

# Is sharing really caring?

*A quantitative study exploring nudging as a viable alternative to govern consumer behaviour in sharing economies*

---

The current shift towards access-based consumption, referred to as the Sharing Economy, has been of interest for researchers and practitioners alike. Within this sharing economy, the usage of mobility services has quickly increased in popularity, especially scooter sharing. As popularity increases, so do reports regarding issues within these scooter sharing services, mainly regarding consumer misbehaviour. Scooter sharing companies struggle to efficiently manage these issues, relying on contracts as a method to deter, regulate and govern consumer behaviour. However, research shows that deterrence may have negative implications. Nudging, on the other hand, has increasingly been used as an effective method to influence consumer behaviour. In this study, we propose the use of nudging, to manage consumer behaviour and limit the negative effects of contracts. A quantitative study on 212 respondents measured the effects of 3 different nudges on psychological ownership, responsibility, perceived value, willingness to communicate and willingness to reuse, compared to contracts and how they are moderated by perceived effort and perceived incongruence. The results indicate that nudging has significantly higher impact on perceived value compared to contracts, whilst providing the same effect on responsibility. The study suggests that managers can benefit from implementing nudges to maintain consumer governance, whilst benefiting from higher perceived value by using nudging in their communication. Further, the study suggest researchers to explore other mediating and moderating factors that could potentially explain the effect of nudges in the sharing economy.

---

**Keywords:** Sharing Economy, Misbehaviour, Nudging, Deviance, Deterrence

Stockholm School of Economics  
Master Thesis in Business & Management

**Thesis submission date:**  
2019-05-13

**Supervisor:**  
Magnus Söderlund

**Authors:**  
Sundara Deepan Nedumaran, 41170  
Aron Tesfamichael, 41184

## **Acknowledgments**

*To Magnus Söderlund, for giving us invaluable supervision and guidance for this project*

*To the MBM Class of 2019, for being a truly amazing group of people, making our years at SSE  
unforgettable*

*To family and friends*

# Table of Contents

1. Introduction .....	6
1.1 Problematization .....	8
1.2 Purpose of study .....	10
1.3 Expected contribution .....	10
1.4 Delimitations .....	11
1.5 Outline of thesis .....	11
2. Theoretical Background and Hypothesis Generation .....	12
2.1 Conceptualizing the Sharing economy .....	12
2.1.1 The tragedy of the Commons .....	12
2.2 Consumer misbehaviour .....	13
2.3 Communication for behavioural change in collaborative consumption .....	14
2.4 The issue with methods of deterrence .....	14
2.5 Nudging as a viable option .....	15
2.5.1 Ethics of nudging .....	17
2.6 Presentation of nudges .....	18
2.6.1 Personalised information .....	18
2.6.2 Social norms .....	18
2.6.3 Feedback .....	19
2.7 Hypothesis Generation .....	20
2.7.1 Psychological Ownership .....	20
2.7.2 Responsibility .....	21
2.7.3 Perceived value .....	22
2.7.4 Willingness to reuse .....	23
2.7.5 Willingness to communicate (WOM) .....	25
2.7.6 Perceived effort .....	26
2.7.7 Perceived incongruence .....	26
2.8 Summary of Hypotheses .....	28
3. Method .....	29
3.1 Research approach .....	29
3.2 Explanation of Theoretical development .....	29
3.3. Research design .....	29
3.4 Preparatory work .....	30
3.4.1 Development of Stimuli .....	30
3.4.2 Pre-study 1 .....	31

3.4.3 Pre study 2.....	31
3.5 Measures.....	32
3.6 Main study .....	34
3.7 Data Collection .....	34
3.8 Sample .....	35
3.9 Data analysis and analytical tools .....	36
3.10 Critical overview of Method and Data Quality .....	37
3.10.1.Reliability.....	37
3.10.2 Measurement Validity.....	37
3.10.3 Internal Validity.....	38
3.10.4 External Validity .....	38
4. Analysis & Results .....	40
4.1 Hypothesis testing .....	40
4.1.1 Psychological Ownership .....	40
4.1.2 Responsibility .....	42
4.1.3 Perceived Value .....	43
4.1.4 Willingness to reuse .....	44
4.1.5 Willingness to communicate.....	46
4.1.6 The moderating effect of Perceived effort and Perceived incongruence .....	47
4.2 Summary of hypotheses .....	52
5. Discussion .....	53
5.1 The effectiveness of nudging .....	53
5.1.1 Psychological Ownership .....	53
5.1.2 Responsibility .....	54
5.1.3 Perceived value .....	54
5.1.4 Willingness to reuse .....	55
5.1.5 Willingness to communicate.....	56
5.2 The effect of moderators on the effectiveness of contract.....	56
6. Conclusion .....	58
6.1 Theoretical Contribution.....	59
6.2 Managerial implications .....	60
6.3 Limitations and avenues for future research .....	61
7. References .....	62
8. Appendix.....	73
Appendix 1 - Manipulations.....	73
Appendix 2 – Mean values for hypotheses 1 to 5 .....	83

Appendix 3 – Question Battery.....	86
------------------------------------	----

## Definitions

**Consumer** - Refers to the end user of a certain product or service. Interchangeably used with Customer in this thesis.

**Contracts** - For this study, a contract refers to an agreement between company and consumer, which sets the rules and regulation for acceptable behaviour and consequences of deviancy. It is a kin a user agreement.

**Manipulation** - Refers to any of the independent variables (i.e. treatments) presented in this survey to respondents. The term will be used interchangeably with Scenario or Treatment.

**Misbehaviour** - Refers to behaviour that breaks rules or norms. For this study, the term will be used interchangeably with delinquency and deviance, and refer to consumers.

**Perceived effort** - Refers to the amount of information processing that a consumer goes through in their decision making process (McGuire & Botvinick, 2010).

**Perceived incongruence** - Refers to the discrepancy between an expectation and the actual outcome of a given action.

**Psychological Ownership** - Refers to feelings of ownership, i.e. feeling that something is 'mine' in relation to possession, without the actual transfer of ownership. For the purpose of this thesis, the related concept of perceived ownership will be used interchangeably.

**Responsibility** - To take into consideration social, ethical, economical and ecological issues while consumption and make a decision based on the considerations (Schrader, 2007, p. 81). Will also be referred to as maintenance. In this thesis, responsibility will refer to consumer's willingness to take care for the accessed product i.e. the shared scooter.

**Sharing Economy** - An umbrella term referring to product service system i.e. a system where in a physical product is offered as a service (Botsman & Rogers, 2010). The term will be used interchangeably with collaborative consumption and access-based consumption.

**Willingness to Communicate** - The extent to which consumers are inclined to spread *positive* word of mouth about the product or service to others. Also referred to as word of mouth communication, WOM or willingness to positively talk in this thesis.

**Willingness to Reuse** - The extent to which consumer wish to use a product or service repeatedly. Also referred to as reusage.

## 1. Introduction

*The coming section outlines the current problems that exists in the increasingly popular area of shared mobility vehicles, identifies a need for further research concerning the negative behaviour that consumers show whilst using the vehicles and proposes nudging as an alternative method of influencing behaviour. Further, the purpose of the study, the expected contribution and delimitations will be specified. This section will conclude with an overview of the thesis.*

### ***‘The vandalism of Scooters has become a viral trend’ (The Verge, 2019)***

The concept of ownership is a cornerstone of most societies, and humans, as well as animals, engage in ‘possessive behaviours’. According to Bardhi & Eckhardt (2012, p. 883), “*Ownership has been the normative ideal among modes of consumption based on cultural values about perceived advantages of ownership over access as well as reinforcing government and market practices*”. Snare (1972) argues that ownership, historically, has been seen as providing personal independence and security, whilst renting, or other forms of non-ownership, has historically been viewed as an inferior mode of consumption (in Ronald, 2008).

However, changes in lifestyle have changed our approach towards ownership. Consumers are becoming less utilitarian and less interested in the security that comes with ownership, and more interested in experiences and the freedom that non-ownership provides (Moeller & Wittkowski, 2010). Further, a study on temporary ownership (i.e. renting or temporarily accessing a product), showed that other driving factors of increased preference for temporary ownership included increased environmental awareness and demand for more premium products (Trendburo, 2008, in Moeller & Wittkowski, 2010). It is also fuelled by a desire for social embeddedness, i.e. being part of a greater community, through local and communal consumption (Hamari, Sjöklint & Ukkonen, 2016).

We are now seeing an emergence of alternative ways of consumption, especially access-based, which is fundamentally different from traditional consumption as it involves no transfer of ownership, for products that are traditionally owned (Bardhi & Eckhardt, 2012). The concept and idea of this form of consumption is not new, as forms of access-based consumption such as renting or lending have existed for a long time (Babione, 1964). However, access has historically been viewed as wasteful, a misuse of resources, as it does not allow for investments, appreciation or other securities that comes with ownership (Cheshire, Peter & Rosenblatt, 2010; Rowlands & Craig, 2000). But with the rise of digital forms of access, enabled through the Internet and mobile devices, consumption through access has been made simpler, which has led to mass-adoption (Belk, 2013). In 2013, The Economist

released the article '*The rise of the sharing economy*', which quickly popularised and mainstreamed the concept. Since then, the sharing economy has been a hot topic, widely researched in a variety of fields. According to the US Census Bureau, "*revenues of rental and leasing service have increased by almost 55 % in the past 15 years, from \$90 billion in 1998 to over \$139 billion in 2013*" (in Schaefer, Lawson & Kukar-Kinney, 2016b, p. 570). Further, companies are going more towards selling access, rather than products, a major shift in modern consumption which involves being able to gain access to a product or service, without the transfer of ownership (Belk, 1988; Hamari et al. 2016; Lawson, Gleim, Perren & Hwang, 2016). Examples such as flexible car leasing by Volvo, Philips selling light as a service and Lime selling last-mile mobility as a service shows that we are now moving away from peer-to-peer services, which often includes a human element (i.e. Uber has a human driver, Airbnb has a human hosts etc.), and seeing companies shifting the business model for products that have traditionally been sold and bought, to being shared and accessed.

An important aspect of this shift is the increased pressure put on companies and their business practices - they have to change, when their business shifts from selling a product to selling access to a service, which makes product maintenance a key concern. In an access-based market, where consumers repeatedly access a product or service, they must not only be inclined to use it, but also to take care and maintain it, for the service to have longevity and for consumers to extract maximum value out of it. For shared services such as Uber or Airbnb, this is traditionally enforced through rating systems and contracts, added with the important aspect of human interaction, i.e. in both of these services users must interact with other people to access the service (drivers in Ubers and homeowners in Airbnb). As humans are often caring for one another (Spikins, Rutherford & Needham 2013), responsibility can be inferred as being partially secured through means that are mediated through this interaction, e.g. there is someone else driving the car, and as such you are less likely to behave badly as someone else is present. When the human element is removed, responsibility might suffer.

This lack of consumer responsibility can be seen in the new wave of electric scooter sharing, a new form of shared mobility services, which let users access electric scooters through, apps, without any human interactions. The Washington Post recently published an article on the misuse and destruction of shared mobility vehicles, with some shocking examples of extreme consumer misbehaviour such as burning or running over scooters with trucks (Holley, 2018). Further, recent reports show that scooters only last for 5 weeks on average, and is becoming an increasingly harder business to sustain (Carlsson, 2019). These are extreme examples of misbehaviour, but they indicate a larger issue not only for service providers, but also for cities, users and the environment, which all suffer from this type of behaviour. Millions of dollars are poured into making the scooters more durable, safer and last longer, when there is an obvious other problem that is not dealt with - consumer misbehaviour.

## 1.1 Problematization

Lovelock & Gummesson (2004) posits that theories on services almost always look at it from a dated and traditional sense of what services and products are, viewing theory concerning service marketing and management as a ‘sub-discipline’ of manufactured, product management and marketing. They argue for a new paradigm, separating market transactions that do not involve a transfer of ownership, from those that do. They emphasize the need for new empirical studies, which view services as *non-ownership*. They explain that services involve the right to access, or rental, of an object that provides benefits. This includes rented goods, access to physical facilities and network access.

Since Lovelock & Gummesson urged for new studies, there has been multiple studies conducted across several areas within the sharing or access based economy (e.g. Bardhi & Eckardt, 2012; Botsman, 2013; Gruen, 2017; Hartl, Hofmann & Kirchler, 2015). However, one area that has received little research is the effect that non-ownership has on consumer behaviour, especially whether consumers take responsibility and maintain products that are accessed. The research that does exist is limited and previous studies suggest the need for more in-depth research into the issue (Bardhi & Eckhardt, 2016; Belk, 2013; Gruen, 2017). Bardhi & Eckhardt, who have been the most active researchers in the fields, suggest that consumers in the sharing economy are “*are disengaged from carrying out their responsibility to the product and to the others using the service*” and suggest that access-based economies tend to suffer from *negative reciprocity*, a state whereby “*individuals act with communal goods only in their own self-interest*” (Bardhi & Eckhardt, 2012, p. 891). In effect, as the service is temporary and generally viewed as a *common good*, users lack the incentive to actually take care of the product (Acquier, Daudigeos & Pinkse, 2017; Schaefer, Wittkowski, Benoit & Ferraro, 2016a). This is increasingly concerning, as issues such as consumer misuse, carelessness and disregard of rules is mentioned as plaguing shared services, in an article published recently by Swedish news outlet Expressen (El-Mouchantaf, 2019). Further, news are just now coming in that shared scooters are lasting a significantly shorter time than expected, which adds to the concerns about the effect of consumer misuse (“Shared scooters don't last long”, 2019).

To combat this, consumer behaviour in sharing economies has been governed by rules, fines and monitoring of consumers by companies, measures that have been proven to work and recommended in previous research, but have inherent issues (Bardhi & Eckhardt, 2012). Some of the issues include high costs and difficulty of disciplinary action and consumer privacy, due to the perceived risk of data leaks, unwanted use of data and fear of identity theft increasing when being confronted with a contract (Becher, 2007; Dillahunty & Malone, 2015; Tukker, 2004, Tura & Vaskelainen, 2018). In addition, Hartl et al. (2015) argue that consumers are in support of governance systems, but mainly due to their perception of other users' egoism. However, they may also view governance systems as negative, as

they may weaken communal relations. They urge for new ways to organise governance systems, based in the community and involving the users. This is further established, as some studies imply that parts of the sharing economy can be viewed as a *common*, and might suffer from the issues related to the '*tragedy of the commons*', where individuals lack a sense of responsibility for a shared good, and act only in a manner that benefits them (Kostakis & Bauwens, 2014). Bradley & Pargman (2017, p. 243) argue that in this new, 21st century type common, it is crucial to understand "*how to recruit and motivate enough people to create and maintain the resource in question*" to ensure that resources are maintained and taken care of. Gardner (1990), a pioneer in the literature regarding the commons, argues that in order to engage people to maintain a resource, rules and regulations must be transparent and be modified by the people who are participating. He further argues that norms act as powerful tools towards safeguarding the common resources.

This highlights a key knowledge gap in the area of governing consumer behaviour in sharing economies, which has to be dealt with considering its rapid growth (Cheng, 2016). Consumer traits and their behaviours act as a connecting thread across the various issues highlighted, and managing them will be a key step in solving these issues. With this in mind, governing and regulating human behaviour has lately been influenced by work in behavioural economics, namely nudging. Understanding how behavioural change can be achieved, without structural boundaries that limit consumers behaviour, lies at the core of Nudge theory. Nudging has been used, effectively, to change consumer behaviour in everything from limiting food consumption at restaurants, by giving out smaller plates, to increasing donations by setting higher default options (Thaler & Sunstein, 2008). In recent years, interest and research in nudging has been increasingly popular by institutions, both public and private, as they are often cheap to implement and can have significant economic and public benefits (Sunstein, 2014).

Nudging as an option for regulating behaviour in the sharing economy has been proposed by Gruen (2017), in their study of personalisation through design in car sharing. It showed that through personalisation, users felt higher levels of perceived ownership (i.e. sense of ownership) and that users accessing these service have more than just utilitarian motives. However, their limited study urges for a deeper look into how their results can be replicated and expanded in subsequent studies. In addition, current studies have mainly been focused on the effect of nudging in documented contexts, such as in energy consumption, eating habits or financial management (e.g. Hanks, Just, Smith & Wansink, 2012; Marteau, Ogilvie, Roland, Suhrcke & Kelly, 2011; Kallbekken & Sælen, 2013; Newell & Siikamäki, 2014). However, there is very little academic work on the effects of nudging on consumer misbehaviour in the context of the access or sharing based economies. This presents an interesting area to further explore and validate the broad impact that nudging can have on behaviour in the sharing economy.

## 1.2 Purpose of study

As it is already evident *why* and *how* individuals share and act in the sharing economy, the purpose of this study is to develop knowledge and understanding as to if nudging can be used to affect consumer behaviour in sharing economies. Continuing, we propose that nudging can increase responsibility in sharing economies, as effectively as contracts, without incurring the negative aspects that current methods of regulating behaviour suffer. Further, we argue that the continued focus and increased usage of current ways of regulating behaviour in the sharing economy, is ineffective as the use of nudging could be an easier and more cost-effective way of limiting consumer misbehaviour, whilst having more positive effect on psychological ownership, perceived value, willingness to reuse and willingness to communicate. This is done in two steps: First, by examining the current research regarding individual behaviour, deviancy (i.e. misbehaviour) and methods of deterrence and compliance, to show the negative aspects of contracts and build the argument for using nudges. Second, by testing our specific hypotheses through an empirical study, to see if the effects on nudging on the mentioned variables are more positive, compared to contracts. Lastly, we hope that this will implore others and give ideas for future research.

## 1.3 Expected contribution

The sharing economy has grown quickly during the last few years and the attention has been noticeable, both in practice and academia. Lately, the more recent phenomena of shared mobility vehicles, such as electrical scooters, has highlighted the *massive cost and societal damage* that the misuse and lack of care for these vehicles may incur, a problem aided by consumers lack of responsibility and willingness to maintain these vehicles. Even though this has been heavily publicised in news, there is a noticeable lack of academic research in this area, specifically looking at methods for decreasing consumer misbehaviour within product-based sharing services.

This thesis is expected to add to the areas of behavioural economics, marketing, consumer misbehaviour and deterrence, as well as collaborative and access-based consumption, through a survey based quantitative study. Whilst both the areas of behavioural economics and access-based forms of consumption are areas that have previously been researched and are somewhat developed, there is a clear gap in research that crosses both areas, and explores nudging as an alternative to traditional methods of regulating consumer misbehaviour in sharing economies.

We also expect some clear practical contributions from this study. As this study will be focused on shared mobility vehicles and consumer behaviour, many of these companies are expected to benefit from the results of this study, as it will impact how they develop their communication to their

consumers, both in usage (i.e. directly when the consumer is using the service) and in marketing and branding effort.

## 1.4 Delimitations

As previous studies have established the factors behind why and how consumers share, our study focuses more on the specific area of consumer's responsibility and behaviour in the sharing economy. This study is also limited to looking into behaviour and care regarding external factors, and not internal factors (e.g. care for personal well-being). Further, this study will mainly be looking into contributing to the discussion regarding consumer based sharing economies i.e. where a company provides a products or service to consumer on an access basis, as opposed to peer-to-peer sharing where individuals share amongst each other, with companies acting as facilitators. In addition, in the area of nudging, this thesis will be limited to a select amount of nudges and will not take an active stand in the debate concerning the ethics around nudging, i.e. if it is ethical to nudge. We acknowledge this debate and shortly present this in the thesis.

Lastly, the study does not consider regulations by governing bodies, such as governments or lawmakers on sharing economy. This by itself is a larger debate (e.g. see Dyal-Chand, 2015), outside the scope of this thesis. As such, when any type of regulation is mentioned in the thesis, it is regarding companies within the sharing economy regulating their user's behaviour.

