elements specifically focusing on corporate car sharing (Kamp et al., 2015). Among the organisations that signed this Green Deal, tasks were divided for promotion targeted at end users, making sharing platforms more accessible to organisations, solving insurance issues and for pilots to gain more experience with several forms of corporate car sharing. Subsequently, OCDM established a corporate car sharing working group, composed of a subset of its (CSO) members active in this market. In order to contribute to OCDM's commitment to the collection and diffusion of knowledge about corporate car sharing, this working group published a position paper and an infographic with accompanying press release (OndernemersCollectief Duurzame Mobiliteit, 2016a, 2016b; Verhoef et al., 2016). These were targeted at *educating* a broader audience about corporate car sharing, as well as employers specifically by giving concrete tips for how to set up a corporate car sharing arrangement. The position paper and infographic *theorised* by formulating levels/categories of corporate car sharing (similar to Fig. 1), identifying barriers and opportunities and highlighting best practices.

In addition to this public campaign, the working group harmonized their lobbying goals and strategy, to strengthen their combined *advocacy* efforts. Together, they mainly call for adjustment of the Dutch fiscal policy (*'bijtelling'*) applicable to company cars (which currently forms a barrier inhibiting the adoption of car sharing, as discussed in section 4.1.3). In effect, they are doing multiple types of institutional work at once: *advocating* the *disruption* of the old institution of private car ownership and use, which is still embedded in the Dutch governmental policy, to *disconnect the sanction* this imposes to the new institution of shared ownership and use by organisations, and replacing it with new fiscal policy that is more supportive of the new institution. (This case does not concern a sanction in the literal sense of the word, but rather a policy that makes some forms of car sharing so expensive and administratively complex that they rarely occur in practice.)

Defining

Recently, a Dutch car sharing sector association was established, following discontent with the representation of car sharing interests by the existing sector association of automobile retailers and garages. This new association is currently engaged in *defining* a certification standard for CSOs (Gedeeld Auto Verhuur Onze Business, n.d.). It is still unclear however, to which extent the association and certification will focus on the corporate market.

Changing normative associations

Although changing normative associations was not encountered in the studied organisations themselves, an example of a way to apply this to corporate car sharing was provided at a car sharing network meeting: an employer provided a white Tesla Model S (returned by a former lease-driver who left the organisation) for rent to employees for private usage, for example during weddings or other chic events. Instead of losing status by driving a car that is not your own, the organisation is essentially making car sharing a way for people to obtain a (temporary) identity / status.

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4.2.2 Maintaining institutions conducive to corporate car sharing

Enabling work

Each of the studied organisations in their own way established rules and procedures according to which employees can share cars. A number of organisations had some sort of hierarchy of modes of transportation for their business trips. This meant that employees should go by bicycle or public transport if possible. If travel time and/or distance are longer than a certain amount of minutes and/or kilometres, they could take a shared fleet vehicle. If this was not a realistic option (e.g. because doing so would require a significant detour, or if all fleet vehicles had already been reserved), they could choose a different mode of transport, including their own or a rental car [13]. (This does not apply to employees with a personally driven lease vehicle.) One of the organisations reported that fleet vehicles drove 37% of their business trips [8], and another organisation reported 19% of all business trip kilometers [12].

Shared B2E and B2B vehicles are generally station-based at the office or business park. For fiscal reasons discussed in section 4.1.3, most of the studied organisations allowed no private usage, and limited commutes. Some required employees to pick the vehicle up, make the business trip and return the vehicle right afterwards [1,2,11,12]. Others were somewhat more flexible and allowed employees to drive via their home on the day before and/or after a business trip [6,8,9,10,13]. One organisation allowed free private usage during weekends with the confidence of not exceeding the taxation threshold of 500 private kilometers per vehicle per year [11].

> *"With 3500 employees, it is a considerable and time-consuming operation to develop and implement procedures to make shared usage possible"* [11].

Policing

To ensure that cars are shared according to the established rules and procedures (discussed above), organisations *policed* (enforced) these in several ways. In some organisations, a separate personnel administration department was (partly) responsible for this enforcement [6,13]. In others, department managers were responsible for checking and granting reimbursements to declarations [8,12,13].

> *"It is just common practice to take a fleet car. Any declarations need to be approved by your direct manager, and (s)he is supposed to notify you if you should have taken a fleet vehicle instead"* [8].

One interviewee did note that this system introduced differences in the strictness of enforcement [12]. In another organisation, strict control did not fit with their culture of mutual trust and highly valued privacy. Therefore, employees were granted a large amount of responsibility with regard to their travel behaviour. This interviewee relied on incidental checks, for example when she noticed a reservation being placed for multiple days in a row [13]. In two organisations, employees who do not stick to the 'mode of transport hierarchy' risked getting no or less reimbursement [8,12]. One of these organisations also actively switched reservations for fuel cars with electric cars, if the range of the trip allowed this [8].

Two interviewees mentioned that sometimes 'no shows' occurred. They would then ask the employee in question to take care in to cancel the reservation if a fleet car was not needed anymore [6,12,13]. In one of the organisations, this occurred 190 times in one year [12]. Whenever an unnotified damage was discovered or a fleet vehicle was encountered dirty, interviewees would start enquiring each employee who had driven that vehicle in reverse order to find out who had caused it (even though any expenses would be covered by the employer) [6,13]. One interviewee had positive experiences with this approach

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and had not needed to approach an employee more than twice [6]. In an organisation where reservations, administration and key logistics are manually managed via the reception, the interviewee('s colleagues) would check whether reception employees would follow the established procedures [11]. In the B2B coöperation, the manager hired by this coöperation was responsible for the enforcement of the procedures of the shared fleet [8.9.10].

One organisation policed their E2E trial positively: as part of a bonus scheme rewarding alternative mobility behaviour, employees were offered €0,15/km for lending a car to, as well as from a colleague. This was registered, together with the other bonus incentives, in an online 'dashboard'. Random checks would prevent employees from registering their car as shared while in reality this did not happen. In the end, about 10% of all lease drivers regularly shared their car and 41 employees gathered a bonus during the pilot. The organisation did not monitor whether lease drivers continued to share their cars with colleagues after the pilot (including reservation platform and bonus incentive) had ended, but the interviewee did notice that some of the other previously incentivised behaviours (such as commuting outside rush hours) stuck [5].

> *The nice thing is that we still do not have the shared fleet that we used to before. I wonder how employees manage their mobility now. Maybe cars are still being shared; I just cannot see it anymore since the pilot has ended* [5].

Another organisation only had a clause in the lease terms and conditions allowing employees to share their car with colleagues, but did nothing else to facilitate or stimulate doing so, or monitor whether this (informally) occurred [4]. In yet another organisation, it was not entirely clear when and how the shared fleet could be used, and the interviewee was unsure how to influence employees' mode of transportation choice. As a result, the shared electric coöperation car stationed in their garage was only used about one to two times per week [6].

Embedding & routinising

Some of the organisations embedded and routinised their shared B2E fleets on an organisational level by (bi-)annually evaluating their fleet's usage (generally with their car sharing supplier). Based on the number of external rentals, the utilised capacity and/or number of driven kilometres, they then determined whether the addition (or removal) of a fleet vehicle was justified. (One CSO advised to consider an additional shared fleet vehicle at 90-100 rentals per year.) [6,12,13].

In three organisations, shared fleet vehicles were driven 0,6-0,65 trips per working day (12-13 per month) on average [6,12,13], two of which drove approximately 20.000 km per vehicle per year [6,12]. Another organisation abolished their fleet vehicle after a one year pilot, not exceeding 4,7 trips per month [1]. In yet another organisation, vehicles were used once per working day (18-20 times per month), and it was required to place a reservation about two weeks in advance. By streamlining the reservation system, the interviewee saw the potential to reduce the waiting time and double the utilised capacity of the existing vehicles. With 6 cars for 3600 employees, this organisation had a relatively small shared B2E fleet, but the shared electric cars were not really intended as a structural/functional part of the organisation's mobility policy:

> "*You can understand our shared fleet of electric cars as a trigger to start thinking about the possibilities that are available if you need to travel on a working day*" [11].

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The B2B coöperation set the goal of breaking even over 2016, at 15.000 km/vehicle/year and a cost of €0,45/km, and has a considerable untapped market of organisations and individual employees left to achieve this. In this coöperation, the number of vehicles is determined by a system where participants can purchase a certain amount of kilometres per year. As soon as the number of purchased kilometres justifies and finances an additional vehicle, that vehicle is added to the fleet (which currently counts ten vehicles) [10]. One organisation did not monitor the usage of fleet vehicles and maintained a constant number of cars [9]. Another had reduced their fleet size based on intuition rather than on data, since the interviewee experienced resistance whenever she requested usage data; the departments in question would then defend their vehicles [7].

Multiple interviewees stressed that for them, car sharing was not a goal in itself but a means towards the end of reducing individual car ownership and use. In fact, it is generally number three, after the bicycle and public transport, therefore making the stimulation of car sharing at the expense of public transport and bicycle use an undesirable side effect [7,11,12,13]. As one interview stated: *"In the end, we do have an accessibility problem so we really need our people to come out of that car"* [11]. In this same line of reasoning, multiple interviewees expressed a desire for a system that places multiple modes of transport on one platform, where employees only need to indicate the locations of departure, arrival and time to get an overview of the available options [7,9].

> *"You should not focus on reserving a car, but on the question 'how can I get from A to B?"* [7].
> *"Ideally, we would like to assign transportation: you indicate 'this is my journey, from the office to location X', and then we would say 'in your situation, this is the best mode of transportation'. We would make the selection based on the environment, time, and then costs for example, so if a location is well accessible by public transport you would get that suggestion and if not, you would get the shared electric car if it is within that range, and if not, you would get the shared gasoline car"* [9].

Instead of automatically, another interviewee mentioned the plan to start manually providing employees with personalised suggestions for their mobility behaviour:

> *"We are currently planning to appoint a mobility coach who engages in conversation with employees, for example 'you live 5km away and commute by car. Do you realise that you earn €60 per month if you go by bicycle? Can we help you with a raincoat?'"* [8].

One organisation tried to routinise car sharing by means of a personal online dashboard in which employees would regularly log their alternative mobility behaviour, in order to obtain a bonus.

> *"During the pilot, employees had a dashboard on the basis of which the bonuses were determined. There, they had to manually indicate whenever they had shared a car"* [5].

This strategy did not work for everyone however: some employees were forgetful in maintaining their dashboard and others did not participate in the (voluntary) pilot at all, accepting that their mobility habits were not going to obtain them a bonus [5].

Valorising
Three of the studied organisations mentioned *valorising* employees who acted as exemplary users of their car sharing arrangements [5,8,10]. One employee (positively) explained about his experiences with the shared car in the organisation's news magazine on the intranet [10]. One other organisation awarded prizes to the most active E2E car sharers, with a ceremony and internal press coverage [5].