## 1.5 Outline of thesis

The thesis is divided into 6 parts and follows the traditional outline for a quantitative report, as outlined in Bryman & Bell (2015); The thesis begins with the above seen *Introduction*, which introduces the thesis background, problematization and purpose. The thesis continues with the *Theory* and *Hypothesis generation*. Next, the *Method* is presented and the methodological choices are reviewed and argued for. Succeeding this, the results are presented in the *Analysis & Results* section. The results and the analysis are then elaborated upon in the *Discussion*. Lastly, the thesis ends with the *Conclusion*, where the results and findings are summarised and presented. In addition limitations, contributions and suggestions for further research are presented.

## 2. Theoretical Background and Hypothesis Generation

*In this part, the existing theoretical base on access-based consumption and consumer misbehaviour is presented. Further, the theoretical area of nudging will be presented. In addition, the different ways of nudging that will be tested in the study are presented with their theoretical background. Lastly, this section will end with a comprehensive part on the generation of hypotheses.*

### 2.1 Conceptualizing the Sharing economy

Sharing economy is a term not universally agreed upon among scholars and industry experts (Acquier et al. 2017). It is broad and encompasses everything from shared services to peer-to-peer rentals, to short on-demand jobs (Vaskelainen & Tura, 2018). Several attempts have been made to identify and differentiate different kinds of sharing services, with definitions such as Sharing Economy, Collaborative consumption and Access-based consumption (Botsman, 2013; Hartl et al. 2015). Bardhi & Eckhardt (2017, p. 582) also adds the concepts of *liquid* consumption, which is defined as “ephemeral, access based, and dematerialized”, and *solid* consumption as “that which is enduring, ownership based, and tangible”.

For this thesis, the classifications created by Tura & Vaskelainen (2018), which are based on the work of several notable scholars in the field (e.g. Botsman & Rogers, 2010; Frenken & Schor, 2017; Friedman, 2014), will be followed. The main reason for this is their extensive conceptualisation of the current landscape of classifications, as well as the recent publication of the study. This study will focus on the *Product-Service economy*, which entails a B2C relationship that lacks the transfer of ownership. This is what Bardhi & Eckhardt refer to as the ‘*access-based economy*’ or ‘*market-mediated access models*’, which they regard as transactions that can be market-mediated, with no transfer of ownership taking place (Bardhi & Eckhardt, 2012). As liquid consumption per definition is access-based, the definition also includes liquid consumption (Bardhi & Eckhardt, 2017). The B2C sharing economy, Product-service economy or Access-based economy involves several industries such as traditional hotels, car sharing, in-home services and more.

#### 2.1.1 The tragedy of the Commons

The current problem of misbehaviour in sharing economies can be linked to the ‘tragedy of the commons’. ‘The commons’ can be any resource that has diffused, unclear or unspecified property and ownership rights. The tragedy refers to the over-use and possible destruction due to lack of self-restraints of individuals and lack of collective management, ultimately leading to negative long-term

effects for the group as a whole (e.g. Conway, 2014; Edney, 1980; Hardin, 1968; Shultz & Holbrook, 1999). Bradley & Pargman (2017) view the sharing economy as the commons of the 21st century and believe that research on governing the commons can be applied to the sharing economy. They argue that collaborations and individual contribution is central for commons to successfully thrive. Shultz & Holbrook (1999) propose four ways to control the commons and manage them. These are Organization (i.e. group cooperation and social structures), Regulation (i.e. monetary incentives or laws/rules), Social responsibility (i.e. informing of the social issues regarding the commons, increasing sense of membership) and Communication (have been shown to increase sacrifice in self-interest of individuals).

## 2.2 Consumer misbehaviour

The research on *deviancy*, *delinquency* and *misbehaviour*, is extensive. While the concepts are slightly different (e.g. most theories view delinquency as being criminal, whilst deviance and misbehaviour is not), they will be used interchangeably in the thesis to describe any type of consumer failure to adhere to given rules, regulations or norms in consumption situations.

The general consensus in research looking at deviance, delinquency and misbehaviour is that they all are concerned with behaviour that deviates or violates the accepted norms of social or consumption settings, which can be due to ineffective norm and rule establishment (Fullerton & Punj, 1997a; Reiss, 1951; Moschis & Cox, 1989; Warren, 2003). It is crucial for companies to regard and consider consumer deviancy as it can incur high financial costs, as well as negatively impact the consumer experience (Daunt & Harris, 2012; Fullerton & Punj, 1997b). In 1969, Hirschi released the social control theory of criminal behaviour, which postulates that delinquency is based on individual failure to form bonds to society. These bonds are comprised of *attachment*, *commitment*, *involvement* and *belief*. The research stems from the assumption that delinquency is the norm, and that conformity must be explained (Wiatrowski, Griswold & Roberts, 1981). Hirschi's work has since been expanded by subsequent studies, who further argue that delinquency is connected to an individual's relationships, viewing delinquency as a social occurrence based in socialization (Daunt & Greer, 2015; Gibbons, 1979, from Burfeind, 1984; Moschis & Cox, 1988).

In consumer behaviour, deviancy has been seen to be endemic in multiple service sectors. Most of the research has been concerned with the traits and individual factors that identify deviant individuals (e.g., Daunt & Harris, 2012; Egan & Taylor, 2010; McColl-Kennedy, Sparks & Nguyen, 2011). However, it is very hard to distinguish misbehaving consumers from other consumers based on gender, physical attributes or socio-economic factors, which makes enforcing punishment costly (Fullerton & Punj, 2004). In addition, consumers undertake behaviour that violate organisational

policies, despite the law and placed organisational policies. The motivations for this deviant behaviour ranges from contextual factors, such as lousy customer service, to personal ones (Daunt & Harris, 2012). In addition, Daunt & Harris (2012) argue that companies can mend most of these factors, through control mechanisms.

## 2.3 Communication for behavioural change in collaborative consumption

A key part of creating individual behavioural change for institutions and organisation is understanding how communication should be designed. The goal of communication is to share certain information, and the effectiveness is measured by the level the respondents “*has achieved, acted on or responded to a message*” (Corcoran, 2007, p. 6). In order for collaborative consumption to effectively function, regulation is needed. Earlier research has shown that collaborative consumption lacks the regulation that is often found in conventional business (Rauch & Schleicher, 2015).

Calo (2014) describes three ways of communication for regulating behaviour. First, *code* is a change to the physical or digital environment to make certain behaviour harder and more costly to engage in, such as adding a speed bump to reduce speed. Secondly, *nudging* uses human biases and cognitive weaknesses to help individuals improve decisions without limiting freedom of choice. Thirdly, *notice*, or ‘mandated disclosure’ uses explicit information to govern behaviour, such as through company policies or contracts. Fullerton & Punj (1997a, p. 340) had similar ideas much earlier, specifically regarding the possibilities of regulating misbehaviour. They highlight *education* (“*raising awareness of ill effects of misbehaviour*”) and *deterrence* (“*increasing risks of misbehaviour*”) as two major control techniques. This is very similar to the perspective of Calo, with *Education* nearing *Nudging* and *Deterrence* mirroring *Notice*.

What both Calo and Fullerton essentially show is that communication for behavioural change can be used through formal or informal structures, as described by Malhotra & Murnighan (2002). For this thesis, *nudging* and *notice* will be focused on and compared. *Notice* will subsequently be looked at through *contracts*, as this is what is currently used in the sharing economy to regulate behaviour. These are further explained in the upcoming parts.

## 2.4 The issue with methods of deterrence

Control in society is maintained through formalisation of what constitutes right and wrong behaviour, in the form of laws, organisational policies or other regulations (Costello, 2017; House of Lords, 2011). This is based in deterrence theory, which posits that individuals actively weigh benefits and

risks in a situation before making a decision (Dootson, Lings, Beatson & Johnston, 2017). The concept works through two principles - the fear of being punished and refraining from reoffending (Akers & Sellers, 2004). In consumer membership contexts, where consumer gain access to services and products, contractual agreements are often used to specify the conditions of user behaviour and works as 'rules of inclusion', as well as providing information about removal or termination of membership (Crawford, 2003). Other ways of direct control involves minimizing informational costs of determining trust - through social features, reviewing systems and requiring users to identify themselves (Bardhi & Eckhardt, 2012; Katz, 2015).

There are several studies that emphasise the weakness of these methods. One issue with this approach is that individuals who perform deviant actions, such as shoplifting, might use so called 'neutralisation tactics', which is a way for individuals to justify their actions and ignore any attempted deterrence (Dootson et al. 2017). Further, a major issue of these contracts is the assumption of human rationality that they are based on. As people are not always rational, the efficiency of formal contracts might fail due to the misguided conception of fundamental human behaviour (Becher, 2007).

In addition, excessive control techniques might lead to opposite reaction to the desired effect and encourage unwanted behaviour, referred to as 'psychological reactance' (Brehm, 1966; Fullerton & Punj, 1997a; Lowry, Posey, Bennett & Roberts, 2015; Steindl, Jonas, Sittenthaler, Traut-Mattausch & Greenberg, 2015). However, Brehm's theory of reactance is quite general, and in some instances reactance might not occur, when limitations of freedom are perceived as legitimate or otherwise justified (Wendlandt & Schrader, 2007). In addition, the research on 'processing fluency' i.e. the experienced ease or difficulty of processing information, has shown that information that is easier to process is more positively evaluated. It is also shown that higher levels of 'processing fluency' reduces perceived risk of the product and that individuals avoid or reject information that is too complex or overwhelming, which may cause them to ignore the information (Garcés, 2010; Van Boom, Desmet & Van Dam, 2016). Lastly, the use of contracts, both binding and non-binding, have shown to negatively impact trust (of the contract taker) and willingness to cooperate (Malhotra & Murnighan, 2002).

## 2.5 Nudging as a viable option

Policies are often placed in an explicit form, e.g. mandates or laws, to ensure individual conformity. Other times, policies are economic incentives, where certain behaviour is rewarded, e.g. subsidised electrical vehicles or certain behaviour is punished e.g. tax on tobacco. Another form of policy is Nudging - a system that steers, *nudges*, individuals in a particular direction, whilst preserving the individuals liberty and ability to choose what to do (Benartzi et al. 2017; Sunstein, 2014).

Nudging stems from research that is fundamentally different from classical economic theory, which assumes human rationality, as nudging works because of the fact that people do not always act rationally, but sometimes unconscious and automatic (Weinmann, Schneider & vom Brocker, 2016; Ölander & Thøgersen, 2014). It is also named as being libertarian-paternalistic, meaning that these findings are exploited in order to *improve* the choices individuals do, by changing the choice architecture (Kapsner & Sandfuchs, 2015; Lades, 2012; Schubert, 2017). The basis of nudging can be traced to Kahneman's studies on system 1 and 2 thinking. System 1 describes the automatic and quick responses of our brain, whilst System 2 describes the deliberate and active choices we make for more complex tasks (Kahneman, 2013). Nudging is a deliberate use of the system 1 processes of our brain, utilising the shortcuts that our brain takes in order to encourage certain choices, without limiting freedom of choice.

Nudging helps design frameworks, *a choice architecture*, which guides individuals to act and behave in a direction in order to obtain a desired results, without limiting choices or adding economic incentives (Thaler & Sunstein, 2008). The choice architecture refers to the specific context in which individuals take decisions. By understanding the users and their behaviour in the context, stakeholders can carefully design the architecture in order to drive certain behaviour. The ability to influence individual behaviour by designing the choice context stems from research based in heuristics and biases. In 1974, Kahneman & Tversky explained how heuristics and biases are shortcuts used to make complex decisions easier and faster to compute. They highlight 3 main heuristics; *Representativeness*, *Availability* and *Anchoring*. Since then other biases and heuristics have been named, such as *framing* and *loss aversion* (Thaler & Sunstein, 2008). Nudging is established as being an effective way to change consumer behaviour, as it has been studied by several researcher (e.g. Esposito, Hernández, van Bavel & Vila, 2017; Guthrie, 2015; Kallbekken & Sælen, 2013; Kalnikaitė, Bird & Rogers, 2013; Nielsen et al. 2016; Pichert & Katsikopoulos, 2008; Torma, Aschemann-Witzel & Thøgersen, 2018) and is used by marketers, researchers, institutions and governing bodies. Compared to more common ways of designing policy, nudging is inherently designed to help individuals take decisions that are in their own self-interest (Lades, 2012).

An important factor to keep in mind when it comes to nudging is that nudges can, and are, developed continuously for different situations. As nudging is based on changing the context in which decisions are taken, those designs can take different forms and provide different kinds of information. In a digital environment, Schneider, Weinmann & vom Brocke (2018, p. 68) argue that "*any user interface, from organizational website to mobile app, can thus be viewed as a digital choice environment*".

### 2.5.1 Ethics of nudging

While nudging has been shown to be an effective way to influence human behaviour, there has been concern regarding the ethics of nudging. Nudging makes use of the human brain's tendency to make irrational, and unconscious decisions, and concerns are mainly regarding the intrusiveness and lack of transparency of nudging (Hill, 2018; Lehner, Mont & Heiskanen, 2016; Selinger & Whyte, 2011). Further, the difficulties in observing the cause-effect relation in nudging makes it more difficult to make nudge architects responsible for their actions (Glaeser, 2006).

Selinger & Whyte (2011) highlight the issue of habitualization to nudges, which might allow for individuals to accept the continued introduction of other control mechanism and the issue of the power that choice architecture provides the designer of the nudge. Continuing, Nagel (2011) highlight the necessary difference between the fact that something *can* be nudged, and whether it *should* be nudged, as explicit laws can be better in certain instances. In addition, Ploug & Holm (2015) argue that nudging is opposed to informed consent (IC), as it limits the information that is presented. Lastly, Hoffman & Stanak (2018) emphasize the importance of making nudges transparent and critically evaluating the outcomes of nudging, to ensure that ethical concerns are taken into consideration.

Consequently, several researchers have defended the ethics of nudging, arguing that the ethical objections of nudging lack much substance, due to the inevitability of choice architectures and the objective need for choice architectures for preserving welfare, autonomy or other social values (Hausman & Welch, 2010; Sunstein, 2015). Further, the invisibility of nudges is seen as a key feature, not a flaw, as the success of certain nudges are dependent on them being covert. Lastly, regarding informed consent (IC), Cohen (2015) emphasizes the lack of a sufficient explanation to what level of autonomy or information that allows for full IC.

The debate about the ethics of nudging is more complicated and can be further delved into, as there are reasonable and strong arguments from both sides. For this thesis, the authors acknowledge the ongoing debate regarding the ethics of nudging. However, the ethics of nudging will not be considered as a part of the main study, and the authors will not take an active stand regarding the ethics of nudging.

## 2.6 Presentation of nudges

### 2.6.1 Personalised information

Lynham, Nitta, Saijo & Tarui (2016) have highlighted that provision of real time information about users current situation helps steer them towards being pro social. This was also proved in their research, where individuals were given real time information about their energy consumption patterns, making them more conscious about their usage patterns and led to an increase in sustainable energy consumption.

Johnson et al. (2012) talk about the importance of taking into consideration individual differences while designing nudges. Each individual is different from one another and these differences can result in the same nudge being perceived in different ways, which could decrease the effectiveness of the nudge. They propose provision of customised information as a viable alternative to this issue, while nudges are being deployed. Peters et al. (2006) showcased the difference in providing numbers to two groups of individuals - one highly numerate and the other not numerate. The same set of numbers provided to these two groups led to different decisions.

For our study, providing personalised information will be used as a nudge, through a digital choice environment where the focus will be on increasing the sense of personalisation, by providing specific information, in line with Schneider et al. (2018). In addition, there will be information regarding changes to the actual physical product that will enhance their experience. This is in line with another form of nudging - changes to the physical environment, which works through making changes to the actual physical environment in which the product or the service is being delivered in order to alter the way in which the consumers behave in that environment (Kallbekken, Sælen & Hermansen, 2013). This will also be referred to as information-based nudging.

### 2.6.2 Social norms

Social norms can be described as the perceptions and beliefs that we have about what is 'normal' behaviour, of the people around us. They can affect and influence individual behaviour in group settings, without the use of law (Cialdini & Trost, 1998). Norms can be divided into *injunctive* and *behavioural* norms. Injunctive (social) norms are based on one's' viewpoint of what is right, based on personal beliefs. Behavioural (social) norms are norms derived from the behaviour of others; by observing the behaviour of others, one can adapt the correct action to behave properly (Moreira, Smith & Foxcroft, 2009). These are also called descriptive norms, and describe the behaviour of the majority (Cialdini & Trost, 1998). The Social Norms Approach (SNA) rests upon the notion that

people conform to the actions of others (Ayres, Raseman & Shih, 2013; Burchell, Rettie & Patel, 2013). The basis of social norms can be found in Social Cognitive Theory (SCT), which posits that human behaviour can be affected by what others do and say in social interactions (Bandura, 1991). Social norms have been proven to be effective in the field of environmental conservation. A study by Cialdini (2007) showed that *descriptive norms*, i.e. how most people behave in a certain situation, had a positive influence on individual real-world environment consideration, and was significantly more effective than messaging that did not include descriptive norms. Further, Kameda, Takezawa & Hastie (2005) have argued that social norms play a key role in communal sharing, governing appropriate behaviour.

In relation to deviance, the *differential association theory*, discusses the effect of social environments on deviance, and posits that one's social environment is the primary reason for deviant behaviour (Matsueda, 1982). It says that individuals in environments where deviant behaviour is more socially accepted, are more likely to engage in deviant behaviour. As such, in a social environment where deviancy is actively discouraged, the likelihood of deviant behaviour should fall. Further, a study on the role of privacy in the sharing economy has shown that social influences drive individuals to participate in sharing, through increased frequency of sharing, reducing privacy concerns and increasing users' perceived benefits of sharing (Lutz, Hofmann, Bucher & Fieseler, 2018).

For this thesis, social norms are believed to have a positive effect on behaviour, by providing messaging regarding the behaviour of other users of the same sharing service. Because individuals do not want to deviate from the norms in society, providing information about other users should have an effect on the behaviour of users (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). In addition, as socialisation is seen as a major factor for deviant behaviour in group settings (e.g. Gibbons, 1979; Fullerton & Punj, 2004; Moschis & Cox, 1988), provision of positive socialisation in the form of social norms should have an effect in shared consumption. This will also be referred to as norm-based nudging.

### 2.6.3 Feedback

In nudging, a way to frame information can be through feedback (Thaler & Sunstein, 2008). According to Thaler & Sunstein (2008, p. 203), providing feedback is “*the best way to help humans improve their performance*”. Following the conceptualisation of feedback by Hattie & Timperley (2007, p. 102), feedback is “*information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding*.” For feedback to be effective, there has to be a ‘learning context’, which the feedback is addressing. Further, Hattie & Timperley provide 4 levels of feedback; Task focused, Process focused, Self-regulation focused and Person (self)

focused. Feedback is used as a tool to influence behaviour and promote behavioural change (Boud, 2015). Feedbacks ability to influence is dependent on the content and the delivery method (Wilson, Bhamra & Lilley, 2015).

A Japanese study done by Fujii & Taniguchi (2006), showed that feedback on transportation use in the mobility sector led to reduced CO2 emissions by almost 20%. This proves that feedback can have a profound effect on mobility-related behaviour. Further, feedback could also be provided in the form of vehicle data, helping drivers drive slower, more carefully and mind their gearshifts (Lehner et al. 2016).

Sunstein (2014) mentions the provision of information of the nature and consequences of previous behaviour as one of the most effective ways to change individual behaviour, as people are likely to want to improve their behaviour if they are aware of the benefits that it may provide, such as monetary savings. For this thesis, the provision of feedback is used as it is easy to implement in a digital context, and is already being used in mobile systems such as screen-time recording, step-counters, and expenditure monitoring, to provide feedback to users regarding their behaviour. This will also be referred to as feedback-based nudging.

## 2.7 Hypothesis Generation

*Here we will look at the potential outcomes of influencing consumer behaviour through nudging and contracts, as well as the potential moderating effect of other variables.*

### 2.7.1 Psychological Ownership

In the simplest of terms, psychological, or perceived, ownership can be defined as the state in which individuals feel the target (either material or non-material) or a piece of it is ‘theirs’ i.e. it indicates the feeling of possessiveness and psychological attachment, without necessarily owning the product (Jussila, Tarkiainen, Sarstedt & Hair, 2015; Pierce, Kostova & Dirks, 2001). In recent years, psychological ownership has been used to understand consumer behaviour and help marketers in their process of communication with the consumers (Folse, Moulard & Raggio, 2012). Further, psychological ownership is experienced more intensely when feelings of stimulation, efficacy and self-identity are evoked (Pierce & Jussila, 2011). Something as easy as touching an object can add to the perceived sense of ownership of an object (Peck & Shu, 2009). According to Belk (1988), perceived ownership can be achieved through three sets of practices; *knowing intimately, controlling and creating*. These practice lead to the appropriation of the object and the adding of the object to one’s extended self, which is argued to increase consumer care towards accessed objects and motivate

them to protect them (Belk, 1988; Gruen, 2017; Pierce et al. 2001). Further, increased psychological ownership could lead to an increase in word-of-mouth communication from consumers (Jussila et al. 2015).

Previous research by Bardhi & Eckhardt (2012) indicates that there are several aspects of access that can impact the perceived ownership of consumers. This includes *temporal variations* i.e. how long an object is used will impact the perceived ownership and *spatial anonymity* i.e. when consumption is set closer to ones home, consumers may feel a higher perceived sense of ownership. Appropriation practices, i.e. practices that users engage in to make something their own can lead to higher levels of pro social behaviour and higher commitment to a service (Belk, 1988; Mifsud, Cases & N'Goala, 2015). An effective way of increasing perceived ownership is through personalisation. The idea has been tested empirically by Gruen (2017), whom incorporated personalised design features in car sharing to increase perceived ownership of the cars.

For this thesis, perceived and psychological ownership are viewed as interchangeable terms for the same concept, which is in line with the definitions of the concepts. Further, nudging is believed to increase consumer ability to become more intimate with the accessed object, increasing appropriation and as such increasing psychological ownership more than contracts. This reasoning derives the following hypothesis:

**H1:** Compared to exposure to a contract, exposure to

- a. Personalised information
- b. Feedback
- c. Social norms

will have a higher positive effect on psychological ownership.

## 2.7.2 Responsibility

A responsible consumer is someone that show awareness about their consumption behaviour, and alters their behaviour to create a positive impact for different stakeholders including the self, other-beings, society and the environment and ensure longevity of the product (Chen & Chai, 2010; Mohr, Webber & Harris, 2001; Schrader, 2007; Ulusoy, 2016). Consumers engage in responsible behaviour when they are *aware* of the persisting issues in society and also know the impact that their consumption has on those issues. With awareness, consumers ensure that they take *conscious efforts* to consume products and services in a manner in which they help towards reducing the societal issues or not creating any further negative impact on them (Mainieri, Barnett, Valdero, Unipan & Oskamp, 1997).

The *triangle model of responsibility* is a model developed by Schlenker, Britt, Pennington, Murphy & Doherty (1994), that explain responsibility as being a function of the event, individual role and prescriptions (rules). This means that individuals will take more responsibility when prescriptions are well defined, individuals have the capability to follow the prescriptions or individuals are personally connected to the event and have some personal control over the event (Britt, 1995).

As been previously described, appropriation practices have been shown to have a positive effect on consumer willingness to take responsibility and care for an object (e.g. Belk, 1988; Gruen, 2017). Appropriation practices are believed to be enabled through nudging, such as feedback, social cues and personalisation. However, forceful regulation, such as contracts, has through deterrence been shown to lead to increased responsibility, in situations where individuals do not engage in neutralisation practices. This reasoning derives the following hypothesis:

**H2:** Compared to exposure to a contract, exposure to

- a. Personalised information
- b. Feedback
- c. Social norms

will not have a significantly different effect on responsibility.

### 2.7.3 Perceived value

Consumer research has showed that perceived value in consumption does not just include the objective value, derived from a cost-benefit analysis, but is also based on more subjective aspects of value, such as emotional and social factors (Hwang & Griffiths, 2017).

This differentiation can be explained in three types of value. The first one, utilitarian value, derives its value from the “*function performed by the product*” while hedonic value derives value from the “*experience of using a product*” (Voss, Spangenberg & Grohmann, 2003, p. 310). The third one is symbolic value, which refers to an internally generated need, often to fulfil social or self focused values, like role position or self-enhancement (Park, Jaworski & MacInnis, 1986; Smith & Colgate, 2007). Bardhi & Eckhardt (2012) found in their study on car sharing that users only use the products for utilitarian purposes. However, Gruen (2017) indicate that there might be more values than just utilitarian users get from shared services.

Further, Hwang & Griffiths (2017) found that hedonic, symbolic and utilitarian values are effective predictors of attitude and purchase intention among millennials in collaborative consumption. In accordance with other studies, they also argue that value consists of three aspect; entertainment value,

economic benefits, and social meaning. According to Möhlmann (2015), the strongest predictor of value is experienced satisfaction.

The antecedents of perceived value have not been extensively researched (Stollery & Jun, 2017). According to Zauner, Koller & Hatak (2015), the research on it is heavily heterogeneous, with differing thoughts regarding how to measure and conceptualize perceived value. To clarify, Zauner et al. (2015) argues that the manner in which antecedents create value is not all that clear, even though several authors have argued for antecedents of value, such as brand perception and perceived risk. Thus, there is a potential for this thesis to further enhance the understanding of the antecedents of perceived value.

As nudging is inherently based on granting individuals freedom of choice, and help define the *hedonic* and *symbolic* values through defining social norms, providing feedback and other nudges, whilst deterrence is based on limiting the freedom of choice, without clearly *adding* to the individuals hedonic and symbolic values, the assumption is that individuals will value organisations, and by extension their products and services, that engage in deterrence methods to force behaviour *less*, than organisations that use nudges. This leads to the following hypothesis:

**H3:** Compared to exposure to a contract, exposure to

- a. Personalised information
- b. Feedback
- c. Social norms

will have a higher positive effect on perceived value.

#### 2.7.4 Willingness to reuse

Möhlmann (2015) identifies three key determinants that play a role in increasing the likelihood of consumer reuse in collaborative consumption. The first determinant is *community belonging*, which refers to the consumers need for a sense of belonging to a particular group or a sect. The second determinant that increases the likelihood of reusing is the *utilitarian value* generated by the shared product or service. Utility influences an individual's consumption decisions and habits. If a product or service provides great value return in terms of the investments including monetary, time etc. and performs the desired actions as required, then consumers are likely to reuse them. The third determinant is the *familiarity of the product or the service* for the consumers. If a consumer is aware of how a particular shared service functions, then they are likely to reuse it. Further, another study has shown that enjoyment and cost-savings can affect satisfaction in sharing situations (Tussyadiah, 2016).

In adjacent research, Hsu, Chuang & Chang (2015) show that trust and satisfaction are the most important factors driving customer repeat purchases. This is in line with the *Expectation–confirmation model*, developed by Oliver (1980) that proposes that satisfaction is the strongest determinant of continued usage. The theory has mainly been used for looking at determinants for continued usage in Information Systems (IS), which are central in business-to-consumer relationships, such as online retailers or other digital actors (e.g. Bhattacharjee, 2001; Hossain & Quaddus, 2012; Thong, Hong & Tam, 2006). Matzner, Chasin & Todenhöfer (2015, p. 3) argue that “*theories from within and outside Information Systems can help to clarify users’ participation in sharing services*”, which would make this view relevant for this study. In online shopping, increased trust and satisfaction with previous purchases has been shown to increase repeat purchases (Alhassan, 2010). Further, Alhassan (2010) found that aspects such as product quality and customer service were significant factors in online shopping satisfaction. Oliver (1980) argues that satisfaction is determined by *expectations* and *disconfirmation*.

In addition, previous research indicates that benefit, value, and ease of use are strong indicators of reuse (Blackwell, Szeinbach, Barnes, Garner & Buch, 1999; Lee, Chan, Balaji & Chong, 2016; Mohamed, Hussein, Hidayah Ahmad Zamzuri & Haghshenas, 2014; Van der Heijden, 2003). Platform quality (i.e. the overall excellence of the features of the platform) is also an indicator of willingness to use (Lee et al. 2016). Participation, a field of research close to reuse, is shown to increase with an increased sense of community, as well as perceived availability and cost saving in several studies (Albinsson & Perera, 2012; Botsman & Rogers, 2010; Matzner, et al. 2015).

As nudging increases sense of community, provides clear information about the utilitarian values (e.g. feedback can provide information about pricing or cost and use behaviour) of usage and is expected to be perceived as more service oriented and higher quality than being faced with a contract, it is expected to have a higher positive effect on willingness to reuse, than a contract. From this, the following hypothesis is derived:

**H4:** Compared to exposure to a contract, exposure to

- a. Personalised information
- b. Feedback
- c. Social norms

will have a higher positive effect on willingness to reuse.

### 2.7.5 Willingness to communicate (WOM)

Word of mouth (WOM) is considered a very strong channel of communication for companies to get information about their product or service through to their users, without incurring any direct costs, whilst being a highly trusted source by consumers, as consumers trust communication from each other, more than communication from companies (Ng et al. 2011; Zeithaml & Bitner, 1996). Positive word of mouth is ideal for any company as it can lead to greater purchase intention, without incurring large costs for the company. Further, it creates a longer lasting impact on consumers, due to it being a more vivid source of information in comparison to other sources of information (Herr, Kardes & Kim, 1991). In concurrence, Trusov, Bucklin & Pauwels (2009) show that WOM has substantially longer lasting effects than traditional marketing efforts and might lead to indirect positive effects on purchase decisions, due to consumers tendencies to rely more on informal or personal information sources, than formal or organisational sources, when making a purchase decision. This can partially be explained by the (perceived) lack of hidden motives in WOM marketing, as the sender often has nothing to gain from the subsequent purchase of the receiver (Bansal & Voyer, 2000).

Ng et al. (2011) identifies two factors that lead to positive word of mouth from consumers: *Functional Quality* and *Relationship Quality*. Functional quality indicates the quality of the service at the time of delivery by the company and it also reflects the quality of the interaction that takes place between the consumer and company. Further, the relationship between a consumer and the company is reflected by the relationship quality (Ng et al. 2011; Hennig-Thurau, Gwinner & Gremler, 2002). According to Ng et al. (2011, p. 137) it encompasses aspects such as “*trust, commitment and satisfaction*”. Satisfaction, as well as commitment, is also shown to be a strong antecedent of positive WOM in a study done by Hennig-Thurau et al. (2002).

Nudges are in this study believed to increase the relationship quality between organisation and consumer, by providing consumers with personal information and increasing sense of community through feedback and social cues, which should increase positive WOM. Further, contracts and other deterrence methods are believed to distance consumers from the company through limitations of freedom and choice. Lastly, a contract might lead to weaker relationship quality, as forcing users to reading a contract might make them feel less trusted by the service provider. From this, the following hypothesis is derived:

**H5:** Compared to exposure to a contract, exposure to

- a. Personalised information
- b. Feedback
- c. Social norms

will have a higher positive effect on willingness to communicate.

#### 2.7.6 Perceived effort

Previous research has shown that individuals often choose the task that is the least demanding or takes the least amount of effort, when all other factors are equal. Hull (1943) showed that this was true for physical effort, which is referred to as '*the law of less work*'. Subsequent research has theorised that this would also translate to non-physical effort i.e. cognitive demand (e.g. Allport, Clark & Pettigrew, 1954; McGuire & Botvinick, 2010; Taylor, 1981). Later, research from Kool, McGuire, Rosen & Botvinick (2010) showed empirically that cognitive demand has significant impact on individual decision behaviour. Further, Westbrook, Kester & Braver (2013) show that the value of the outcome, or reward, is decreased as effort increases.

From this we hypothesise that reading a contract, will be perceived as more effortful. This will lead to contracts being more negatively perceived, due to the higher perceived effort. For nudges, which are expected to be low effort, no effect is expected or tested for.

**H6:** When perceived effort is high, contracts has a more negative effect on

- a. Psychological Ownership
- b. Responsibility
- c. Perceived Value
- d. Willingness to Reuse
- e. Willingness to Communicate

compared to when perceived effort is low

#### 2.7.7 Perceived incongruence

A common argument for the sharing economy as a form of consumption is the mundane and daily practices it mimics - sharing is a normal part of daily life, so the sharing practice should feel natural and easy (Hamari et al. 2016; Martin, 2015). For the experience to feel easy, it is important that the full user experience is easy. A user might find it strange to have to understand all the rules and contracts if it is expected to be easy. A nudge, which influences behaviour through non-formal structures, might be perceived to be easier, whilst having to read and understand all the rules and consequences in a contract might feel harder and less in line with the expected ease of use. This line of thought is described in studies on *Congruency effects*, which can be explained as: "*When the effect*

*is found to be smaller following a incongruent stimulus than following a congruent one*” (Egner, 2007, p. 380). Further, *the expectancy-confirmation* model explains this discrepancy; as for example failure to confirm expectations leads to negative repurchasing intention (Hsu & Lin, 2015). This would mean that as access-based consumption is often viewed as being easy to engage in, the incongruence between the perceived ease of use and the difficulty of understanding the rules in a contract could negatively affect the impact of the contract. For nudges, this effect is not expected, and not tested, as nudges should be easy to process and cope with due to their non-intrusive nature, which should provide a more congruent experience.

**H7:** When perceived incongruence is high, contracts has a more negative effect on

- a. Psychological Ownership
- b. Responsibility
- c. Perceived Value
- d. Willingness to Reuse
- e. Willingness to Communicate

compared to when perceived incongruence is low.

## 2.8 Summary of Hypotheses

### Behavioural effects

---

**H1:** Compared to exposure to a contract, exposure to Personalised Information (**H1a**), Feedback (**H1b**) or Social norms (**H1c**) will have a higher positive effect on *psychological ownership*.

**H2:** Compared to exposure to a contract, exposure to Personalised Information (**H2a**), Feedback (**H2b**) or Social norms (**H2c**) will not have a significantly different effect on *responsibility*.

**H3:** Compared to exposure to a contract, exposure to Personalised Information (**H3a**), Feedback (**H3b**) or Social norms (**H3c**) will have a higher positive effect on *perceived value*.

**H4:** Compared to exposure to a contract, exposure to Personalised Information (**H4a**), Feedback (**H4b**) or Social norms (**H4c**) will have a higher positive effect on *willingness to reuse*.

**H5:** Compared to exposure to a contract, exposure to Personalised Information (**H5a**), Feedback (**H5b**) or Social norms (**H5c**) will have a higher positive effect on *willingness to communicate*.

---

### Moderators

**H6:** When *perceived effort* is high, exposure to contracts has a more negative effect on Psychological Ownership (**H6a**), Responsibility (**H6b**), Perceived Value (**H6c**), Willingness to Reuse (**H6d**) and Willingness to Communicate (**H6e**) compared to when perceived effort is low

**H7:** When *perceived incongruence* is high, exposure to contracts has a more negative effect on Psychological Ownership (**H7a**), Responsibility (**H7b**), Perceived Value (**H7c**), Willingness to Reuse (**H7d**) and Willingness to Communicate (**H7e**) compared to when perceived incongruence is low

### 3. Method

*In this part of the thesis, the methodological approach is presented. Starting of, the research approach is presented and argued for, followed by an in-depth explanation of the research design, data collection and the study composition and content. Finally, data analysis, quality and other considerations are detailed.*

#### 3.1 Research approach

During the conception of this thesis, the work of Edmondson & McManus (2007) was used to gain understanding of the appropriate research approach to ensure methodological fit, based on the maturity of the research field. Early on, it was concluded that even though the specifics of this thesis was within a relatively small gap in the research area, the overall area of study, including *Nudging*, *Consumer (mis)behaviour* and *Access-Based Consumption* are all mature areas of research, and as such it was concluded that the state of prior research was mature, as we are exploring gaps in different mature areas of research.

In line with the methodological fit for mature research, a deductive research approach was used in this thesis. Hypotheses were derived from an existing base of theory, which has been presented in the theory part of this thesis. These hypotheses were then tested through a subsequent empirical study.

#### 3.2 Explanation of Theoretical development

The study started off with mapping out the existing theoretical area, specifically looking at the use of nudging in the sharing economy. It was early understood that the research within the specific area of interest was limited, and as such the research was expanded into areas such as misbehaviour, communication and deterrence to explore possible topics of research, to broaden our impact. This initial exploration and mapping of the research area led to several potential research questions and hypothesis, which were continuously examined and reviewed during the initial phases of the research.

#### 3.3. Research design

The study is based on a quantitative method, with a survey to collect data. This is in line with the deductive research method, where the emphasis is on the collection of quantitative data. The respondents were randomly assigned and subjected to one of 5 treatments. Randomising the groups ensures that the groups are the same in all aspects, except for the received manipulation, This helps in

minimising the issues of internal validity and the extent to which the effects can be explained by other factors (such as research flaws) than the planned manipulations (Saunders, Lewis & Thornhill, 2009).

For this study, we are using a 7-point Likert rating scale. The Likert scale is a set of statements asked to participants, who are then asked for their level of agreement with the proposed statement on a fixed scale (Joshi, Kale, Chandel & Pal, 2015). The Likert scale is appropriate to use in quantitative research settings as it can be used to measure opinion, which can be viewed as an indicator of attitude (Corbetta, 2003). The Likert scale is viewed as one of the most popular ways of collecting data for quantitative research purposes. The key advantages of using a Likert scale include easy construction and modification of the questionnaire; good reliability of the data and the measurements can be used for direct statistical inference (Li, 2012). The choice of a 7-point scale, as opposed to a scale with fewer options, was mainly due to the fact that a 7-point scale offers respondents more option and as such increases the chances that their response closer relates to their actual beliefs (Joshi et al. 2015). In addition, we use a ratio scale to measure questions regarding use frequency. This was chosen, as the Likert scale asks for level of agreement with certain statement, and as frequency is not a statement, but rather a direct question about behaviour, a ratio scale was more appropriate (Bryman & Bell, 2015).

### 3.4 Preparatory work

#### 3.4.1 Development of Stimuli

To use as treatments, 5 different mock up screenshots were developed to mimic the information shown to users in a scooter sharing application. They were developed based on what real applications for shared mobility vehicles show their users, but changed to represent the different independent variables. A fictitious name (Scoot) and logo was developed, and stock images were taken from CC free websites, to ensure that the application looked real. Any resemblance to brand-logos or other brand specific attributes of real-life brands within the sharing economy were removed, to eliminate any possibility of brand opinions influencing survey responses. The screenshots were accompanied with information stating that this was a hypothetical scenario and that the information should be carefully read and considered for the subsequent questions.

For the feedback nudge, respondents were given a score, summarising the price, ride distance and how they can continue to use the scooter responsibly. For social norms, information was given regarding what other users do when they are riding and when they have finished their ride. For personalised information, respondents received information from their personal scooter, named Ava, regarding how the scooter would adapt settings such as ride height, speed and brake sensitivity to the

user. The goal of the nudges was to subtly influence behaviour, through change in the digital choice context, in accordance with Schneider et. al (2018). For the contracts, users were shown either a long or a short version of a contract, which was accompanied by an ‘Accept’ button, to mimic the way user agreements are usually presented in applications. The choice of using two different contracts was to test the possible effect of *processing fluency*, which was assumed to be affected by the perceived length of the contracts (e.g. a longer contract could perhaps have a more negative effect as it was harder to process). All of the manipulations can be seen in appendix 1.

### 3.4.2 Pre-study 1

Before conducting the main study, a pre-study was done in order to understand the relationship between perceived ownership and responsibility in the sharing economy. We also asked questions regarding the impact of information about the behaviour of others (i.e. social norms) on willingness to maintain (i.e. responsibility). The pre-study was distributed through Qualtrics, a web-based survey tool, and shared to 25 respondents. The responses indicated that consumers, although used a lot of peer-to-peer services, did not feel any sense of ownership for the product. The responses further indicated that there was no relationship between psychological ownership and responsibility in this study, as respondents also indicated that they felt some responsibility for the scooter.