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Table 6: Forms of institutional work encountered in the studied organisations

IW type	Institutions targeted	Institution type	CS type	References
Advocacy (creating)	Fiscal policy Indirectly: relative advantage	Org. & ind. lvl formal	B2E, B2B & B2P	OCDM (2016a, 2016b)
Defining (creating)	(Perceived) ease of use & usefulness	Org. & Ind. lvl formal	CSO in particular. Possibly B2B & B2P	GAVOB (n.d.)
Constructing normative networks (creating)	Mgmt support, external promotion, Env. circumstances, external drivers, accessibility, public transport infra.	Org. lvl formal	All, B2B in particular	8,9,10; Kamp et al. (2015)
Mimicry (creating)	Compatibility	Org. & ind. lvl informal	All	2,6,8,9,10, 12,13
Theorising (creating)	Awareness	Org. & ind. lvl informal	All	Verhoef et al. (2016)
Educating (creating)	Privacy, awareness, inertia / resistance to change.	Org. & ind. lvl informal	All	1-3,5-13 Verhoef et al. (2016)
Enabling work (maintaining)	Employee facilitation, flexibility & availability, technical problems	Ind. lvl formal	All	1-3,5-13
Policing (maintaining)	Relative advantage (ind. level), private car habits, carelessness.	Ind. lvl formal	All	1-3,5-13
Valorising (maintaining)	Private ownership norm / status, corporate sustainability	Ind. lvl informal	All	5,10
Embedding & routinising (maintaining)	Mgmt support, Private car habits, resistance to change.	Org. & ind. lvl formal	All	6,7,8,9,12, 13
Disconnecting sanctions (disrupting)	Unfavourable fiscal policy	Org. lvl formal	B2E & B2P	OCDM (2016a, 2016b)
Undermining assumptions & beliefs (disrupting)	Inertia / resistance to change, carelessness	Org. & ind. lvl formal	All	1,2,5,12

4.3 Analysis of encountered institutional work

This section discusses the implications of the findings of this study for the mechanisms underlying the institutional work done to stimulate the organisational and individual level adoption of different types of corporate car sharing. It thereby provides the basis for an answer to the fourth sub-question: *How can institutions be shaped in favour of the adoption of corporate car sharing?* To provide structure to the answering of this question, a number of hypotheses are formulated (for future testing), based on the empirical findings and the conceptual model (see Fig. 5). These hypotheses are intended to be tested to corporate car sharing, but formulated in general terms to remain open to potential application to institutional work efforts to stimulate organisational adoption of other innovations.

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4.3.1 Institutional work by adopting organisations

In shaping an institutional field conducive to the adoption of corporate car sharing by their employees, the studied adopting organisations relied heavily on *educating, enabling work & policing*. (See Table 6 for an overview of the encountered institutional work.) Employees can only know how to share cars if they are informed about the car sharing arrangement and its applicable rules and procedures. These types of work were targeted primarily at the car sharing arrangements themselves, and to a lesser extent at surrounding institutions (such as ownership norms). Educating was an exception in the sense that awareness was also raised about underlying organisational values and privacy implications, in order to reduce resistance against car sharing.

Considerable differences existed in how these organisational formal institutions were shaped, since the applicable rules, procedures and their enforcement need to be compatible with the type of car sharing arrangement, other (mobility) policies and organisational characteristics. This is no easy task, and organisations that had unclear, incomplete or unsuitable procedures and rules saw a lacking individual level adoption. Most shared B2E fleets were *embedded and routinised* to some extent on an organisational level in the sense that their usage was (bi-)annually evaluated. On the individual level however, the organisations were not far advanced in this regard. Some did plan to provide employees with personalised mobility guidance, which has the potential to break private car habits and embed/routinise car sharing, either directly (by suggesting a shared car for a business trip) or indirectly (by suggesting to commute by public transport or bicycle).

The other, mainly informal forms of institutional work seemed to be more optional, and were practiced more incidentally and generally after a 'strategy' for the aforementioned formal forms of institutional work had been established. Besides educating, the studied organisations that did aim to shape informal institutions in favour of individual level adoption of corporate car sharing mostly relied on *valorising* examples of early adopters to their colleagues. With regard to this sequentiality, the following hypothesis is formulated:

> H_1: *Because conducive formal institutions are a precondition for the shaping of informal institutions to stimulate adoption of innovations on the individual level, organisations should target the former before the latter.*

Most of the studied organisations had their arrangements at least partly as a result of their participation in public-private partnership networks, initiated by local governments to improve regional accessibility and more environmentally friendly mobility. Although only one case where multiple organisations shared a fleet together was studied and a larger sample would have enabled more generalisable conclusions, their close and well-organised coöperation seemed to be conducive to the organisational and individual level adoption of this arrangement. Based on the seeming success of these networks, the following hypothesis is formulated:

> H_2: *Due to the interorganisational nature, the construction of normative networks is a more important form of institutional work in B2B arrangements where multiple organisations (plan to) adopt innovations together, than in cases where innovations are adopted internally.*

Interorganisational communication about car sharing arrangements, especially between peers who are dealing with similar challenges, has many potential benefits: the creation and strengthening of management support for the organisational level adoption of car sharing, the shaping of

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environmental conditions conducive to corporate car sharing (in case of regional networks where governmental authorities are represented), the exchange of best practices, and enhanced external promotion to improve the organisational reputation.