### 3.4.3 Pre study 2

During the development of the main study, a decision was made to test the main elements of the study on a smaller scale. The goal of this was to see if there were any aspects of the survey that needed to be improved and more importantly, if the treatments (i.e. independent variables) were clear enough to elicit an effect on the dependent variables in the study as well as being comprehensible and provide internal consistency.

The study was distributed to 21 respondents during 4 days, March 22th to 26th, through the writer's own networks of family and friends. The answers were recorded through a Qualtrics survey, which included an opportunity for the respondents to leave written feedback, to ensure their opinions and suggestions for improvements were collected.

The results supported our initial hypotheses, and indicated that they would be supported in a bigger study. As the sample size was small, we considered the two kinds of contracts as one unit and the nudges as a singular unit, for the sake of the analysis and therefore an independent sample T test was done to understand the significance between the two groups. The difference in means values of responsibility between the groups exposed to contract and the group exposed to different types of

nudges was 0.19 and the T test on the data indicated that the difference was not significant, which was in line with our hypothesis that responsibility does not vary across the different manipulation groups. For the other dependent variables the mean values were higher for the nudges compared to contract (Willingness to communicate = 1.6, Willingness to reuse = 0.53 and Perceived Value = 0.867), indicating support for our hypotheses. In the case of psychological ownership, the contracts had a slightly higher mean value, with a mean difference of 0.65.

Further, we could not find any significant difference in mean values of exposure to short or long contracts or any indication of difference in processing fluency. Because of this, we considered the contracts as a singular unit in our main analysis, irrespective of the kind of contract that the respondent was exposed to. However, the results indicated that the analysis might benefit from regarding the different nudges separately, as the mean values differed across nudges. Lastly, there were changes made going into the main study based on the feedback that was collected from survey respondents. This feedback was mainly concerned with semantic errors and small technical errors, and also included tips regarding the wording of ambiguous questions and differences in scales.

### **3.5 Measures**

The used measures were presented on a variable scale. Specific measures and question can be found in appendix 3. The measures were designed to test the relationships between the dependent and independent variables, as well as the effect of moderators on those relationships. To the extent that it was possible, measures were adopted from other studies, as they have already been tested and validated, increasing the validity of the study. For some variables, measures were constructed, as no previously research was found that could be used to develop the corresponding measures. In those instances, measures were developed from a base of closely related theory.

#### **Introductory questions**

In the first part of the survey, general attitude towards shared mobility services is asked about. Attitude has previously been found to have a significantly positive effect on behavioural intentions (Hamari et al. 2016). Further, questions regarding familiarity with scooter sharing, frequency of usage and general level of responsibility were asked.

#### **Dependent variables**

The second part for the survey focused on measuring the dependent variable and moderators, to see the effect of the presented manipulations and the effect of moderators.

### ***Psychological Ownership***

For measuring perceived ownership, questions were inspired by and adapted from Van Dyne & Pierce (2004). 2 questions were asked, and measured on a 7-point Likert scale, from *Strongly Disagree* to *Strongly Agree*.

### ***Responsibility***

For measuring responsibility, no previous study was found from where measures could be adapted. As such, the measures were self-developed, inspired by other studies that have looked into personal responsibility (Mergler, 2007), object maintenance (Gregson, Metcalfe & Crewe, 2009), self-efficacy (Sherer et al. 1982) and other closely related areas of research. 4 questions were asked and measured on a 7-point Likert scale, with the scale ranging from *Strongly Disagree* to *Strongly Agree*.

### ***Perceived value***

For measuring perceived value of respondents, the measures were adapted from Hwang & Griffiths (2017) and measured on a 7-point Likert scale. 4 questions were asked, regarding Utilitarian, Hedonic and Symbolic value, with the scale going from *Strongly Disagree* to *Strongly Agree*.

### ***Willingness to reuse***

For measuring respondent willingness to reuse, the measures were adapted from Lamberton & Rose (2012) and measured on a 7-point Likert scale. 2 questions were asked, regarding wanting to reuse the same service again and wanting to reuse a similar service again. The scale went from *Very Unlikely* to *Very Likely*.

### ***Willingness to communicate***

For measuring respondent willingness to communicate, the measures were adapted from Zeithaml & Bitner (1996) and measured on a 7-point Likert scale. 3 questions were asked, regarding willingness to say good things about the product, recommending it to other people and encouraging friends and family to use it. This was measured on a scale from *Very Unlikely* to *Very Likely*.

## **Moderators**

### ***Perceived effort***

For measuring perceived effort, the questions were self-developed, but inspired by research done by Jackson, Wall, Martin & Davids (1993) on cognitive demand. 2 questions were asked and measured on a 7-point Likert scale, from *None at all* to *A great deal*.

### ***Perceived incongruence***

For perceived incongruence, questions were self-developed, inspired by Hsu & Lin (2015) and the *expectation-confirmation model*. As such, the measure was developed in line with theory regarding the expectations of usage, the perceived ease of use and perceived comprehension of the introductory message. 1 question was asked and measured on a 7-point Likert scale, from *Strongly Disagree* to *Strongly Agree*.

### **3.6 Main study**

The main study was presented in the form of a questionnaire through Qualtrics. It was then distributed through Amazon mTurks, where a panel of professional survey respondents took the survey, in return for monetary compensation, which was set at 0.25\$ (Approx. 2.3 SEK at exchange rate per April 2, 2019) per survey response. In addition to distributing the survey through mTurk, the survey was also sent to a limited amount of people through Facebook Messenger - these were mainly friends & family of the authors.

The survey was split into three parts. First respondents were subjected to one of five scenario descriptions, which were randomised. The scenario description included a descriptive text and several screenshots. To minimize the effect of the different scenario description, they all had similar layout and information, and any difference was part of the manipulation. Then, they were presented with the variable scale questions, which were used to investigate the opinion and relations regarding the theoretical concepts. Lastly, personal questions were asked, including demographic questions. Within the survey, three control questions were added to ensure that respondents were actively answering the questions. To further encourage mTurk survey respondents to stay attentive throughout the survey, they were made aware that in order to receive their monetary compensation, they had to answer all attention checks and questions regarding the manipulation correctly.

### **3.7 Data Collection**

For collecting the data, a convenience sampling method was used, based on a self-completion questionnaire, which can be explained as recruiting participants on “*the basis of ease of access rather than a sampling strategy*” (Chandler & Shapiro, 2016, p. 55). As the name implies, the main reason for using this approach, which is a type of non-probability sampling where the respondents are not selected using a random selection, was due to time constraints in the research and that it was a more convenient way to distribute the survey to a large group of people. Further, the convenience sampling method is very common in marketing and management research, and more prominently used than probability sampling, which can be both costly and difficult (Bryman & Bell, 2015). As experiments

are not meant to describe how “*a given phenomenon is manifested in society*”, but rather interested in the analysing cause-effect relationships, the homogeneity in the sample group does not have a significant effect on the study (Corbetta, 2003, p. 112).

However, a risk in self-completion questionnaires is question wording, that might be ambiguous or just poorly written (Bryman & Bell, 2015). As the second pre-study was mainly conducted to ensure that questions were clear and respondents understood them, this is not believed to be an issue. Further, the self-completion questionnaire was distributed online. The risk of using an online questionnaire is that any ambiguity or uncertainty that respondents might have is unknown. To prevent this, the questionnaire was sent out to a small test sample for feedback, to ensure that questions were easy to understand and that the survey measures were reasonable (Bryman & Bell, 2015).

### 3.8 Sample

The original sample consisted of 433 fully recorded survey responses, collected between April 1th and April 8th. These were mainly collected through Amazon mTurk (407), but the survey was also distributed to our own network of friends, colleagues and family, through Facebook Messenger. There is a potential threat of the data from different sources producing different results. So in order to combine them for the analysis, we had to ensure that the data was comparable. This was the case as the data suggested that the mean values across the different groups were similar, irrespective of the source and thus we could analyse the data together.

For Amazon mTurk, quality of responses was actively managed by deliberately restricting the survey to high-reputation respondents, with more that 95% approval rate and that have done a minimum of 5000 previous surveys. This type of restriction has previously been suggested by Peer, Vosgerau & Acquisti (2014), whose experiment showed that workers with approval rates higher than 95% provided data of higher quality than workers with lower approval rates.

After this, the responses were checked for attention and manipulation variables. After removing responses with at least one incorrect answer on either the attention or manipulation check, the final sample size was 212, with 192 from Amazon mTurk. Out of this sample, the distribution between the different manipulations can be seen in table 1. This is the number of responses that the subsequent analysis is based on. This is in line with what other research has shown to be sufficient number of responses, mainly in accordance with the *Central Limit Theorem* of survey sampling, as each of the groups totalled over 25 responses each (Newbold, Carlson and Thorne, 2013).

In addition, our results show a 48% attrition rate of mTurk responses, despite only using high-reputation respondents. The research on what is a normal attrition rate of respondents (i.e. the amount of respondents lost) due to lack of attention in mTurk differs. In a study done by Fleischer, Mead & Huang (2015), 42% of mTurk survey respondents were proven to be inattentive. However, research from Hauser & Schwarz (2016) shows that inattentiveness was lower than 10%, and better than respondents from college sites. Further, Kees, Berry, Burton & Sheehan (2015) showed that mTurk survey respondents were highly attentive, with 90% of respondents correctly answering the attention check, therefore only 10% were shown to be inattentive. These differences may be explained by the different uses of high-reputation respondents, which has been proposed in studies to raise data quality (Peer et al. 2014). This may be due to a more rigorous process of elimination, with more attention checks.

Parameter	Contract	Personalised information	Feedback	Social norms
Number of respondents (N)	72	57	54	29
Median Age	31	30	29	28
Female/Male/Did not wish to disclose	35/37/0	23/33/1	21/32/0	12/17/0

Table 1: Sample size and demographics of the respondents across the different manipulations

### 3.9 Data analysis and analytical tools

IBM SPSS Statistics version 25 was used for data analytics. In SPSS several different data analytical tests was conducted. One of these was the Cronbach's alpha measure, which is used to evaluate the "global internal consistency of the scale" (Corbetta, 2003, p. 173) i.e. "the consistency of responses across either all the questions or a sub-group of the questions" from the questionnaire (Bryman & Bell, 2015, p. 374). The Cronbach's alpha was accepted at  $> 0.7$  and the questions were re-coded and indexed in SPSS for analysis. As the data was directly imported to SPSS, the data had no chance to be affected by external factors. Further, for comparison of means between more than two groups, the one-way Anova test was utilised. Subsequently, a Post Hoc analysis was done for all groups. Lastly, for testing the effect of moderators on variables, the Hayes model 1 test was used, which allows for test of moderation effect between variables (Hayes, 2017). The data was tested at 0.01, 0.05 and 0.1 significance level, and accepted at 10% significance level ( $p < 0.1$ ). Through the analysis section we mark the significance level in all the tables as \* for 10%, \*\* for 5% and \*\*\* for 1%, to explicitly state at what significance level the results are accepted.

## 3.10 Critical overview of Method and Data Quality

### 3.10.1. Reliability

Reliability is concerned with repeatability of the results of a certain study (Bryman & Bell, 2015). For measuring internal reliability Cronbach's Alpha was used, where satisfactory internal reliability was picked at  $\text{Alpha} > 0.7$ , as recommended by Söderlund (2005) for academic research at pre-doctoral levels. The multi-question approach was used to test the measures, and then Cronbach's Alpha was used to measure the internal consistency of the questions. For 4 out of 5 dependant variables, the Cronbach's Alpha was above 0.7, which indicates high internal reliability. Responsibility was measured across 4 questions, which had a Cronbach's Alpha value of 0.728, which indicated that the internal consistency of the answers were acceptable. Continuing, willingness to reuse had an Alpha value of 0.835 across two questions and willingness to communicate had an Alpha value of 0.891 across three questions. Further, for psychological ownership the Alpha value was 0.932 over 2 questions. For perceived value, the alpha value was a bit lower at 0.569, and therefore only the response pertaining to the question about utilitarian value was considered for the analysis, as utilitarian value is deemed fundamental and significant. For the moderator perceived effort, the alpha value was less than 0.7 over the two questions. Since both of the questions directly questioned the variable, one of it was used for analysis. Overall the internal reliability of the data collected was good, which made it possible for us to make further analysis based on the data.

### 3.10.2 Measurement Validity

Validity measures the extent to which the study measures what it intends to measure (Söderlund, 2005). To increase measurement validity, the questions that the survey consisted of were adopted from previous research to the extent that this was possible. This allowed the survey to be populated by questions that had already been validated in other research. For constructs that were not tested in previous research, validated theory was used and operationalized as the foundation for the used constructs. This is in line with Corbetta (2003) who proposes *“construct validity is judged on the basis of whether an indicator corresponds to theoretical expectations in terms of relationships with other variables”* (Corbetta, 2003, p. 83).

Further, the survey contained several attention checks to make sure respondents were fully aware and attentive during the survey. The first one asked what type of information they had initially received. The second one asked the respondents to pick the number 6 out of five different numbers. The last one asked what type product the survey had been about. Respondents who failed to answer these question correctly were excluded from the final data set.

### 3.10.3 Internal Validity

Internal validity is concerned with causal relationships between dependent and independent variables. Due to the nature of our research design, respondents were exposed to the independent treatment before the dependent measures. Therefore, the likelihood of a reversed causal relationship is non-significant. Further, to ensure internal validity, the treatments were randomly assigned through Qualtrics built in randomisation tool. As our sample groups were all over 25 respondents per group, this should be enough to assume that the treatment groups are equivalent, as the treatment groups were randomised (Lynn & Lynn, 2003).

### 3.10.4 External Validity

External validity is concerned with the possibility to generalise a result to the external environment, or more specifically to other contexts (Andrade, 2018). In order to ensure that external validity was satisfactory, the experimental setting was set as close as possible to what users would actually encounter in a scooter sharing application. This dictated the screenshot approach, which was inspired by real-life applications, and provided a situation that was familiar and recognizable for the respondents. This is in line with what Lynn & Lynn (2003) proposes for external validity.

Ecological validity, a subpart of external validity is concerned with the possibility to generalise results to real-world situations. It is a judged, not computed, measure (Andrade, 2018). In order to ensure ecological validity, the presented manipulations were designed to represent a real-life situation. However, ecological validity could not be fully ensured, as a real world scenario would also include the users actually seeing and using a real scooter, which they could not do in this online-based survey setting. Further, the way in which the contract is presented in this study (as a forced measure) is not completely in accordance with how most contracts are presented in online settings, as users often easily can ignore them.

### 3.10.6 Ethical Concerns

Ethics in research relates to questions on how we formulate and clarify the research, gain access, collect, store, analyse the data and write the research in a morally and responsible way (Saunders et al. 2009). Marketing research is a field where ethical concerns are prevalent, due to marketing's perceived maleficence in nature as it is a tool to increase consumption, which may not always be in the consumers best interest (Ferrell & Skinner, 1988). Thus a study such as this can potentially be used by companies to coerce consumers to buy more of their product. This is an inherent risk of most

marketing research, but the goal of this study is to be beneficial for companies, as well as consumers, society and institutions. Looking at more ethical principles, we actively tried to make the study as open and transparent as possible. When collecting data, survey respondents were assured of their anonymity and it was clearly stated that the data was being used for research purposes. Demographic data was collected, but was optional for survey respondents to fill in.

## 4. Analysis & Results

*In this section the analysis of the hypotheses will be presented and the results will be shown. The aim of the analysis is to provide empirical data to answer the research purpose. The results will be presented in the order of the hypotheses.*

### 4.1 Hypothesis testing

The purpose of the study was to measure the difference in effect between the usage of contracts and nudges on various parameters including psychological ownership, responsibility, perceived value, willingness to reuse and willingness to communicate in the sharing economy. As the respondents were assigned to more than two different groups, a one-way Anova test was done to analyse the significance between the different groups. A post-hoc Scheffe analysis was then conducted to analyse how the contracts performed against the different kinds of nudges. In order to perform the moderation test, we used the Hayes Process plug-in available in SPSS statistics. Specifically we ran a Model 1 analysis to test how the moderators impact the effect of exposure to contracts on the dependent variables. The model 1 is a regression analysis that tests how much the interaction between the dependent and independent variable is impacted by changes in the moderator value (Hayes & Montoya, 2017).

The analysis is structured as follows. First, the results of the Anova tests for the five dependent variables are presented followed by the results of the Model 1 analysis for the moderators. Then, for each of the dependant variable, we present the mean values for the different groups and the significance, followed by a comparison between the contract and the different nudges for that variable.

#### 4.1.1 Psychological Ownership

The first hypothesis states that exposure to any of the three nudges (Personalised Information, Social Norms and Feedback) will have a higher positive effect on psychological ownership, compared to exposure to a contract. In table 2 we can see that the mean value of perceived ownership was lowest for the group exposed to contracts, where as the groups exposed to the different kinds of nudges had higher values of psychological ownership. Running a one-way Anova test indicated that there is significant difference between the groups, with a  $p$  value of 0.096 ( $p < 0.1$ ).

Variable - Psychological Ownership	
Manipulation	Mean Value
Contract	3.78
Personalised information	4.12
Feedback	4.56
Social norms	4.59
<i>P</i>	<i>0.096*</i>

Table 2: Mean Values of psychological ownership in the different groups

The post hoc analysis indicated that the difference in mean between the information based nudge and contract is 0.345, with a  $p$  value is 0.33. This difference is not statistically significant and thus the hypothesis H1a is refuted ( $p > 0.1$ ). The mean difference of 0.778 between feedback based nudge and contract is statistically insignificant as the  $p$  value is 0.178 and hypothesis H1b is not supported by the data, thus it is refuted ( $p > 0.1$ ). Similarly the difference between the social norm based nudge and contract is statistically insignificant with a  $p$  value of 0.312 and the absolute value of the difference in mean is 0.808. Thus the hypothesis H1c is also not supported by the data and refuted ( $p > 0.1$ ). Although the mean value of perceived ownership is slightly higher for the different forms of nudges than contract, there is no statistical significance to provide support for the hypothesis.

Manipulation	Difference in mean values	<i>P</i>
Contract vs. Personalised information	0.345	<i>0.33</i>
Contract vs. Feedback	0.778	<i>0.178</i>
Contract vs. Social norms	0.808	<i>0.312</i>

Table 3: Difference in mean values of psychological ownership between contracts and the nudges

**H1:** Compared to exposure to a contract, exposure to

- |                             |                      |
|-----------------------------|----------------------|
| a. Personalised information | <b>NOT SUPPORTED</b> |
| b. Feedback                 | <b>NOT SUPPORTED</b> |
| c. Social norms             | <b>NOT SUPPORTED</b> |

will have a higher positive effect on psychological ownership.

#### 4.1.2 Responsibility

The second hypothesis of this study focuses on how responsibility is effected after exposure to any of the three nudges (Personalised information, Social Norms and Feedback), compared to after exposure to a contract, with the expectation that no difference will be found in the effect between nudges and contract. This is supported by the data as well as the significance level indicated by the  $p$  value while running an one-way Anova test at 0.310. The mean value for responsibility across the different groups is highlighted in table 4, which shows that the difference across the groups is very small. In fact the results show that exposure to a feedback based or information based nudge creates slightly lower levels of responsibility than exposure to a contract.

Variable - Responsibility	
Manipulation	Mean Value
Contract	5.71
Personalised information	5.48
Feedback	5.55
Social norms	5.78
$P$	0.31

Table 4: Mean Values of responsibility in the different groups

The post hoc analysis was conducted to test how the contract performed against the different kinds of nudges in terms of their effect on responsibility. The difference in mean between the information based nudge and the contract is -0.224 and the  $p$  value is 0.535, which indicates a statistical insignificance. This provides support that responsibility does not vary between the contract and information based nudge, thus the null hypothesis H2a is supported ( $p > 0.1$ ). The difference in mean of responsibility between the feedback based nudge and contract is -0.1644, with a  $p$  value of 0.781. This indicates that the difference is insignificant, thus the null hypothesis H2b is supported ( $p > 0.1$ ). Unlike the other two nudges, the social norm based nudge had a higher mean value for responsibility by 0.0692. However the difference is negligible and insignificant compared to the other nudges, as the  $p$  value was 0.988. Thus the null hypothesis H2c is supported ( $p > 0.1$ ).

Manipulation	Difference in mean values	<i>P</i>
Contract vs. Personalised information	0.224	0.535
Contract vs. Feedback	0.345	0.781
Contract vs. Social norms	0.342	0.988

Table 5: Difference in mean values of responsibility between contracts and the nudges

**H2:** Compared to exposure to a contract, exposure to

- |                             |                  |
|-----------------------------|------------------|
| a. Personalised information | <b>SUPPORTED</b> |
| b. Feedback                 | <b>SUPPORTED</b> |
| c. Social norms             | <b>SUPPORTED</b> |

will not have a significantly different effect on responsibility.

#### 4.1.3 Perceived Value

The third hypothesis states that exposure to any of the three nudges (Personalised information, Social Norms or Feedback) will have a higher positive effect on perceived value, compared to exposure to a contract. The results show that the mean for perceived value after exposure to any of the different nudges is higher than after exposure to a contract. This gives us an initial indication that nudges help in increasing perceived value, which is further supported by the *p* value from running the one way Anova test, which is 0.015. Amongst the different kinds of nudges, the feedback based nudge resulted in the highest level of perceived value.

Variable - Perceived Value	
Manipulation	Mean Value
Contract	3.75
Personalised information	4.53
Feedback	4.61
Social norms	4.1
<i>P</i>	0.015**

Table 6: Mean Values of perceived value in the different groups

A post hoc analysis was done to further understand the significance of the difference between the different groups. The difference in mean of perceived value between the information based nudge and

the contract is 0.78 and the  $p$  value is 0.079. This indicates that the difference is significant and provides support for the hypothesis H3a, which is supported ( $p < 0.1$ ). Similarly the difference in mean of perceived value for the group exposed to feedback based nudge and the group exposed to contract is 0.86. The  $p$  value of 0.044 indicates that this difference is significant and this provides statistical support for the hypothesis H3b, which is supported ( $p < 0.05$ ). The social norm based nudge had a mean perceived value that is greater than that for contracts by 0.35. The  $p$  value is 0.819, which indicates that the difference is insignificant and therefore hypothesis H3c is refuted ( $p > 0.1$ ).

The analysis suggests that a feedback based nudge has the biggest impact when it comes to increasing perceived value, while the information based nudge is also shown to have a significantly higher impact on perceived value, compared to contracts.

Manipulation	Difference in mean values	$P$
Contract vs. Personalised information	0.7800	0.079*
Contract vs. Feedback	0.8600	0.044**
Contract vs. Social norms	0.3500	0.819

Table 7: Difference in mean values of perceived value between contracts and the nudges

**H3:** Compared to exposure to a contract, exposure to

- |                             |                      |
|-----------------------------|----------------------|
| a. Personalised information | <b>SUPPORTED</b>     |
| b. Feedback                 | <b>SUPPORTED</b>     |
| c. Social norms             | <b>NOT SUPPORTED</b> |

will have a higher positive effect on perceived value.

#### 4.1.4 Willingness to reuse

The fourth hypothesis states that exposure to any of the three nudges (Personalised information, Social Norms and Feedback) will have a higher positive effect on willingness to reuse the shared scooter compared to exposure to contracts. The mean value for willingness to reuse was lowest for the group exposed to the contract. However, unlike in the case of perceived value or psychological ownership, the difference in mean values between the groups was minuscule. The one-way Anova test suggests that the difference between the groups is not significant as the  $p$  value is 0.475 ( $p > 0.1$ ). The

differences in the mean between the nudges also indicate that willingness to reuse was comparable irrespective of the type of nudge.

Variable - Willingness to Reuse	
Manipulation	Mean Value
Contract	4.95
Personalised information	5.17
Feedback	5.29
Social norms	5.29
<i>P</i>	<i>0.475</i>

Table 8: Mean Values of willingness to reuse in the different groups

The post hoc analysis further confirms that there is no significant difference between the groups. The table 9 indicates that the  $p$  value is high in all three cases, with the lowest being  $p = 0.575$ , between contract and feedback based nudge. This indicates that nudges are no more effective in increasing consumers' willingness to reuse than exposure to contracts. Thus the hypotheses H4a, H4b and H4c are all refuted ( $p > 0.1$ ).

Manipulation	Difference in mean values	<i>P</i>
Contract vs. Personalised information	0.224	<i>0.833</i>
Contract vs. Feedback	0.345	<i>0.575</i>
Contract vs. Social norms	0.342	<i>0.727</i>

Table 9: Difference in mean values of willingness to reuse between contracts and the nudges

**H4:** Compared to exposure to a contract, exposure to

- |                             |                      |
|-----------------------------|----------------------|
| a. Personalised information | <b>NOT SUPPORTED</b> |
| b. Feedback                 | <b>NOT SUPPORTED</b> |
| c. Social norms             | <b>NOT SUPPORTED</b> |

will have a higher positive effect on willingness to reuse

#### 4.1.5 Willingness to communicate

The fifth hypothesis states that exposure to any of the three nudges (Personalised information, Social Norms and Feedback) will have a higher positive effect on willingness to communicate (i.e spread positive Word of Mouth), compared to exposure to a contract. As seen in the table 10, the differences between the means are negligible and thus we can say that the willingness to communicate does not differ when the consumer is exposed to any of the nudges. This statistical insignificance is proven by the one way Anova Test where in the  $p$  value is 0.883 ( $p > 0.1$ ).

Variable - Willingness to Communicate	
Manipulation	Mean Value
Contract	5.22
Personalised information	5.28
Feedback	5.31
Social norms	5.42
$P$	0.883

Table 10: Mean Values of willingness to communicate value in the different groups

The post hoc analysis indicates that there is no significant difference between the effect of exposure to contract and exposure to any of the nudges. The difference in mean values of willingness to communicate between the different groups is lower than 0.1 and insignificant. Thus, the hypotheses H5a, H5b and H5c are all refuted ( $p > 0.1$ ). Similar to willingness to reuse, none of the tested nudges have any significant impact on the willingness to communicate, compared to contracts.

Manipulation	Difference in mean values	$P$
Contract vs. Personalised information	0.064	0.992
Contract vs. Feedback	0.093	0.979
Contract vs. Social norms	0.093	0.891

Table 11: Difference in mean values of willingness to communicate between contracts and the nudges

---

**H5:** Compared to exposure to a contract, exposure to

- |                             |                      |
|-----------------------------|----------------------|
| a. Personalised information | <b>NOT SUPPORTED</b> |
| b. Feedback                 | <b>NOT SUPPORTED</b> |
| c. Social norms             | <b>NOT SUPPORTED</b> |

will have a higher positive effect on willingness to communicate

---

#### 4.1.6 The moderating effect of Perceived effort and Perceived incongruence

The sixth and seventh hypotheses proposed that the effect of contracts on the dependent variables are negatively moderated by higher levels of Perceived effort (H6) and Perceived incongruence (H7).

The results of the analysis with perceived effort as a moderator are highlighted in table 12. The  $p$  value for the dependent variables are: Psychological ownership  $p = 0.0632$ , Responsibility  $p = 0.8498$ , Perceived Value  $p = 0.3267$ , Willingness to reuse  $p = 0.4356$  and Willingness to communicate  $p = 0.5410$ . This indicates that perceived effort does not moderate the interaction between a contract and responsibility, perceived value, willingness to reuse or willingness to communicate. Therefore, hypotheses H6b, H6c, H6d and H6e are all refuted ( $p > 0.1$ ). In the case of psychological ownership the  $p$  value, which indicates that the moderating effect perceived effort of exposure to a contract on psychological ownership, is significant ( $p < 0.1$ ).

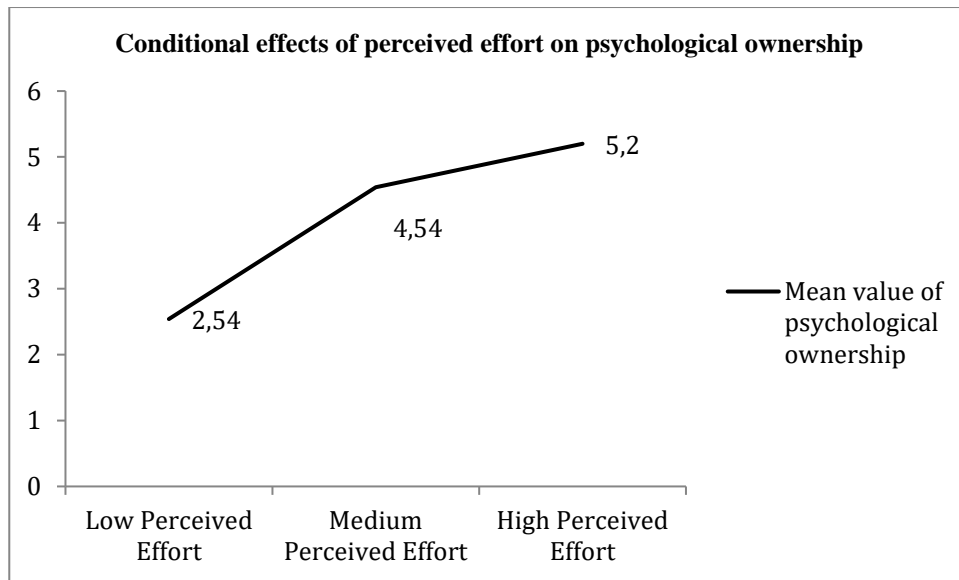
Moderator: Perceived effort					
Parameter	Psychological ownership	Responsibility	Perceived value	Willingness to reuse	Willingness to communicate
$P$	0.0632*	0.8498	0.3267	0.4356	0.5410
$\Delta R^2$	0.0129	0.0002	0.0035	0.0028	0.0017
F	3.4897	0.036	0.9663	0.6102	0.3749

Table 12: Overview of the moderation effect of perceived effort

Analysing the conditional efforts further, we can see that when perceived effort is low, the moderation effect is significant ( $p < 0.05$ ), while when the perceived effort is medium or high, the moderation effect is not significant ( $p > 0.05$ ). The hypothesis suggested that a high value of perceived effort would impact responsibility more negatively than a low value of perceived effort. We can see that the moderation takes place, but only in the case of *low* perceived effort and thus H6a is partially supported ( $p < 0.05$ ).

Perceived Effort	$P$
Low 25 <sup>th</sup> percentile	0.0229**
Medium 50 <sup>th</sup> percentile	0.7709
High 75 <sup>th</sup> percentile	0.6314

Table 13: Conditional effect of perceived effort on psychological ownership



Graph 1: Mean values of psychological ownership at different levels of perceived effort

**H6:** When perceived effort is high, contracts have a more negative effect on

- |                               |                            |
|-------------------------------|----------------------------|
| a. Psychological Ownership    | <b>PARTIALLY SUPPORTED</b> |
| b. Responsibility             | <b>NOT SUPPORTED</b>       |
| c. Perceived Value            | <b>NOT SUPPORTED</b>       |
| d. Willingness to Reuse       | <b>NOT SUPPORTED</b>       |
| e. Willingness to Communicate | <b>NOT SUPPORTED</b>       |

compared to when perceived effort is low

The results of the Model 1 analysis on perceived incongruence as a moderator is shown in the table 14.

Moderator: Perceived incongruence					
Parameter	Psychological ownership	Responsibility	Perceived value	Willingness to reuse	Willingness to communicate
<i>P</i>	0.1432	0.0262*	0.9068	0.0899*	0.0215**
$\Delta R^2$	0.0085	0.0225	0.0001	0.0118	0.0188
F	2.1590	5.0131	0.0137	0.9033	5.3691

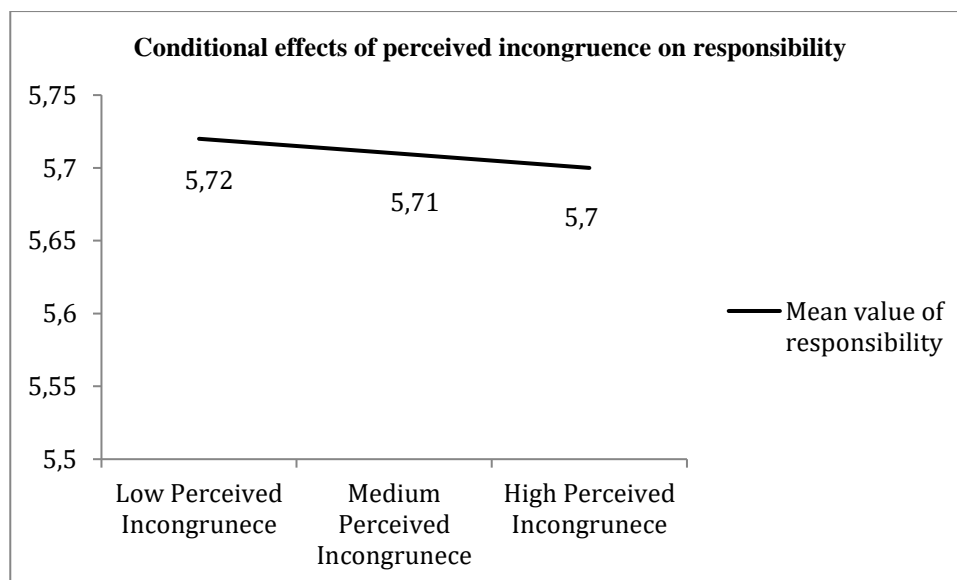
Table 14: Overview of the moderation effect of perceived incongruence

The results show that perceived incongruence does not have any moderating effect between contracts and two of the dependant variables. The  $p$  value is 0.9068 for perceived value and 0.1432 for psychological ownership. In these cases, the  $p$  values are statistically insignificant and thus there is no moderation that influences the interactions. Therefore the hypotheses H7a and H7c are refuted ( $p > 0.1$ ).

The  $p$  value for responsibility is 0.0262, which indicates significant moderating effect. Looking further at the conditional effect of the moderating effect of perceived incongruence in the case of responsibility, we can see that the moderation effect is significant for lower values of perceived incongruence but not significant otherwise. This indicates that at lower values of incongruence, there is stronger moderation and the mean values of responsibility reduce with increasing incongruence. Thus the hypothesis H7b is supported ( $p < 0.05$ ).

Perceived Incongruence	$P$
Low 25 <sup>th</sup> percentile	0.0248**
Medium 50 <sup>th</sup> percentile	0.6280
High 75 <sup>th</sup> percentile	0.8306

Table 15: Conditional effect of perceived incongruence on responsibility



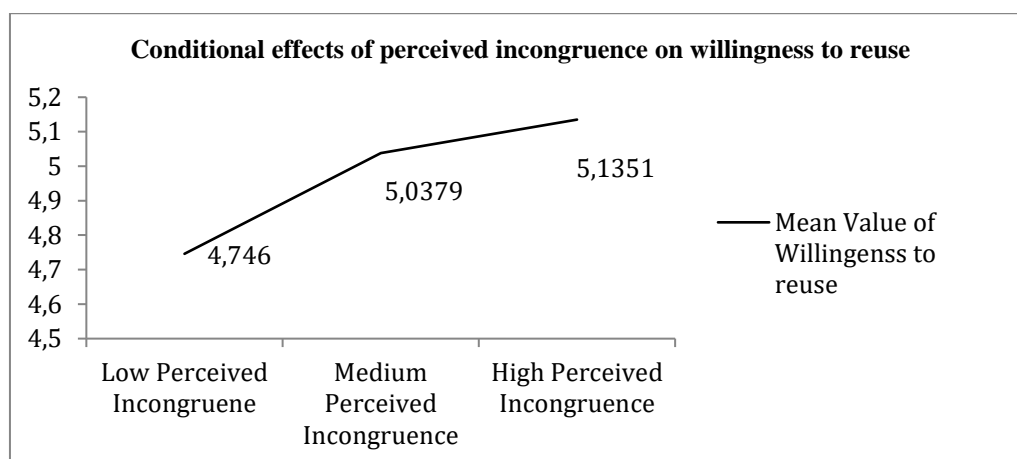
Graph 2: Mean values of responsibility at different levels of perceived incongruence

The  $p$  value is 0.0899 for willingness to reuse, which shows significance in the moderating effect. In this case the moderation is insignificant at lower values of perceived incongruence, but significant otherwise. Looking at the mean values of willingness to reuse at different levels of perceived

incongruence, the mean increases with increasing incongruence. However the growth rate of willingness to reuse reduces with growing incongruence, providing some support for the hypothesis. Thus we can say that H7d is only partially supported ( $p < 0.1$ ).

Perceived Incongruence	<i>P</i>
Low 25 <sup>th</sup> percentile	0.7693
Medium 50 <sup>th</sup> percentile	0.0457**
High 75 <sup>th</sup> percentile	0.0251**

Table 16: Conditional effect of perceived incongruence on willingness to reuse

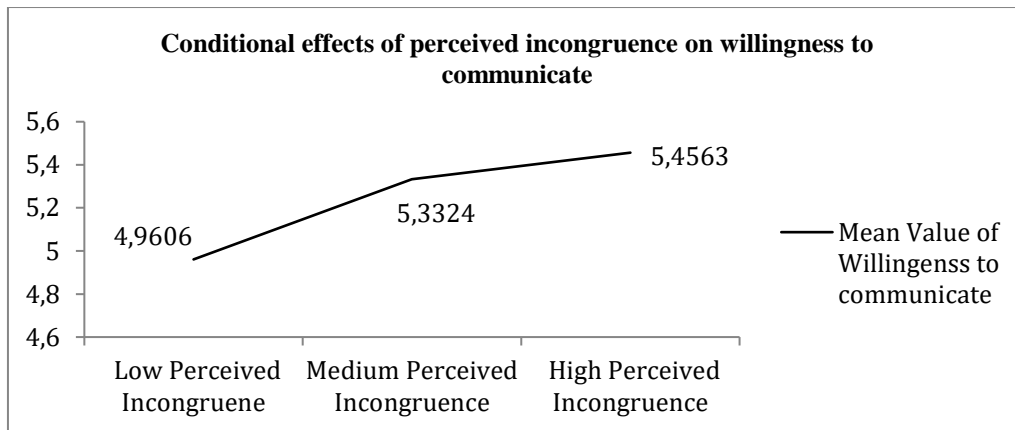


Graph 3: Mean values of willingness to reuse at different levels of perceived incongruence

In the case of willingness to communicate, the  $p$  value is 0.0215, which means that the effect of contracts on willingness to communicate is moderated by perceived incongruence. Analysing the conditional effects further, we can see the moderation is significant when the value of perceived incongruence is high. Looking at the mean values of willingness to communicate we can say that incongruence negatively moderate, as hypothesised. Thus the hypothesis H7e is supported ( $p < 0.05$ ).

Perceived Incongruence	<i>P</i>
Low 25 <sup>th</sup> percentile	0.4205
Medium 50 <sup>th</sup> percentile	0.1921
High 75 <sup>th</sup> percentile	0.071*

Table 17: Conditional effect of perceived incongruence on willingness to communicate



Graph 4: Mean values of willingness to communicate at different levels of perceived incongruence

**H7:** When perceived incongruence is high, contracts have a more negative effect on

- |                               |                            |
|-------------------------------|----------------------------|
| a. Psychological Ownership    | <b>NOT SUPPORTED</b>       |
| b. Responsibility             | <b>SUPPORTED</b>           |
| c. Perceived Value            | <b>NOT SUPPORTED</b>       |
| d. Willingness to Reuse       | <b>PARTIALLY SUPPORTED</b> |
| e. Willingness to Communicate | <b>SUPPORTED</b>           |

compared to when perceived incongruence is low

## 4.2 Summary of hypotheses

**H1:** Compared to exposure to a contract, exposure to Personalised Information (**H1a**), Feedback (**H1b**) or Social norms (**H1c**) will have a higher positive effect on *psychological ownership*.

**NOT SUPPORTED**

**H2:** Compared to exposure to a contract, exposure to Personalised Information (**H2a**), Feedback (**H2b**) or Social norms (**H2c**) will not have a significantly different effect on *responsibility*.