4.3.2 Institutional work by car sharing organisations

A different normative network was composed of several CSOs providing products and services related to corporate car sharing and established by OCDM. By theorising in a position paper, press release and infographic, they aimed to reduce the perceived complexity of corporate car sharing, specifically targeting employers in order to stimulate organisational level adoption. Here it must be noted that by definition, theorising can never effectively alter the boundaries of any meaning systems without educating because otherwise no audience is made aware of any elaborated categories or chains of cause and effect. In other words, educating can go without theorising but not vice versa. Besides theorising and educating, the working group hopes to influence governmental taxation policy and regulations in favour of corporate car sharing by *advocating* the *disconnection of sanctions*. Whether their strategy actually works is still unclear however, since their campaign and advocacy efforts were only recently launched at the time of writing this thesis, they are still in an early stage and have not led to the adjustment or creation of any policies and/or regulations yet. It is therefore unfortunately still too soon to evaluate the effects of these IW efforts. Due to the leverage required for political work, as a coalition their chances at successfully shaping formal institutions in favour of corporate car sharing is likely to be higher than if actors individually would pursue the same goal. If they do turn out successful, organisational as well as individual level adoption of different types of corporate car sharing would be stimulated at the same time, since the current taxation system applicable to company cars seems to inhibit particularly B2E and B2P, but also E2E and B2B car sharing. An adjustment to this system to better facilitate commuting and private usage of company cars can be expected to almost instantly increase the individual level adoption and utilised capacity of many B2E fleets that have already been adopted on an organisational level. On a somewhat longer term, increased organisational level adoption can be expected due to an improved usefulness of car sharing arrangements.

Individually, CSOs seemed to mimic public transport companies with their products and services; an industry where shared mobility is already more institutionalised than is the case for corporate car sharing. Doing so is likely to contribute to both organisational and individual level adoption by increasing the perceived compatibility of corporate car sharing arrangements with existing institutions and organisational systems[8]. Such examples of informal institutional work by CSOs to stimulate adoption on the organisational level occurred more simultaneously to formal institutional work than on the individual level. This may be explained by the leverage required for successful formal organisational level institutional work; in this case, informal institutional work may be a way to mobilise a critical mass of supporting actors to exert this leverage. In this regard, the following hypothesis is formulated:

> H_3: *Organisational level formal and informal institutional work are synergetic, because on this level, informal institutional work can generate demand for an innovation, which in turn generates leverage for formal institutional work to adjust governmental policies.*

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[8] One might argue however, that personal chipcards or smartphones as keys and for administration simply provide the most ease of use and can therefore not be considered a form of mimicry as described by Lawrence & Suddaby (2006), purely focused on easing adoption via increased compatibility.

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5. Conclusions

This study aimed to answer the research question how the adoption of corporate car sharing can be stimulated. Fourteen semi-structured interviews with employees responsible for mobility in organisations that had adopted several types of corporate car sharing or planned to do so formed the main source of data, supplemented by relevant documentation. According to grounded theory methodology, the collected qualitative data was coded and analysed, building on the conceptual model (see Fig. 5) and the typology of institutional work by Lawrence & Suddaby (2006) (see Table 1).

How can the adoption of corporate car sharing be understood?
Two levels of organisational innovation adoption are distinguished: respectively an organisational level, where internal policy procedures on (top) management level determine whether and how a new arrangement is implemented, and an individual level, where employees decide whether to use an arrangement or not. Both levels of adoption are believed to be influenced by the adopting actor's perception of the ease of use and usefulness of the innovation in question. In turn, the (perceived) ease of use and usefulness are influenced by tangible formal institutions on the one hand, including policies and networks applicable to the adopting actor, and informal institutions on the other, understood as characteristics of the adopting actor including norms, values and innovativeness. These institutions can be shaped by several types of institutional work (see Fig. 5).

To which extent do current institutions favour or hinder the adoption of corporate car sharing?
In the Dutch corporate environment, individual car usage is still the institutional norm. As for corporate car sharing, B2E fleets shared within organisations are most institutionalised, B2B and CSO sharing between organisations to a lesser extent, and B2P and P2B rarely occur and are thus the least institutionalised types. Organisations are driven to share cars by a number of conducive institutions: mainly by a lacking accessibility by car in contrast to a good accessibility by public transport, compatibility with other mobility policies, cost savings (relative to providing each employee with their own car), and corporate sustainability. Most of the studied organisations that adopted corporate car sharing or considered to do so were at least partly incentivised by their participation in normative interorganisational networks, often driven by governmental mobility projects. At the same time, car sharing is inhibited by other institutions. The Dutch fiscal policy applicable to company cars is particularly inhibitive for private usage of company cars by employees (mainly B2E but also E2E & B2B) as well as private persons (B2P). Individual level adoption of E2E sharing of cars between colleagues is mainly inhibited by informal institutions, including the norm of and status attributed to private car ownership and usage, and (fear of) carelessness.

Which strategies are employed to shape institutions in favour of the adoption of corporate car sharing, and to which extent are these strategies perceived as successful?
From the interviews it became clear that different actors work to shape an institutional field conducive to the adoption of corporate car sharing. Organisational level adoption is mainly stimulated by institutional work done by CSOs who target organisations with their products and services and relied mostly on educating and mimicry as forms of informal institutional work. The construction of a normative network of CSOs bundled the efforts of further institutional work, including advocacy, disconnecting sanctions, theorising and educating. Individual level adoption within organisations is

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primarily stimulated by mobility professionals (such as those interviewed during this study), who relied mostly on enabling work to establish, policing to enforce, and educating to raise awareness about rules and procedures applicable to corporate car sharing arrangements.