**NULL HYPOTHESIS SUPPORTED**

**H3:** Compared to exposure to a contract, exposure to Personalised Information (**H3a**), Feedback (**H3b**) or Social norms (**H3c**) will have a higher positive effect on *perceived value*.

**PARTIALLY SUPPORTED**

**H4:** Compared to exposure to a contract, exposure to Personalised Information (**H4a**), Feedback (**H4b**) or Social norms (**H4c**) will have a higher positive effect on *willingness to reuse*.

**NOT SUPPORTED**

**H5:** Compared to exposure to a contract, exposure to Personalised Information (**H5a**), Feedback (**H5b**) or Social norms (**H5c**) will have a higher positive effect on *willingness to communicate*.

**NOT SUPPORTED**

**H6:** When perceived effort is high, contracts have a more negative effect on Psychological Ownership (**H6a**), Responsibility (**H6b**), Perceived Value (**H6c**), Willingness to Reuse (**H6d**) and Willingness to Communicate (**H6e**) compared to when perceived effort is low.

**PARTIALLY SUPPORTED**

**H7:** When perceived incongruence is high, contracts have a more negative effect on Psychological Ownership (**H7a**), Responsibility (**H7b**), Perceived Value (**H7c**), Willingness to Reuse (**H7d**) and Willingness to Communicate (**H7e**) compared to when perceived incongruency is low.

**PARTIALLY SUPPORTED**

## 5. Discussion

*In this part, the main results from the study are discussed and compared with existing theory. Based on the hypotheses and the results from the analysis above, any difference or coherence with existing theory and how the results adds to existing theory is discussed.*

The aim of the study was to explore the potential use of nudging as an alternative method to govern consumer behaviour in sharing economies. To test this, the study looked at how different nudges would affect certain variables in scooter sharing, compared to affect by contracts. Nudging is a known way of driving behavioural changes amongst individuals and the goal of the study was to test its effectiveness in guiding the consumers to engage in positive behaviours, that will ensure longevity of the scooters and help the companies in delivering better experiences for the consumers, whilst limiting the negative effects of using contracts to restrain behaviour.

### 5.1 The effectiveness of nudging

#### 5.1.1 Psychological Ownership

Pre study 1 focused on identifying if consumers experienced psychological ownership with shared scooters and the impact this had on the way they take responsibility for the product, as studies suggest that psychological ownership is an indicator of responsibility (Belk, 1988; Gruen, 2017; Pierce et al. 2001). The results indicated that responsibility was not linked to psychological ownership for the product, which meant that psychological ownership did not act as a precedent to responsibility in the study. This adds an interesting dimension to the known relationship between psychological ownership and responsibility, as it implies that the relationship only goes one way, and that responsibility might not be able to indicate psychological ownership. However, due to the limited nature of the pre study, further studies would be needed to conclude this.

Further, the main study showed that there was no significant difference in psychological ownership when exposed to a nudge, compared to exposure to a contract. This result is surprising, as it goes against what several theories on psychological ownership suggest. Belk (1998) highlights that appropriation practices such as controlling, knowing and creating plays a role in establishing psychological ownership. In our case, nudges were expected to increase psychological ownership by providing information to the consumers in the form of feedback, personalised information and social norms, which was expected to tap into the 'knowing' form of appropriation. Gruen (2017) also argues for personalisation being a tool for increasing the sense of ownership, which our results do not indicate. Mifsud et al. (2015) outlined the impact of how appropriation practices leads to high sense of perceived ownership, which results in pro social behaviours, and higher commitment to services. This

was not observed in our study. On the contrary, our study indicates that nudges are not more effective tools to enable such appropriation practices, compared to contracts. As the theoretical support for nudging increasing appropriate practices is strong, the belief is that contracts were unexpectedly effective in raising appropriation, and in turn psychological ownership as well, which would explain the lack of difference in effect. This might be due to the fact that seeing contracts might evoke feelings of actual ownership, as they are often used in defining transfers of ownership e.g. in home purchases. Further, there might be an effect of perceived time spent with a contract, which might evoke feeling *temporal variation* to a greater degree than with nudges, which can increase psychological ownership (Bardhi & Eckhardt, 2012).

### 5.1.2 Responsibility

In the analysis, the hypothesised insignificant difference in effect on responsibility between nudges and contract was supported, which is in line with previous theory. The theory strongly indicated that the effect of nudges on responsibility would be positive, as it has previously been used to increase responsible consumption in other settings (e.g. Johnson et al. 2012; Lynham et al. 2016; Cialdini, 2007). Further, the effect on consumer behaviour of deterrence methods, i.e. contracts, was well established in previous research (e.g. Akers & Sellers, 2004; Daunt & Harris, 2012; Fullerton & Punj, 1997a). Our study does not differ much from this pattern as both nudges and contracts had an effect on responsibility of the consumers for the product. Our study further extends knowledge on the effectiveness of nudging in the sharing economy, expanding on the work done by Gruen (2017) and provides further empirical data showing that nudges can be as effective as contracts at regulating consumer misbehaviour.

### 5.1.3 Perceived value

The main study showed that the use of nudges has a positive impact on the perceived value as the respondents who were exposed to nudges showed considerably higher perceived value compared to the respondents who were exposed to contracts, supporting our hypothesis. Separating the nudges, the analysis shows that exposure to *personalisation* and *feedback* led to higher perceived value, compared to exposure to a contract. As feedback is often related to cost saving (e.g. Fujii & Taniguchi, 2006) and personalisation practices leads to higher perceived ownership, which in turn leads to higher perceived value (Gruen, 2017), this was expected. However, the non-significant effect of social norms, compared to contracts, which were unexpected, could be explained by the fact the social norms provides no information related to utilitarian value, which would be in line with findings from Bardhi & Eckhardt (2012), who argue that consumers engage in access-based consumption for utilitarian reasons. These results on increase in perceived value amongst the consumers could have further

positive implications for organizations. Yang & Peterson (2004) posits that perceived value plays a key role in satisfaction for the consumers and also is essential for their loyalty. Wang (2010), also highlights the role played by perceived value in consumer loyalty. With this in mind, our results may indicate that nudges could indirectly affect customer satisfaction and loyalty.

#### 5.1.4 Willingness to reuse

The results of the study showed no significant difference in the effect of exposure to nudges on reusage compared to exposure to contracts. This goes against what was expected based on theory. For example, reusage has been shown to be driven by sense of community (Möhlmann, 2015) and as social norms are shown to be an essential part of creating sense of community in communal sharing (e.g. Hardin, 1968), the results of the study are surprising. However, they might be explained by the business-to-consumer (B2C), setting tested in this thesis, as opposed to the sharing, peer-to-peer, communities studied by Kameda et al. (2005). Further, as previous research indicate that perceived value (which was found to be increased by nudges) should show subsequent increase in willingness to reuse, possibly mediated by satisfaction (e.g. Hwang & Griffiths, 2017; Möhlmann, 2015), the misaligned results of this study might be explained by the lack of satisfaction. However, as satisfaction was not measured, these possibilities were not tested in this study. Further, if there was a lack of satisfaction, then perceived value, which has been seen in other studies to be driven by satisfaction, is not a driver in this study. Furthermore, personalisation has been shown to encourage reuse in a similar study within car sharing, which was not confirmed in this study. However, their research was limited to a few (13) interviews, of users in Paris (Gruen, 2017). This could potentially explain the difference, as their results could be valid only under certain circumstances or for a certain demographic. In addition, the use of feedback was expected to have some impact as provision of information regarding utilitarian values, is shown to increase reusage (Möhlmann, 2015). Further, customer service is shown to be an antecedent of reusage. Both of these were expected to be increased by the provision of feedback. However, the effects of feedback are argued to depend on content and the delivery method, by Wilson et al. (2015). Perhaps, a different presentation of feedback could have elicited a more significant effect. Overall the biggest issue might be that of creating a sense of satisfaction and expectation for a product that is hypothetical. Several studies suggest satisfaction to be the main factor in continuance intentions, and that it is mainly driven by expectations (e.g. Alhassan, 2010; Hsu et al. 2015; Oliver, 1980), which might not have been adequately created in the survey respondents.

### 5.1.5 Willingness to communicate

Exposure to nudges did not create a significant difference in terms of increasing willingness to communicate, compared to exposure to a contract. This is interesting as Ng et al. (2011) emphasises that increased relationship quality should lead to higher levels of WOM, through aspects such as trust, commitment and satisfaction. As nudging was expected to increase relationship quality, the unexpected results might be explained by a lack of self-identification with other users, as well as a lack of satisfaction with the presented feedback and personalisation, which could have diminished any hypothesised increased sense of relationship quality. This could also be due to the fictional nature of the company Scoot, which might make it hard to create a sense of relationship. Psychological ownership, which is argued to increase with personalisation (Gruen, 2017) is shown to increase vocalisation about the product or service in a study by Jussila et al. (2015). Our opposing results might be due to the lack of perceived psychological ownership, created by the *hypothetical* nature of the proposed personalisation. In the study done by Gruen (2017), personalisation was questioned about in the presence of a physical vehicle, which might have an effect on the difference between our results.

### 5.2 The effect of moderators on the effectiveness of contract

Looking at the hypothesised effect of the moderators on the effect of contracts on the dependent variables, only some support was found. The reasons for this could be several. Both the moderators, perceived effort and perceived incongruence, and their effect is based on the expected cognitive demand of receiving a contract. Firstly, as perceived effort had no significant negative moderating effect on contracts, the lack of effect could perhaps be explained by the fact that perceived cognitive demand might have been too hard to convey in a survey setting. As respondents were not required to actually read a full contract, they might not have fully felt the expected cognitive demand. However, the positive moderating effect on the impact of contracts on psychological ownership was surprising, as the moderating effect was opposite to what was anticipated. Looking at previous theory (e.g. Kool et al. 2010), it was expected that the increased effort of reading a contract would be sufficient to raise cognitive demand. What could possibly explain this is appropriation practice - a more effortful process could be seen as increasing appropriation practices, as it should increase the knowledge about the product (e.g. Belk, 1988; Mifsud et al. 2015). This also coincides with a study by Strahilevitz & Loewenstein (1998) who argue that the longer time spent with an object, the higher the chances are for appropriation to take place, which should increase sense of psychological ownership. As increased effort should increase the perceived time spent with the object, this might explain the unexpected results. As such, cognitive demand might have an opposite effect to what was hypothesised. This

would be in line with results in this study, on the effect of contracts on psychological ownership being the same as nudges, as nudges have been shown to also increase appropriation.

Looking further, the confirmation of the negative moderating effect of incongruence on the effect of contracts on willingness to communicate and responsibility are the only fully supported moderating effects in the study. This is in line with theory, as incongruence should decrease if the experience is in line with expectations (i.e. the experience is coherent). If a service or product works as experienced, it is fair to assume that it drives satisfaction, which should in turn positively affect the relationship between consumer and service provider. This is seen as a strong antecedent of WOM, in line with previous research (e.g. Ng et al. 2011; Hennig-Thurau et al. 2002). Further, the hypothesized moderating effect of incongruence on the effect of contracts on psychological ownership was not found. This contradicts the moderating effect found for perceived effort, and might be explained by a lack of relation between effort and incongruence in this study. It is further unexpected as it would be sensible to expect that incongruence could decrease the perceived ability to *know* the product, a key aspect of appropriation, which drives psychological ownership (e.g. Belk, 1988). This further adds to the findings on the moderating effect of perceived incongruence. Lastly, the unexpected positive moderating effect of incongruence of the effect of contracts on willingness to reuse is harder to explain. It goes against most research, as it implies that people are more likely to want to reuse if a contract seems harder to understand than it actually is to use the product, or vice versa. This makes little sense, and is most likely due to faulty research design.

## 6. Conclusion

*In this part, the main conclusions are presented and summarised, based on the results and findings. Further, theoretical and managerial implications are presented. Lastly, limitations and potential future research avenues are presented.*

The study set out with the prospect of exploring the field of sharing economies, which evolved into testing the effects of nudging within the sharing economy. The aim of the study was to look closely at the potential use of nudges as a governance method in sharing economies. Specifically, we intended to test the potential positive effect of nudges on psychological ownership, responsibility, reuse, willingness to communicate and perceived value in scooter sharing. The study analysed the effect of nudges compared to the usage of more traditional forms of consumer governance methods, specifically contracts. With this research we can conclude that we have reduced the knowledge gap regarding the potential benefit of using nudging as a method for influencing consumer behaviour in sharing economies. More specifically, our research concludes that nudging can replace contracts as a method to govern consumer behaviour in sharing economies, and that nudging has the possibility to create positive side effects, not found when using contracts.

Looking further, the results indicated that nudging has the same effect on responsibility as contracts. The results give companies in the sharing economy reason to consider the usage of nudging to increase responsibility, as it might be a more cost efficient option. It also adds significant knowledge into the effect of nudges on responsibility. Further, psychological ownership was shown to be significantly positively affected by both nudges and contracts, but to an essentially equal extent, disproving the hypothesis that nudging would increase psychological ownership more than contracts. This is expected to be due to them both being efficient at increasing appropriation practices.

Secondly, the results indicate that consumers felt an increased sense of perceived value from the imagined usage of the scooters, when they were being exposed to nudges compared to being exposed to contracts. Specifically, provision of personalised information and feedback had significantly more positive impact on perceived value, compared to contracts, which was in line with earlier theory on value perception. The results encourage companies to use these nudges to increase the perceived value of their services in the sharing economy.

Thirdly, the results imply that the nudges did not have any significant impact when it comes to willingness to communicate or their willingness to reuse compared to contracts. This is partly due to a weak theoretical basis, where no evidence was found for an increase in relationship quality by nudging and requires further investigation into the lack of an expected difference in effect. The results add interesting empirical data to the discussion regarding the potential use cases of nudging.

Lastly, the results show that only some of the hypothesised effects of moderators on the relationship between contracts and the dependent variables in this study are supported, with only the moderating effect of incongruence on the effect of contracts on willingness to communicate and responsibility being fully supported. Further, some moderation effect was partially supported, as a moderating effect was found for perceived effort on contracts and psychological ownership and for incongruence on contracts and reuse. However, these moderating effects were positive, in opposition to our hypothesized negative moderation effect. The surprising moderating effect of perceived effort on the relationship between contracts and psychological ownership could potentially be attributed to an increase in appropriation practices.

## 6.1 Theoretical Contribution

One of the key theoretical contributions from this study is within the field of sharing economy. With rapid growth in IT related technologies, the rise of the sharing economy has been well recorded and is being researched extensively. However, one of the areas within this sphere that has not received much attention is consumer behaviour, and specifically how non-ownership of objects impacts this. Our research answers some of the questions surrounding this area. The research gave us an opportunity to test certain components related to consumer behaviour, including psychological ownership, responsibility, perceived value, willingness to communicate and willingness to reuse, most of which are their own independent research fields. Thus the research adds more depth to the existing research in those fields and provides a chance to test them in sharing economies as well.

Another unique contribution branching out of this study is that it brings together nudging from different areas and applies them within the sphere of the sharing economy. Nudging has been a field that has been researched on a large scale, over a long period of time and it has proven to have implications at various levels. The core ideologies of nudging lie in bringing about behavioural changes in individuals. One of the key gaps that were identified was the lack of sufficient research pertaining to consumer behaviour in the sharing economy and this sparked the idea of testing nudging in this area. Although nudging has proven to be effective in multiple arenas, it was fairly untested within the sharing economy and this adds novelty to our research. Further, this research acts as another empirical addition in the realm of digital nudge, and our results support Huang, Chen, Hong & Wu (2018) and their findings on digital nudges potential to effectively be used to create behavioural change in consumers.

Lastly, a valuable addition is done to the discussion around the antecedents for perceived value in the sharing economy, which in this study was shown to be personalised information and feedback. Whilst

other studies have highlighted the effect on perceived value these might have, for example the effect that personalisation can have on symbolic value (Gruen, 2017), there are no (to our knowledge) studies that have shown empirically the effect within scooter sharing. This specifically adds to the theoretical discussion regarding shared mobility solutions.

## 6.2 Managerial implications

The findings from this study regarding the effect of nudges on perceived value is expected to have managerial expectations. Weinmann et al. (2016) in their study proposed that digital nudging will be critical in creating impacts at two levels, namely organizational and societal. Our study complements this by providing empirical data for managers to use at the organizational level. Sheth, Newman & Gross (1991) identifies various components that constitute the perceived value from a product or service. They highlight the importance of perceived value in consumer behaviour, especially with regards to their willingness to buy, use and reuse the product or service. The findings from our research suggest that using nudging techniques results in increased perceived value for the consumers. This opens up various arenas for the companies operating within sharing economy. Use of nudges per se, gives an alternate way of communications for the company with their consumers. Increase in the perceived value means that the consumers are more likely to be satisfied with the overall consumption experience (Sheth et al. 1991). This means that there is a higher probability of the consumers engaging with the products long term and this implies that the companies are likely to earn more in terms of revenue. Our study also confirms the importance of value for the consumers and this can guide the companies in tailoring their marketing, communications and brand positioning around it. By clearly understanding what the consumers expect from their engagement with the shared scooters, the companies can market themselves accordingly and in doing so they can not only attract but also retain more consumers. All of which lead towards increased revenues for the companies.

Practically, the study shows that changes within the application can be used to nudge consumers. Therefore, companies can design their user interfaces to increase information regarding feedback and make their products more personalised. In this regard, providing feedback is suggested as an easier and more cost-effective way of using nudges to increase perceived value. Lastly, from an ethical standpoint, this could have negative effects on consumers and companies could receive major backlash if nudges are used in ill intention.

### 6.3 Limitations and avenues for future research

One of the key limitations of this study lies in the fact that it focuses only on the segment of the sharing scooter, which is one of the various businesses within the sharing economy. Although the study provides certain implications on consumer behaviour in this segment, we cannot completely extrapolate these results and consider these as a given for other products in the sharing economy. This limitation however provides a new scope for research of various kinds, including experimentations. Future researchers can look at the potential of using nudging in other sharing economy contexts.

Although we exposed our respondents to different types of nudges, there could potentially be other nudges which could be tested and complement our research. As shown by Sunstein (2014) for example, there are several types of nudges that could affect behaviour in consumer settings. This will not only further prove (or disprove) the effect of nudges, but also will provide strong implications for companies in what kind of nudges to use in order to exert the maximum effect. Comparison of more nudges also has the potential for generating new insights within the theoretical field of nudging, and will add more value in combining the theories of nudging and sharing economy.

Further, the usage of a self-reporting quantitative survey limits our ability to measure real behavioural changes in consumers. As the hypothesised relationships that are measured in this study are based on survey responses and not observed behaviour, this might limit our ability to make assumptions regarding actual behavioural change. In addition, the usage of the scooter was imagined, and as such could have limited the respondents engagement with the survey. However, for marketing studies, Hunt (2014) argues that behavioural intent can act a sufficient predictor of actual behaviour, which would legitimise the results of this study. Despite this, we implore future studies to design a way to test the impact of using the nudges in a live environment. This will validate our findings and further explore the potential uses of nudges. A simpler and more immediate potential for future research would be to test other potential effects of nudging in sharing economies. This could potentially be testing if nudges can induce responsible riding behaviours such as usage of helmets, concern for pedestrians etc. Further studies could also explore potential mediators, to understand *why* nudges worked or not.

In addition, in the study, nudges significantly increased the perceived value for the consumers but it did not have a significant impact on their willingness to reuse. This in conflict with previous theory on perceived value, which indicate that higher perceived value from a product or a service tends to increase reusage, which makes our results fairly surprising (Matzner et al. 2015; Möhlman, 2015). Perhaps a potential way to study this further would be to test if increasing perceived value acts as a moderator of the relationship between nudging and willingness to reuse.