How can institutions be shaped in favour of the adoption of corporate car sharing?
For the stimulation of individual level adoption of corporate car sharing, conducive formal institutions seem to be a precondition for the shaping of informal institutions, suggesting that institutional entrepreneurs should target the former before the latter. It is critical for employers to enable employees to share cars by establishing an arrangement and (positively and/or negatively) enforcing suitable rules and procedures. Internal characteristics and external conditions should be taken into account, including the pursued goals, values and culture, other (mobility) policies, geographical location and surrounding infrastructure, other organisations and/or housing located nearby, and applicable governmental policies. Educating employees about the established arrangement, applicable rules and procedures and underlying organisational values and pursued goals raises awareness and reduces resistance against car sharing. Procurement of insurance, maintenance and cleaning contracts mitigates adoption risks perceived by employees. Challenging employees to share cars presents the transition from old to new institutions as fun and desirable. Awarding active sharers can then serve to incentivise sharing and to present examples to their colleagues.

Normative interorganisational networks are a powerful stimulus for organisational level adoption: it enables the sharing of experiences, challenges and best practices and thereby generates and enhances management support for corporate car sharing. Due to their interorganisational nature, networks are particularly important for B2B arrangements, where they allow for the essential coördination of political, financial and technical matters.

By ensuring trialability of their products and services, CSOs can reduce the perceived risks of adoption because firstly, organisations are not immediately locked into an adoption commitment and secondly, this enables them to overcome (technical) start-up problems in an early stage. This helps to reduce chances at individual-level disappointments and negative peer-influence. By mimicking systems that are already more institutionalised, such as public transport card and smartphone payment, CSOs can increase the perceived compatibility with previously adopted products and services.

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6. Discussion

This section discusses the implications of this study, respectively for science in section 6.1 and for practice in section 6.2. Section 6.3 identifies limitations of this study and makes recommendations for further research.

6.1 Theoretical implications

6.1.1 Implications for innovation adoption/diffusion

The institutional work perspective taken in this study served to reveal insights in agency in (traditionally rather deterministic) adoption / diffusion literature. Most of the factors of adoption models as discussed in section 2.3 can in fact be understood as institutions, or have an institutional component that can be influenced by means of institutional work. By integrating these relationships in the conceptual model (see Fig. 5), this study has proposed a way to bridge the adoption and institutional work literatures, which may have previously seemed less compatible than they in fact are.

The findings of this study suggest, in line with Bucherer et al. (2012) and Daft (2008) that as an administrative business model innovation, the adoption of corporate car sharing depends on top-management support. A particularly clear example for Bucherer et al.'s suggested explanation that such innovations "are affecting organizations usually in a broader manner and enforce organizational restructuring more often" (2012, p. 194), was provided by the organisation where function descriptions and their granted contractual rights formed an obstacle in the transition from personal to shared mobility [4]. Conversely and in line with the finding of Damanpour & Schneider (2006, 2009) and Hoffman & Hegarty (1993) that managers' pro-innovation attitudes and functional experience have a positive effect on adoption, most interviewees were mobility specialists highly convinced of the (potential) value car sharing for their organisation. This is not entirely surprising however, considering the focus of this study on firms that had taken car sharing initiatives and the interviewees' willingness to cooperate; in other firms, the influence of (the absence of) mobility professionals on adoption is likely to be less positive.

Trials of B2E arrangements, which can be considered more mature innovations, seem to confirm the value of Waarts et al.'s (2002) advice for innovation suppliers to cater to risk-averse late adopters by emphasising trialability in a majority stage of the product life cycle. Trials of the 'younger' B2B and CSO arrangements however, also proved their value: in a field where best practice examples are still scarce, it is of great value for early adopting organisations to keep the risks of experimentation acceptable. Since most arrangements are outsourced to CSOs as a service and due to the possibility to try a small number of cars for a small number of employees to gain experience, by nature the trialability of corporate car sharing seems to be higher than for more capital intensive technical innovations that require large one-off investments. Frenken (2013) identified this low switching cost as a characteristic favourable to the diffusion of car sharing. Waarts et al.'s (2002) advice to emphasise compatibility (in an early stage) seems to be valuable to CSOs, since many interviewees mentioned synergies of corporate car sharing with other mobility policies as a driver to share cars. In line with the recommendations of Bachman & Katzev (1982), Brög, Erl, & Mense, (2002) and Fujii & Taniguchi

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(2006), multiple interviewees planned to provide employees with individualised communications. Since none had already implemented such policies, it will be promising to see what the effects will be.

Although three interviewees mentioned active engagement with CSOs, asking them to develop their services in a way they had not yet [5,8,13], only in one case this led to an arrangement that better met organisational needs [8]. Still, since these are very recent accounts and R&D takes time, it is possible that the involved CSOs will answer these clients' demands in the future. These findings show that organisations are indeed convinced that active involvement in need-solution couplings and the shaping of innovation characteristics can pay off, in line with Makkonen et al.'s (2016) recommendations and the two-way relationships of the second-order model by Kurnia & Johnston (2000). More examples of successes are required to confirm this statement however, and more research into the best ways to shape such involvement would be helpful to both innovation adopting as well as providing organisations.

6.1.2 Implications for institutional work

Thanks to its broad scope, the typology of institutional work by Lawrence & Suddaby (2006) was a useful perspective to characterise the activities undertaken in the studied cases to stimulate micro-level adoption of corporate car sharing, and relatively many types could be identified. Many of these IW efforts encountered in the studied adopting organisations however, can rather be understood as "unintended actions of ordinary actors who break with institutionalized practices without being aware of doing so" (Battilana et al., 2009, p. 89), than as "the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions (Lawrence & Suddaby, 2006, p. 214). In other words: mobility professionals were rather engaged in doing their job of implementing mobility policies congruent with their employer organisation's goals, than in affecting institutions. Another remark that can be made is that the wide diversity of categories in the applied typology made it difficult to recognise which of these activities influenced adoption most significantly. Yet, this unclarity may partly be attributed to the limited empirical insight that could be obtained in the effectiveness of IW efforts, due to the cross-sectional research design and inquiry of only one actor per case.

Besides this general remark, this study also yielded a number of more specific insights in institutional work. Firstly, it is important to point out the likelihood of findings of this study being specific to certain characteristics of the studied case of corporate car sharing and therefore not generalisable to other types of innovations. For instance, Daft (2008, p. 429) suggests that the adoption of management and structural innovations related to organisations' support activities (including corporate car sharing) are best implemented in a top-down process, whereas technology innovations related to organisations' primary activities are best implemented in a bottom-up process. Still, the findings of this study indicate that corporate car sharing is embedded in an institutional field that needs to be shaped to favour its adoption, in much the same way as the technical innovations described in recent studies were (Binz et al., 2016; Fuenfschilling & Truffer, 2016). Therefore the observation by Binz et al. that "entrepreneurs thus have to engage in collective agency ('system building') to attract other resourceful actors to the field, create new networks, form advocacy groups and system intermediaries (NGOs, associations, etc.) and align their actions to increasingly adapt hindering institutions in favor of the innovation" (2016, p. 250), seems to hold truth not only for technical innovations.

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DIfferences did exist however, between the forms of institutional work encountered in the studied case of corporate car sharing and that of drinking water production by Binz et al. (2016). Enabling work, policing, and embedding and routinising were found to be influential forms of institutional work in this case study but were excluded by Binz et al. (2016, p. 252). A possible explanation for this difference may be that these forms of institutional work play a larger role in the adoption of innovations within organisations (as studied in this thesis), than for innovations that are adopted nation (or region) wide. The rules and procedures governing the usage of the latter innovations are generally enforced through governmental (rather than organisational) policy, in which cases attempts to influence these institutions can be labelled as political work (rather than ensuring adherence to rule systems). With regard to educating, the same is likely to apply; in a corporate context, there is often a clear role for managers to teach employees how to act, whereas in a consumer context, this role is much more ambiguous.

In line with Anable's (2013b) recommendation, challenges were organised, presenting new institutions and applicable rule systems as fun and desirable. This might be considered a form of institutional work that was not yet identified by Lawrence & Suddaby (2006). Two interviewees had positive experiences with this strategy to stimulate the adoption of car sharing by employees. Combining challenges with rewards as a form of positive policing can be an example of a synergy between a hard and a soft instrument, as mentioned by Stern (1999). Another possible addition the the typology by Lawrence & Suddaby (2006) is that studied organisations had other ways to reduce the perceived risk of adoption than by undermining assumptions and beliefs. Adopting organisations reduced individual level adoption risks by procuring extensive insurance, maintenance and/or cleaning contracts with their shared B2E, B2B and CSO fleets. CSOs reduced organisational level adoption risks by ensuring that their innovative products and services are trialable.

6.1.3 Implications for transportation demand management

In line with Anable's (2013b, p. 40) recommendation, most of the studied organisations did indeed target employees that were expected to be most willing to change their travel behaviour, but often in a somewhat obvious way, i.e. by excluding those who have to make business trips every day because of their function, as well as those who never have to make business trips at all. Still, doing so is likely to have contributed to the cost-effectiveness of the arrangement. Anable's statement that "regularly 'refreshing' campaigns is essential to maintain good behaviour as well as to encourage further transport mode shift" (2013b, p. 40) was supported by the findings of two organisations that saw sharing activity decline after they started communicating less frequently about the arrangement [5,9].

In line with Bamberg's recommendation to "create situational and dispositional circumstances that are conducive for effective self-regulation of personal behaviour change goals" (2014, p. 146), one organisation trialed a dashboard where employees logged their alternative mobility behaviour. For those employees that decided to participate, this successfully changed travel habits, for some even after the pilot had ended.

In line with Chan & Shaheen's (2012) remark that business travel tends to be more easily influenced than commuting, more policies were encountered for the former than for the latter. For example the hierarchies of modes of transport were only obligatory for business trips, whereas reimbursements were the main instrument to influence commutes. Employers seem to have more authority over

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business travel than over commutes. Parking fees to influence commuting behaviour, recommended by Chan & Shaheen (2012), Millard-Ball et al. (2005, pp. 5–40) and Poulenez-Donovan & Ulberg (1994, p. 1), can indeed work but only in organisations with expensive external parking. Although no examples of paid on-site parking were encountered, some employees were stimulated not to commute by car by not granting them a permit for on-site parking (based on circumstances such as function and commuting distance or time).