## 7. References

- Acquier, A., Daudigeos, T., & Pinkse, J. (2017). Promises and paradoxes of the sharing economy: An organizing framework. *Technological Forecasting and Social Change*, 125, 1-10.
- Albinsson, P. A., & Yasanthi Perera, B. (2012). Alternative marketplaces in the 21st century: Building community through sharing events. *Journal of consumer Behaviour*, 11(4), 303-315.
- Alhassan G. A-M. (2010) Repeat Purchase Intentions in Online Shopping: The Role of Satisfaction, Attitude, and Online Retailers' Performance, *Journal of International Consumer Marketing*, 23:1, 5-20,
- Allport, G. W., Clark, K., & Pettigrew, T. (1954). The nature of prejudice.
- Andrade, C. (2018). Internal, external, and ecological validity in research design, conduct, and evaluation. *Indian journal of psychological medicine*, 40(5), 498.
- Akers, R. L., & Sellers, C. S. (2004). *Criminological Theories*. 4. Aufl. Los Angeles/CA.
- Ayres, I., Raseman, S., & Shih, A. (2013). Evidence from two large field experiments that peer comparison feedback can reduce residential energy usage. *The Journal of Law, Economics, and Organization*, 29(5), 992-1022.
- Babione, F. A. (1964). Retailer adjustment to a rental economy. *Journal of Retailing*, 40(3), 1.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational behavior and human decision processes*, 50(2), 248-287.
- Bansal, H. S., & Voyer, P. A. (2000). Word-of-mouth processes within a services purchase decision context. *Journal of service research*, 3(2), 166-177.
- Bardhi, F., & Eckhardt, G. M. (2012). Access-based consumption: The case of car sharing. *Journal of consumer research*, 39(4), 881-898.
- Bardhi, F., & Eckhardt, G. M. (2017). Liquid consumption. *Journal of Consumer Research*, 44(3), 582-597.
- Becher, S. I. (2007). Behavioral science and consumer standard form contracts. *La. L. Rev.*, 68, 117.
- Belk, R. W. (1988). Possessions and the extended self. *Journal of consumer research*, 15(2), 139-168.
- Belk, R. W. (2013). You are what you can access: sharing and collaborative consumption online. *Journal of Business Research*, 67(8), 1595–1600.
- Benartzi, S., Beshears, J., Milkman, K. L., Sunstein, C. R., Thaler, R. H., Shankar, M., ... & Galing, S. (2017). Should governments invest more in nudging?. *Psychological science*, 28(8), 1041-1055.
- Bhattacharjee, A. (2001). Understanding information systems continuance: an expectation-confirmation model. *MIS quarterly*, 351-370.
- Blackwell, S. A., Szeinbach, S. L., Barnes, J. H., Garner, D. W., & Bush, V. (1999). The antecedents of customer loyalty: an empirical investigation of the role of personal and situational aspects on repurchase decisions. *Journal of Service Research*, 1(4), 362-375.

Botsman, R. (2013). The Sharing Economy Lacks A Shared Definition. Fast Company. Retrieved from <https://www.fastcompany.com/>

Botsman, R., & Rogers, R. (2010) What's mine is yours: the rise of collaborative consumption. First edition, HarperCollins Publishers, New York

Boud, D. (2015). Feedback: ensuring that it leads to enhanced learning. *Clinical Teacher*, 12(1), 3-7.

Bradley, K., & Pargman, D. (2017). The sharing economy as the commons of the 21st century. *Cambridge Journal of Regions, Economy and Society*, 10(2), 231-247.

Brehm, J. W. (1966). A theory of psychological reactance. Oxford, England: Academic Press.

Britt, T. W. (1995). Using the Triangle Model of Responsibility to Understand Psychological Ambiguities in Peacekeeping Operations (No. WRAIR/TR-96-0001). WALTER REED ARMY INST OF RESEARCH WASHINGTON DC.

Bryman, A., & Bell, E. (2015). *Business Research Methods*. Oxford: OUP Oxford.

Burchell, K., Rettie, R., & Patel, K. (2013). Marketing social norms: social marketing and the 'social norm approach'. *Journal of Consumer Behaviour*, 12(1), 1-9.

Burfeind, J. W. (1984). The role of the family in delinquency causation: an interactional view. Dissertations and Theses. Paper 851.

Calo, R. (2014). Code, Nudge or Notice?. *Iowa Law Review*, 99, 773.

Carlsson, S. (2019). Går sönder efter fem veckor – bolagen går back på varje elscooter. *Di Digital*, 28 April. Retrieved from <https://digital.di.se/>

Chandler, J., & Shapiro, D. (2016). Conducting clinical research using crowdsourced convenience samples. *Annual review of clinical psychology*, 12, 53-81.

Chen, T. B., & Chai, L. T. (2010). Attitude towards the environment and green products: consumers' perspective. *Management science and engineering*, 4(2), 27.

Cheng, M. (2016). Sharing economy: A review and agenda for future research. *International Journal of Hospitality Management*, 57, 60-70.

Cheshire, L., Peter, W., & Rosenblatt, T. (2010). The Politics of Housing Consumption: Renters as Flawed Consumers on a Master Planned Estate. *Urban Studies*, 47 (12), 2597–2614.

Cialdini, R. B., & Trost, M. R. (1998). Social influence: Social norms, conformity and compliance.

Cialdini, R. B. (2007). Descriptive social norms as underappreciated sources of social control. *Psychometrika*, 72(2), 263.

Cohen, S. (2015). A philosophical misunderstanding at the basis of opposition to nudging. *The American Journal of Bioethics*, 15(10), 39-41.

Conway, R. T. (2014). Ideas for change: Making meaning out of economic and institutional diversity. *The Wealth of the Commons: A World Beyond Market and State*. Amherst, MA: The Commons Strategies Group.

- Corbetta, P. (2003). *Social research: Theory, methods and techniques*. Sage.
- Corcoran, N. (2007). Theories and models in communicating health messages. *Communicating health: Strategies for health promotion*, 5-31.
- Costello, B. J. (2017). Social control theory. In B. Teasdale & M. S. Bradley (Ed.), *Preventing crime and violence* (pp. 31–41). Switzerland: Springer
- Crawford, A. (2003). ‘Contractual governance’ of deviant behaviour. *Journal of Law and Society*, 30(4), 479-505.
- Daunt, K. L., & Greer, D. A. (2015). Unpacking the perceived opportunity to misbehave: The influence of spatio-temporal and social dimensions on consumer misbehavior. *European Journal of Marketing*, 49(9/10), 1505-1526.
- Daunt, K. L., & Harris, L. C. (2012). Motives of dysfunctional customer behavior: an empirical study. *Journal of Services Marketing*, Vol. 26 Iss: 4 pp. 293 - 308
- Dillahun, T. R. & Malone, A. R. (2015). The promise of the sharing economy among disadvantaged communities, in the proceedings of the 33rd annual ACM conference on human factors in computing systems, Seoul, Republic of Korea
- Dootson, P., Lings, I., Beatson, A., & Johnston, K. A. (2017). Deterring deviant consumer behaviour: when ‘it’s wrong, don’t do it’ doesn’t work, *Journal of Marketing Management*, 33:15-16, 1355-1383
- Dootson, P., Johnston, K. A., Lings, I., & Beatson, A. (2018). Tactics to deter deviant consumer behavior: a research agenda. *Journal of Consumer Marketing*, Vol. 35 Issue: 6, pp.577-587
- Dyal-Chand, R. (2015). *Regulating Sharing: The Sharing Economy as an Alternative Capitalist System*. School of Law Faculty Publications. Paper 38.
- Edmondson, A. C., & McManus, S. E. (2007). Methodological Fit in Management Field Research. *Academy of Management Review*, vol. 32. pp. 1155-1179.
- Edney, J. J. (1980). The commons problem: Alternative perspectives. *American Psychologist*, 35(2), 131-150.
- Egan, V., & Taylor, D. (2010). Shoplifting, unethical consumer behaviour, and personality. *Personality and Individual Differences*, 48(8), 878-883.
- Egner, T. (2007). Congruency sequence effects and cognitive control. *Cognitive, Affective, & Behavioral Neuroscience*, 7(4), 380-390.
- El-Mochantaf, C. (2019). Hundratal sparkcyklar forslas bort – kostar 350 att få tillbaka. *Expressen* [Online]. Retrieved from <https://www.expressen.se/>
- Esposito, G., Hernández, P., van Bavel, R., & Vila, J. (2017). Nudging to prevent the purchase of incompatible digital products online: An experimental study. *PloS one*, 12(3), e0173333.
- Ferrell, O. C., & Skinner, S. J. (1988). Ethical behavior and bureaucratic structure in marketing research organizations. *Journal of marketing research*, 25(1), 103-109.
- Fleischer, A., Mead, A. D., & Huang, J. (2015). Inattentive responding in MTurk and other online samples. *Industrial and Organizational Psychology*, 8(2), 196-202.

- Folse, J. A. G., Moulard, J. G., & Raggio, R. D. (2012). Psychological ownership: a social marketing advertising message appeal?. *International Journal of Advertising*, 31(2), 291-315.
- Frenken, K., & Schor, J. (2017). Putting the sharing economy into perspective. *Environmental Innovation and Societal Transitions*, 23, 3-10.
- Friedman, T. L. (2014). And now for a bit of good news. *The New York Times*, July 19. Retrieved from <https://www.nytimes.com>
- Fullerton, R. A., & Punj, G. (1997). Can Consumer Misbehavior Be Controlled? a Critical Analysis of Two Major Control Techniques. In NA - Advances in Consumer Research Volume 24, eds. Merrie Brucks and Deborah J. MacInnis, Provo, UT : *Association for Consumer Research*, Pages: 340-344. (A)
- Fullerton, R. A., & Punj, G. (2004). Repercussions of promoting an ideology of consumption: consumer misbehavior. *Journal of Business Research*, 57(11), 1239-1249.
- Fullerton, R. A., & Punj, G. (1997). What Is Consumer Misbehavior? In NA - Advances in Consumer Research Volume 24, eds. Merrie Brucks and Deborah J. MacInnis, Provo, UT : *Association for Consumer Research*, Pages: 336-339. (B)
- Garcés, E. (2010). The impact of behavioral economics on consumer and competition policies. *Competition Policy International*, 6(1), 145-152.
- Gardner, R., Ostrom, E., & Walker, J. M. (1990). The nature of common-pool resource problems. *Rationality and society*, 2(3), 335-358.
- Glaeser, E. (2006). Paternalism and psychology. *University of Chicago Law Review*, 73, 133–156.
- Gregson, N., Metcalfe, A., & Crewe, L. (2009). Practices of object maintenance and repair: How consumers attend to consumer objects within the home. *Journal of Consumer Culture*, 9(2), 248-272.
- Gruen, A. (2017). Design and the creation of meaningful consumption practices in access-based consumption. *Journal of Marketing Management*, 33(3-4), 226-243.
- Guthrie, J., Mancino, L., & Lin, C. T. J. (2015). Nudging consumers toward better food choices: policy approaches to changing food consumption behaviors. *Psychology & Marketing*, 32(5), 501-511.
- Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The sharing economy: Why people participate in collaborative consumption. *Journal of the association for information science and technology*, 67(9), 2047-2059.
- Hanks, A. S., Just, D. R., Smith, L. E., & Wansink, B. (2012). Healthy convenience: nudging students toward healthier choices in the lunchroom. *Journal of Public Health*, 34(3), 370-376.
- Hardin, G. (1968). The tragedy of the commons. *science*, 162(3859), 1243-1248.
- Hartl, B., Hofmann, E., & Kirchler, E. (2016). Do we need rules for “what's mine is yours”? Governance in collaborative consumption communities. *Journal of business research*, 69(8), 2756-2763.
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of educational research*, 77(1), 81-112.
- Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Publications.

- Hennig-Thurau, T., Gwinner, K. P., & Gremler, D. D. (2002). Understanding relationship marketing outcomes: an integration of relational benefits and relationship quality. *Journal of service research*, 4(3), 230-247.
- Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product-attribute information on persuasion: An accessibility-diagnostics perspective. *Journal of consumer research*, 17(4), 454-462.
- Hill, A. (2018). Why nudges coerce: experimental evidence on the architecture of regulation. *Science and engineering ethics*, 24(4), 1279-1295.
- Hofmann, B., & Stanak, M. (2018). Nudging in screening: Literature review and ethical guidance. *Patient education and counseling*, 101(9), 1561-1569.
- Holley, P. (2018). The life of an electric scooter: Nasty, brutish and often short. *The Washington Post*, June 27. Retrieved from <https://www.washingtonpost.com/>
- Hossain, M. A., & Quaddus, M. (2012). Expectation–confirmation theory in information system research: A review and analysis. In *Information systems theory* (pp. 441-469). Springer, New York, NY.
- Hsu, C. L., & Lin, J. C. C. (2015). What drives purchase intention for paid mobile apps?—An expectation confirmation model with perceived value. *Electronic Commerce Research and Applications*, 14(1), 46-57.
- Hsu, M. H., Chang, C. M., & Chuang, L. W. (2015). Understanding the determinants of online repeat purchase intention and moderating role of habit: The case of online group-buying in Taiwan. *International Journal of Information Management*, 35(1), 45-56.
- Huang, N., Chen, P., Hong, Y., & Wu, S. (2018). Digital Nudging for Online Social Sharing: Evidence from A Randomized Field Experiment. In *Proceedings of the 51st Hawaii International Conference on System Sciences*.
- Hunt, S. D. (2014). *Marketing Theory: Foundations, Controversy, Strategy, and Resource-advantage Theory: Foundations, Controversy, Strategy, and Resource-advantage Theory*. Routledge.
- Hwang, J., & Griffiths, A. M. (2017). Share more, drive less: Millennials value perception and behavioral intent in using collaborative consumption services. *Journal of Consumer Marketing*, Vol. 34 Issue: 2, pp.132-146
- Jackson, P. R., Wall, T. D., Martin, R., & Davids, K. (1993). New measures of job control, cognitive demand, and production responsibility. *Journal of applied psychology*, 78(5), 753.
- Johnson, E. J., Shu, S. B., Dellaert, B. G., Fox, C., Goldstein, D. G., Häubl, G., ... & Wansink, B. (2012). Beyond nudges: Tools of a choice architecture. *Marketing Letters*, 23(2), 487-504.
- Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, 7(4), 396.
- Jussila, I., Tarkiainen, A., Sarstedt, M., & Hair, J. F. (2015). Individual psychological ownership: Concepts, evidence, and implications for research in marketing. *Journal of Marketing Theory and Practice*, 23(2), 121-139.
- Kahneman, D. (2013) *Thinking fast and slow*. Farrar, Straus and Giroux; New York. Reprint edition.

- Kallbekken, S., & Sælen, H. (2013). 'Nudging' hotel guests to reduce food waste as a win-win environmental measure. *Economics Letters*, 119(3), 325-327.
- Kallbekken, S., Sælen, H., & Hermansen, E. A. (2013). Bridging the energy efficiency gap: A field experiment on lifetime energy costs and household appliances. *Journal of Consumer Policy*, 36(1), 1-16.
- Kalnikaitė, V., Bird, J., & Rogers, Y. (2013). Decision-making in the aisles: informing, overwhelming or nudging supermarket shoppers?. *Personal and Ubiquitous Computing* 17, no. 6: 1247-1259.
- Kameda, T., Takezawa, M., & Hastie, R. (2005). Where do social norms come from? The example of communal sharing. *Current Directions in Psychological Science*, 14(6), 331-334.
- Kapsner, A., & Sandfuchs, B. (2015). Nudging as a threat to privacy. *Review of Philosophy and Psychology*, 6(3), 455-468.
- Katz, V. (2015). Regulating the sharing economy. *Berkeley Technology Law Journal*, 30(4), 1067-1126.
- Kees, J., Berry, C., Burton, S., & Sheehan, K. (2017). An analysis of data quality: Professional panels, student subject pools, and Amazon's Mechanical Turk. *Journal of Advertising*, 46(1), 141-155.
- Kool, W., McGuire, J. T., Rosen, Z. B., & Botvinick, M. M. (2010). Decision making and the avoidance of cognitive demand. *Journal of Experimental Psychology: General*, 139(4), 665.
- Kostakis, V., & Bauwens, M. (2014). *Network society and future scenarios for a collaborative economy*. Springer.
- Lades, L. K. (2012). Impulsive consumption and reflexive thought: Nudging ethical consumer behavior. Papers on economics and evolution, No. 1203, Max Planck-Inst. für Ökonomik, Jena
- Lamberton, C. P., & Rose, R. L. (2012). When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems. *Journal of Marketing*, 76(4), 109-125.
- Lawson, S. J., Gleim, M. R., Perren, R., & Hwang, J. (2016). Freedom from ownership: An exploration of access-based consumption. *Journal of Business Research*, 69(8), 2615-2623.
- Lee, Z. W., Chan, T. K., Balaji, M. S., & Chong, A. Y. L. (2016). Technology-mediated sharing economy: Understanding user participation in collaborative consumption through the benefit-cost perspective. In *Proceedings of the 20th Pacific Asia Conference on Information Systems (PACIS)*.
- Lehner, M., Mont, O., & Heiskanen, E. (2016). Nudging—A promising tool for sustainable consumption behaviour?. *Journal of Cleaner Production*, 134, 166-177.
- Li, Q. (2013). A novel Likert scale based on fuzzy sets theory. *Expert Systems with Applications*, 40(5), 1609-1618.
- Lovelock, C., & Gummesson, E. (2004). Whither services marketing? In search of a new paradigm and fresh perspectives. *Journal of service research*, 7(1), 20-41.
- Lowry, P. B., Posey, C., Bennett, R. B. J., & Roberts, T. L. (2015). Leveraging fairness and reactance theories to deter reactive computer abuse following enhanced organisational information security policies: An empirical study of the influence of counterfactual reasoning and organisational trust. *Information Systems Journal*, 25(3), 193-273.

- Lutz, C., Hoffmann, C. P., Bucher, E., & Fieseler, C. (2018). The role of privacy concerns in the sharing economy, *Information, Communication & Society*, 21:10, 1472-1492,
- Lynham, J., Nitta, K., Saijo, T., & Tarui, N. (2016). Why does real-time information reduce energy consumption?. *Energy Economics*, 54, 173-181.
- Mainieri, T., Barnett, E. G., Valdero, T. R., Unipan, J. B., & Oskamp, S. (1997). Green buying: The influence of environmental concern on consumer behavior. *The Journal of social psychology*, 137(2), 189-204.
- Malhotra, D., & Murnighan, J. K. (2002). The effects of contracts on interpersonal trust. *Administrative Science Quarterly*, 47(3), 534-559.
- Marteau, T. M., Ogilvie, D., Roland, M., Suhrcke, M., & Kelly, M. P. (2011). Judging nudging: can nudging improve population health?. *Bmj*, 342, d228.
- Martin, C. J. (2016). The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism?. *Ecological economics*, 121, 149-159.
- Matsueda, R. L. (1982). Testing control theory and differential association: A causal modeling approach. *American sociological review*, 489-504.
- Matzner, M., Chasin, F., & Todenhöfer, L. (2015). To Share or Not to Share: Towards Understanding the Antecedents of Participation in IT-Enabled Sharing Services. In *ECIS*.
- McGuire, J. T., & Botvinick, M. M. (2010). Prefrontal cortex, cognitive control, and the registration of decision costs. *Proceedings of the National Academy of Sciences*, 107(17), 7922-7926.
- McColl-Kennedy, J. R., Sparks, B. A., & Nguyen, D. T. (2011). Customer's angry voice: targeting employees or the organization?. *Journal of Business Research*, 64(7), 707-713.
- Mergler, A. G. (2007). Personal responsibility: the creation, implementation and evaluation of a school-based program (Doctoral dissertation, Queensland University of Technology).
- Mifsud, M., Cases, A. S., & N'Goala, G. (2015). Service appropriation: how do customers make the service their own?. *Journal of Service Management*, 26(5), 706-725.
- Moeller, S., & Wittkowski, K. (2010). The burdens of ownership: reasons for preferring renting. *Managing Service Quality: An International Journal*, 20(2), 176-191.
- Mohamed, N., Hussein, R., Hidayah Ahmad Zamzuri, N., & Haghshenas, H. (2014). Insights into individual's online shopping continuance intention. *Industrial Management & Data Systems*, 114(9), 1453-1476.
- Moschis, G. P., & Cox, D. (1989). Deviant Consumer Behavior. NA - Advances in Consumer Research Volume 16, eds. Thomas K. Srull, Provo, UT : *Association for Consumer Research*, Pages: 732-737.
- Mohr, L. A., Webb, D. J., & Harris, K. E. (2001). Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior. *Journal of Consumer affairs*, 35(1), 45-72.
- Moreira, M. T., Smith, L. A., & Foxcroft, D. (2009). Social norms interventions to reduce alcohol misuse in university or college students. *Cochrane Database of Systematic Reviews*, (3).