6.2 Practical implications

Most organisations can adopt corporate car sharing in one way or another, due to the variety of available arrangements. There is no universally applicable formula however; organisational and environmental characteristics determine which car sharing arrangement(s) best fit(s) an organisation's mobility needs (see appendix B for an overview). The findings suggest that for organisations considering to adopt corporate car sharing it is wise to do a trial, especially if it is still somewhat unclear how corporate car sharing can be applied in your organisation. Starting with a small number of vehicles and/or employees and a possibility to abolish or adjust the project after a certain period if results are dissatisfactory can mitigate the risks entailed with adoption. The experience gained during the trial can then be used to have a well informed discussion about whether and if yes, how a full-fledged car sharing arrangement should be established. In addition, (technical) start-up problems can be overcome in an early stage, so that disappointed users and negative peer-influence are kept to a minimum. Conversely, CSOs can lower the risk of adoption for their potential clients by ensuring that their products and services are trialable. Another way for CSOs to lower the threshold for potential clients, is to integrate elements from existing familiar systems; for example by means of administration and key systems that work similarly to public transport chipcards.

When a decision to adopt car sharing has been made on an organisational level, it is best for responsible mobility professionals to start by getting the essentials right: establishing an arrangement and enforcing rules and procedures that are suitable to the organisation's characteristics and environmental conditions. Examples of policies that can combine well with car sharing are the facilitation / stimulation of non-car commuting, mobility budgets, the lowering of private car reimbursement and the ability to flexibly manage company fleets.

Early adopters are likely to try an arrangement on their own initiative and start influencing later-adopting colleagues to follow their example. By explicitly placing exemplary users under attention, for example by means of an interview in a company newsletter or by awarding winners of a car sharing challenge, this peer influence can be strengthened. E2E sharing however, was shown to be hindered by individual level informal institutions in particular, including private car ownership norms, fear of carelessness. Therefore employers should focus on informal institutional work to stimulate this type of corporate car sharing. The education of employees not only about the car sharing arrangement itself but also about the underlying organisational values (e.g. sustainability) and about the collection and analysis of usage data if telematics equipment is installed in shared cars can help to reduce resistance against car sharing due to potential misunderstandings and prejudice. Employers can reduce employees' perceived risks entailed with adoption by procuring insurance, maintenance and cleaning contracts. There is still a role for insurance companies to tailor their services to E2E car sharing, in order to reassure both supplying employees who fear carelessness, and demanding employees who fear the responsibility for colleagues' personal cars. In addition, adopting organisations can engage

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with CSOs to try and shape their arrangement to their specific needs as much as possible. A recurrent demand from multiple organisations was a system that recommends (multimodal) transportation based on departure location, time and destination. Such a system would provide employees with personalised mobility guidance and thereby help to replace old personal car habits. Herein lies an opportunity for companies to offer corporate car sharing as a part of a *Mobility as a Service* (MaaS) package.

For both adopting organisations as well as CSOs, it can help to participate in relevant interorganisational networks, most importantly with peer organisations working with the same challenges, but also with suppliers, clients and (non-)governmental organisations. For adopting organisations, doing so can increase managerial support and enhance organisational reputation. Coöperation by CSOs in joint communication campaigns to raise awareness among a broader audience can help to work more efficiently and increase credibility. Joint lobbying efforts can increase leverage to shape governmental policy in favour of corporate car sharing. In the Netherlands, this is essential since the Dutch fiscal policy must be adjusted to truly enable an increase of the utilised capacity of company vehicles. Taxation seems to be the main reason that corporate car sharing between organisations and private persons (B2P, P2B and CSO) still rarely occurs, and the potential to increase utilised capacity by using the same vehicles for both purposes is therefore still largely unexploited. Thus, policy makers can stimulate corporate car sharing by establishing a taxation system that taxes the *extent* to which a company vehicle is driven for private purposes on a variable scale (but lower than the current market-conform rental tariffs).

6.3 Limitations and recommendations for future research

This study as well as most previous comparable ones have relied on cross-sectional data and thus only make inferences about causality, based on theory and historical accounts as recalled by interviewees and reported in older secondary data. Making these inferences proved difficult however, as often the interviewees themselves had incomplete insight in the outcomes of their efforts to stimulate corporate car sharing. Therefore, further research into the dynamic processes of institutional work to stimulate organisational innovation adoption would be particularly valuable with longitudinal methods of data collection. Doing a so in survey study, with questionnaires at multiple points in time among a large set of different types of organisations adopting different types of corporate car sharing is likely to yield better insights into the effects of applied institutional work, and is well suited to test the hypotheses formulated in section 4.3 as well as validate and specify the conceptual model (see Fig. 5).

Since only three organisations allowed questioning of those employees who were already users of that organisation's car sharing arrangement via the survey questionnaire, it is unlikely that the obtained survey data could have been generalised to employees who have not yet adopted car sharing, the employees of the other interviewed organisations, or employees in general. The obtained data was therefore excluded from the analysis. It would be valuable for future research to inquire more different actors for a better reliability and more thorough insights. A survey among employees in organisations that have a corporate car sharing arrangement would be particularly valuable in obtaining an insight in the determinants of individual level adoption and enable more reliable conclusions about the successfulness of institutional work efforts. In addition, quantitative research in the scientific disciplines and empirical domain of this study can yield more certainty about the findings of this qualitative study. The hypotheses formulated in section 4.3, could serve as a starting point for such

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quantitative research. To test these hypotheses, the successfulness of institutional work efforts (directly, in terms of organisational and/or individual level adoption, or indirectly) should be compared among different groups of actors. The first hypothesis could be tested by comparing individual level adoption in a number of groups of organisations: firstly, ones that did formal institutional work before doing informal institutional work (as the hypothesis suggests to be most suitable); secondly, organisations that did so in reverse order, thirdly organisations that did formal institutional work exclusively; and lastly, organisations that did informal institutional work exclusively. The second hypothesis could be tested by comparing organisational and individual level adoption in different groups of organisations: firstly, ones that were active in interorganisational normative networks and adopted shared B2B innovations together with other organisations; secondly, similar organisations to the former but adopting an innovation internally; thirdly, organisations that are not part of such a network, yet adopted shared B2B innovations together with other organisations; and lastly, organisations that are not part of such a network and adopted an innovation internally. The third hypothesis could be tested by comparing the successfulness of organisational level institutional work efforts, by actors that relied on either informal or formal institutional work exclusively, both at the same time, or in sequence (first formal and then formal and vice versa).

Although the large number of internal B2E fleet vehicle arrangements among the studied organisations is representative for the occurrence of this type of corporate car sharing, it would have been valuable to include more cases of the adoption of different car sharing projects, particularly those between organisations and private persons. Doing so would have improved the generalisability of the findings to corporate car sharing in general, including the B2B, B2P, P2B and CSO types. In this study, It was not possible to study more of these arrangements however, mainly due to the early institutional stage of these forms of car sharing between organisations and private persons: the potential research pool of organisations and interviewees is simply much smaller. Research into corporate car sharing between organisations and private persons could spawn highly practically applicable insights, due to the potential of these forms to increase the utilised capacity of vehicles.

Another limitation to the generalisability of this study is caused by the fact that only Dutch organisations were studied. It was shown that the adoption of car sharing depends for an important part on organisations' external environment. Since especially this environment is likely to differ to a large extent on geographical location, the results are unlikely to be universally applicable around the world. For example, the Dutch fiscal policy was shown to be an important barrier that spawned political work efforts and had implications for the way in which the adherence to rules systems was ensured. In other countries, governmental policies and therefore advocacy work are likely to be different. Replication of this study in other countries can therefore provide more certainty and a more generalisable insights in the adoption of car sharing. Studies similar to this thesis, but into other business model innovations are necessary to yield further generalisable insights in processes and mechanisms of their adoption and counterbalance the current overrepresentedness of technical innovations in innovation adoption literature.

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Appendix A: Interview protocol

Semi-structured interview with employee responsible for mobility policy

- What is your function in the organisation?
- How is mobility managed in the organisation?
    - Are there goals underlying this mobility policy?
    - If yes, are these goals being reached? How is this monitored?
    - Who are responsible and/or influential for mobility policy?
    - Are employees involved in mobility decision making? (If yes, how?)
- Does the organisation try to influence its employees' travel behaviour?
    - If yes, what is the intended effect?
    - Which instruments are applied?
    - What is the result?
    - How do employees react to these instruments?
- Why and how did the organisation decide to pursue car sharing?
    - Was there a specific 'trigger' to start the project?
    - Who are/were involved in the project and with which roles?
    - Does top management support the project?
- In what way is car sharing applied? *(prod: which type? What does it cost for users? Which systems for reservation, keys, payment?)*
    - Why in this way?
    - How did it come to be?
    - What are the experiences with the project (so far)? *(from a management as well as a user experience)*
    - Are the effects of the car sharing arrangement being monitored, and if yes, how?
- Are employees stimulated to share cars? If yes, how?
    - What is the result of this stimulation? *(prod: in travel behaviour and/or attitudes)*
    - How do employees react? *(Prod: Feedback?)*
- Do you recognise barriers that inhibit(ed) car sharing? (If yes, which?)
    - Are efforts being made to overcome these barriers? If yes, how and with which result?
    - What should happen, according to you, in order to overcome these barriers?
- Are there goals with regard to car sharing for the future? If yes, which?
- Are there important questions that I did not but should have asked?
- Are there topics with regard to corporate car sharing that we did not touch upon?
- Are there any sources that are valuable and accessible for me to analyse?
- Would it be possible to spread a survey questionnaire about corporate car sharing among employees of the organisation?

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Appendix B: Overview of CCS type strengths

Type	Suitability	Trip purposes
B2E	Suitable for larger organisations with few or no personal lease vehicles, a desire to reduce those, a desire to reduce declarations of business trips with private vehicles, and/or a desire to stimulate non-car commuting.	Mainly business trips, possibly commutes
E2E	Suitable to link one group of employees with personal lease cars as a secondary employment benefit who mainly use these cars for commutes, with another group of employees who have to make business trips but do not have a lease car.	Mainly business trips, Possibly commutes and private usage (the latter considered P2P rather than CCS)
B2B	Suitable for organisations in close proximity to each other where (1) some have underutilised capacity and others have a shortage of car capacity, or (2) having a shared fleet (similar to B2E) increases efficiency due to a larger scale and enables smaller organisations to join in.	Mainly business trips, possibly commutes.
CSO	Suitable (1) for organisations that have similar demands as described under B2E, but lack the scale and/or capital resources to afford a B2E arrangement; or (2) to offer the flexibility in departure and destination locations that are hindered by fiscal policy in the case of B2E.	Business trips, commutes and private usage (the latter considered B2C rather than CCS)
B2P	Suitable for (non CSO) organisations with underutilised capacity that do not have any interested organisations in close proximity with a shortage of capacity. May be fiscally complex however.	Private usage. Only considered CCS if the providing org. is not a CSO (otherwise B2C).
P2B	Suitable for organisations with a shortage of capacity that do not have any interested organisations in close proximity with underutilised capacity. May be fiscally complex however.	Business trips or commutes. (In cases of private usage P2P rather than P2B CCS).