- Möhlmann, M. (2015). Collaborative consumption: determinants of satisfaction and the likelihood of using a sharing economy option again. *Journal of Consumer Behaviour*, 14(3), 193-207.
- Nagel, T. (2011). David Brooks' Theory of Human Nature. *New York Times*, March 11. [Online]. Retrieved from: <http://www.nytimes.com/>
- Newbold, P., Carlson, W. L., & Thorne, B. (2013). *Statistics for business and economics*. Boston, MA: Pearson.
- Newell, R. G., & Siikamäki, J. (2014). Nudging energy efficiency behavior: The role of information labels. *Journal of the Association of Environmental and Resource Economists*, 1(4), 555-598.
- Ng, S., David, M. E., & Dagger, T. S. (2011). Generating positive word-of-mouth in the service experience. *Managing Service Quality: An International Journal*, 21(2), 133-151.
- Nielsen, A. S. E., Sand, H., Sørensen, P., Knutsson, M., Martinsson, P., Persson, E., & Wollbrant, C. (2017). Nudging and pro-environmental behaviour. Nordisk Ministerråd.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 17(4), 460-469.
- Park, C. W., Jaworski, B. J., & MacInnis, D. J. (1986). Strategic brand concept-image management. *Journal of marketing*, 50(4), 135-145.
- Peck, J., & Shu, S. B. (2009). The effect of mere touch on perceived ownership. *Journal of consumer Research*, 36(3), 434-447.
- Peer, E., Vosgerau, J., & Acquisti, A. (2014). Reputation as a sufficient condition for data quality on Amazon Mechanical Turk. *Behavior research methods*, 46(4), 1023-1031.
- Peters, E., Västfjäll, D., Slovic, P., Mertz, C. K., Mazzocco, K., & Dickert, S. (2006). Numeracy and decision making. *Psychological science*, 17(5), 407-413.
- Pichert, D., & Katsikopoulos, K. V. (2008). Green defaults: Information presentation and pro-environmental behaviour. *Journal of Environmental Psychology*, 28(1), 63-73.
- Pierce, J. L., & Jussila, I. (2011). Psychological ownership and the organizational context: Theory, research evidence, and application. Edward Elgar Publishing.
- Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of management review*, 26(2), 298-310.
- Ploug, T., & Holm, S. (2015). Doctors, patients, and nudging in the clinical context—four views on nudging and informed consent. *The American Journal of Bioethics*, 15(10), 28-38.
- Rauch, D. E., & Schleicher, D. (2015). Like Uber, but for local government law: the future of local regulation of the sharing economy. *Ohio St. LJ*, 76, 901.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methods for business students (5 suppl.). Harlow: Pearson education limited.
- Schaefers, T., Lawson, S. J., & Kukar-Kinney, M. (2016). How the burdens of ownership promote consumer usage of access-based services. *Marketing Letters*, 27(3), 569-577. (B)

- Schaefer, T., Wittkowski, K., Benoit, S., & Ferraro, R. (2016). Contagious effects of customer misbehavior in access-based services. *Journal of Service Research*, 19(1), 3-21. (A)
- Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of business research*, 22(2), 159-170.
- Schlenker, B. R., Britt, T. W., Pennington, J., Murphy, R., & Doherty, K. (1994). The triangle model of responsibility. *Psychological review*, 101(4), 632.
- Schrader, U. (2007). The moral responsibility of consumers as citizens. *International Journal of Innovation and Sustainable Development*, 2(1), 79-96.
- Schneider, C., Weinmann, M., & vom Brocke, J. (2018). Digital Nudging—Guiding Choices by Using Interface Design, *Communications of the ACM*, 61(7), 67-73.
- Schubert, C. (2017). Exploring the (behavioural) political economy of nudging. *Journal of Institutional Economics*, 13(3), 499-522.
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological science*, 18(5), 429-434.
- Selinger, E., & Whyte, K. (2011). Is there a right way to nudge? The practice and ethics of choice architecture. *Sociology Compass*, 5(10), 923-935.
- Shared scooters don't last long. (2019). Retrieved from <https://oversharing.substack.com/>
- Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. *Psychological reports*, 51(2), 663-671
- Shultz, C. J., & Holbrook, M. B. (1999). Marketing and the tragedy of the commons: A synthesis, commentary, and analysis for action. *Journal of Public Policy & Marketing*, 18(2), 218-229.
- Smith, J. B., & Colgate, M. (2007). Customer value creation: a practical framework. *Journal of marketing Theory and Practice*, 15(1), 7-23.
- Spikins, P. A., Rutherford, H. E., & Needham, A.P. (2010). From Homininity to Humanity: Compassion from the Earliest Archaics to Modern Humans, *Time and Mind*, 3:3, 303-325.
- Steindl, C., Jonas, E., Sittenthaler, S., Traut-Mattausch, E., & Greenberg, J. (2015). Understanding psychological reactance. *Zeitschrift für Psychologie*.
- Strahilevitz, M. A., & Loewenstein, G. F. (1998). The Effect of Ownership History on the Valuation of Objects. *Journal of Consumer Research*, 25 (December), 276-89
- Stollery, A., & Jun, S. H. (2017). The antecedents of perceived value in the Airbnb context. *Asia Pacific Journal of Innovation and Entrepreneurship*, 11(3), 391-404.
- Sunstein, C. R. (2014). Nudging: A very short guide. *Journal of Consumer Policy*, 37(4), 583-588.
- Sunstein, C. R. (2015). The ethics of nudging. *Yale J. on Reg.*, 32, 413.
- Söderlund, M. (2005). Mätningar och mått - i marknadsundersökarens värld.

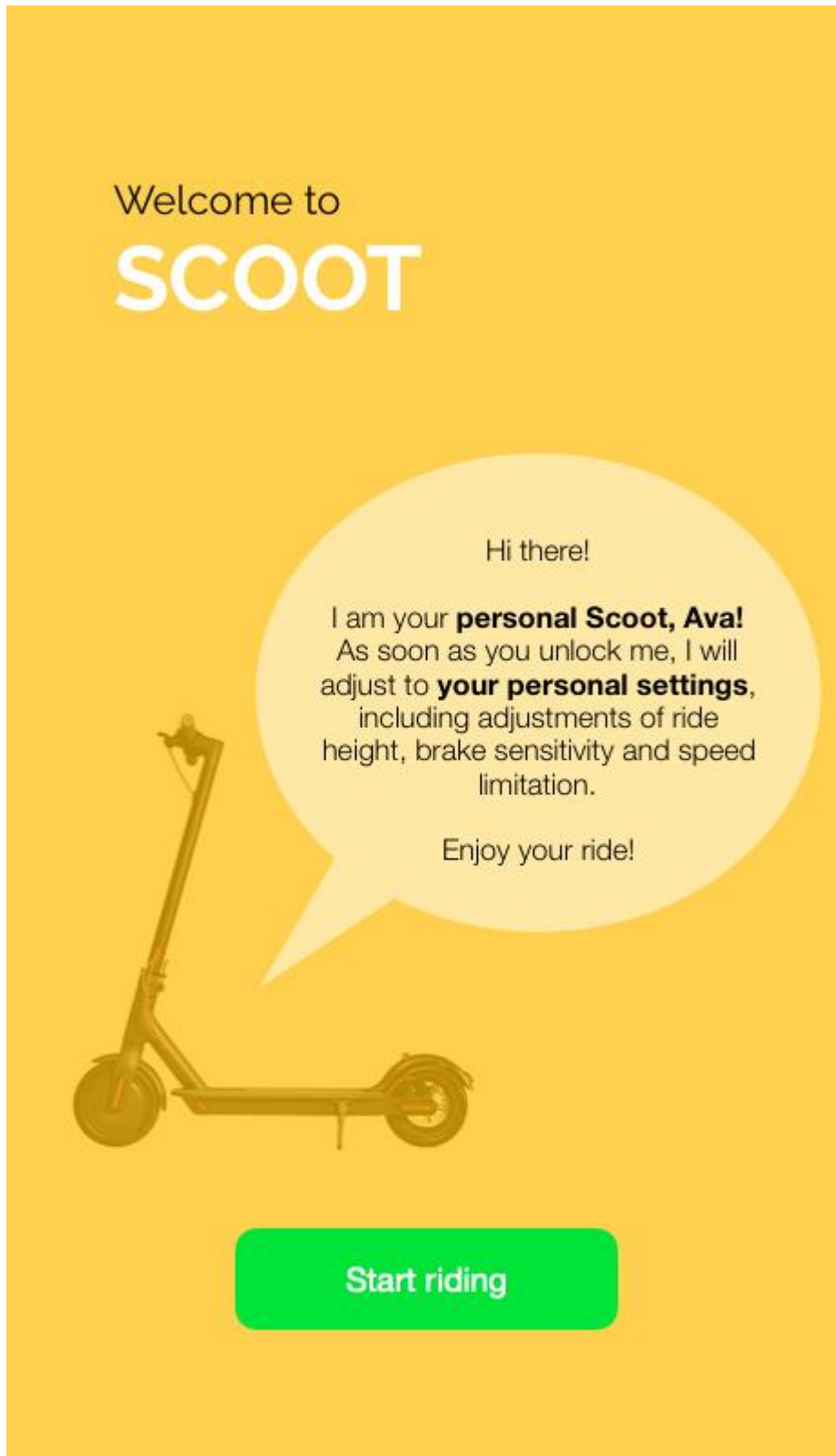
- Taylor, S. E. (1981). The interface of cognitive and social psychology. *Cognition, social behavior, and the environment*, 189-211.
- Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Penguin.
- The rise of the sharing economy. (2013). *The Economist*, March 19. [Online]. Retrieved from <https://www.economist.com/>
- The Verge. (2019). Electric scooters may not be around for long... Available at: [https://www.youtube.com/watch?v=vt1Pcb2cnEw&ab\\_channel=TheVerge](https://www.youtube.com/watch?v=vt1Pcb2cnEw&ab_channel=TheVerge) (Accessed: 24 April 2019).
- Thong, J.Y.L., Hong, S.J., & Tam, K.Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of Human-Computer Studies*, 64(9), 799-810.
- Torma, G., Aschemann-Witzel, J., & Thøgersen, J. (2018). I nudge myself: Exploring ‘self-nudging’ strategies to drive sustainable consumption behaviour. *International journal of consumer studies*, 42(1), 141-154.
- Trusov, M., Bucklin, R. E., & Pauwels, K. (2009). Effects of word-of-mouth versus traditional marketing: findings from an internet social networking site. *Journal of marketing*, 73(5), 90-102.
- Tura, N., & Vaskelainen, T. (2018). Exploring problems associated with the sharing economy. *Electronic Journal of Business Ethics and Organization Studies*, 23(1), 37-45.
- Tussyadiah, I. P. (2016). Factors of satisfaction and intention to use peer-to-peer accommodation. *International Journal of Hospitality Management*, 55, 70-80.
- Ulusoy, E. (2016). Experiential responsible consumption. *Journal of Business Research*, 69(1), 284-297.
- Van Boom, W. H., Desmet, P., & Van Dam, M. (2016). “If It’s Easy to Read, It’s Easy to Claim”—The Effect of the Readability of Insurance Contracts on Consumer Expectations and Conflict Behaviour. *Journal of Consumer Policy*, 39(2), 187-197.
- Van der Heijden, H., Verhagen, T., & Creemers, M. (2003). Understanding online purchase intentions: contributions from technology and trust perspectives. *European journal of information systems*, 12(1), 41-48.
- Van Dyne, L., & Pierce, J. L. (2004). Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behavior. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 25(4), 439-459.
- Voss, K. E., Spangenberg, E. R., & Grohmann, B. (2003). Measuring the hedonic and utilitarian dimensions of consumer attitude. *Journal of marketing research*, 40(3), 310-320.
- Wang, C. Y. (2010). Service quality, perceived value, corporate image, and customer loyalty in the context of varying levels of switching costs. *Psychology & Marketing*, 27(3), 252-262.
- Weinmann, M., Schneider, C., & vom Brocke, J. (2016). Digital nudging. *Business & Information Systems Engineering*, 58(6), 433-436.

- Wendlandt, M., & Schrader, U. (2007). Consumer reactance against loyalty programs. *Journal of Consumer Marketing*, Vol. 24 Issue: 5, pp.293-304,
- Wenzel, M. (2004). The social side of sanctions: Personal and social norms as moderators of deterrence. *Law and human behavior*, 28(5), 547-567.
- Westbrook, A., Kester, D., & Braver, T. S. (2013). What is the subjective cost of cognitive effort? Load, trait, and aging effects revealed by economic preference. *PloS one*, 8(7), e68210.
- Wiatrowski, M. D., Griswold, D. B., & Roberts, M. K. (1981). Social control theory and delinquency. *American sociological review*, 525-541.
- Wilson, G. T., Bhamra, T., & Lilley, D. (2015). The consideration and limitations of feedback as a strategy for behaviour change, *International Journal of Sustainable Engineering*, 8:3, 186-195
- Yang, Z., & Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology & Marketing*, 21(10), 799-822.
- Zauner, A., Koller, M., & Hatak, I. (2015). Customer perceived value—Conceptualization and avenues for future research. *Cogent psychology*, 2(1), 1061782.
- Zeithaml, V. & Bitner, M.J. (1996). *Services Marketing*, McGraw-Hill, New York, NY.
- Ölander, F., & Thøgersen, J. (2014). Informing versus nudging in environmental policy. *Journal of Consumer Policy*, 37(3), 341-356.

## 8. Appendix

### Appendix 1 - Manipulations

#### Manipulation 1: Nudging through Personalised information



## Manipulation 2: Nudging through Social Norms



### Manipulation 3: Nudging through Feedback



Ride Receipt

# SCOOT

Your Scoot Score

**89**



Your Scoot ride was **2.2km long**, and cost you **23 SEK!** Your Scoot was returned in **great condition**, with no damages - good job.

To continue doing good, leave your Scoot with the **stand down and leave it leaning against the wall** - this will allow your Scoot to stay safe and be **used longer**.

Enjoy your day!

Continue

#### Manipulation 4: Long Contract

Welcome to  
**SCOOT**



**Before use, please read through the Terms  
of Use and Accept below**

Terms of Use

This agreement "Agreement" sets forth the legally binding terms and conditions for Your use of the Services provided by SCOOT AB ("SCOOT"). The purpose of this Agreement is to regulate the Services provided by SCOOT, which is to offer electrical scooters to people registered in the SCOOT App.

For Your use of the Services, SCOOT requires that You ("You") agree to all terms and conditions in this Agreement, as applicable. "Agreement" means this agreement. "Privacy Policy" means the privacy policy made available by SCOOT. "Scooters" means the SCOOT electrical scooters. "Services" means the Scooters, Website, SCOOTApp and its related services as described in the Website and the SCOOT App, and made available through the Website or the SCOOT App, together with any other related equipment services, and information made available by SCOOT. "Usage Area" is the areas defined and designated in the SCOOTApp in which the Scooters may be operated and made available. SCOOT means SCOOT Thesis AB, business registration number 555555.55, BOX 5555, Regeringsgatan 55, 555 55 Stockholm, Sweden. "SCOOT App" means SCOOT proprietary software applications accessible via computer or mobile device and by which You may access the Scooter. "Website" means the SCOOT website [www.scoothesis.se](http://www.scoothesis.se). Unless otherwise indicated, all monetary values set forth in this Agreement shall be deemed to be denominated.

## **1. GENERAL**

**1.1 Parties to the Agreement.** You and SCOOT are the sole parties to this Agreement. You are the sole user of the Services and thereby You are solely responsible for compliance with all terms and conditions set out in this Agreement. You must not allow any others to operate the Scooter.

### **1.2 You are at least 18 years old.**

You represent and certify that You are at least 18 years of age.

### **1.3 You and the Scooter is in good shape**

You hereby represent and certify that You are physically fit and reasonably competent to operate the Scooter. You assume all responsibilities and risks for any injuries or medical conditions when choosing to operate the Scooter.

You are solely responsible for determining Your general ability, medical condition, weather conditions, including, without limitation, rain, fog, snow, hail, ice, heat or electrical storms, and/or other factors that can generate any risk to operate a Scooter. You understand that you, depending on weather, traffic or any other circumstance, uncertainty or other factors, must adjust, adapt and calculate Your speed, riding behaviour and braking distance.

You acknowledge that You shall conduct a basic safety check of the Scooter, including an inspection of the Scooters wheels, brakes, lights and any unusual or

**Continue**

**1/12**

Welcome to  
**SCOOT**



**Before use, please read through the Terms  
of Use and Accept below**

**Accept**

## Manipulation 5: Short Contract

Welcome to  
**SCOOT**



**Before use, please read through the Terms  
of Use and Accept below**

Terms of Use

**1. Parties to the Agreement.** You and SCOOT are the sole parties to this Agreement. You are the sole user of the Services and thereby You are solely responsible for compliance with all terms and conditions set out in this Agreement. You must not allow any others to operate the Scooter.

**2. You are at least 18 years old.**

You represent and certify that You are at least 18 years of age.

**3. You and the Scooter is in good shape**

You hereby represent and certify that You are physically fit and reasonably competent to operate the Scooter. You assume all responsibilities and risks for any injuries or medical conditions when choosing to operate the Scooter.

You are solely responsible for determining Your general ability, medical condition, weather conditions, including, without limitation, rain, fog, snow, hail, ice, heat or electrical storms, and/or other factors that can generate any risk to operate a Scooter. You understand that you, depending on weather, traffic or any other circumstance, uncertainty or other factors, must adjust, adapt and calculate Your speed, riding behaviour and braking distance|

You acknowledge that You shall conduct a basic safety check of the Scooter, including an inspection of the Scooters wheels, brakes, lights, frame, battery level, check for visual damage and any unusual or excessive wear of any kind. You agree not to operate the Scooter if there are any noticeable issues, and to immediately notify SCOOT in accordance with article

Continue

Welcome to  
**SCOOT**

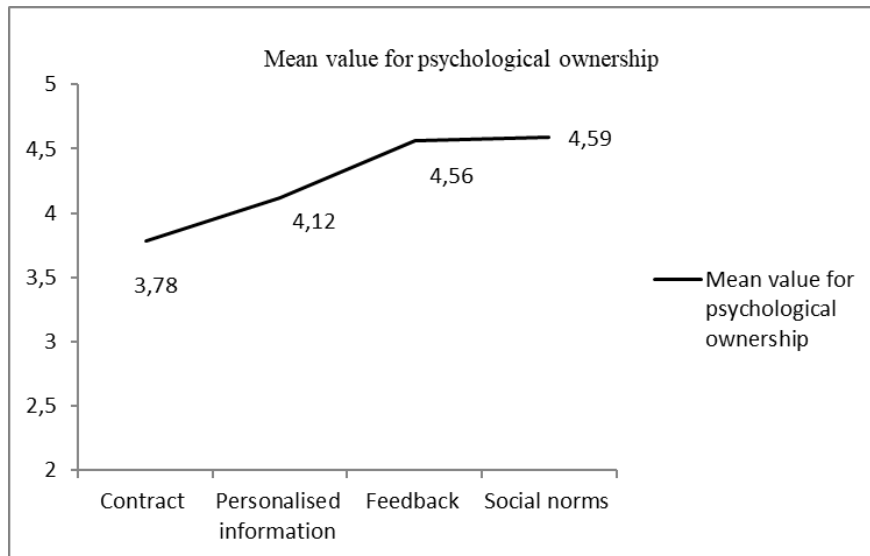


**Before use, please read through the Terms  
of Use and Accept below**

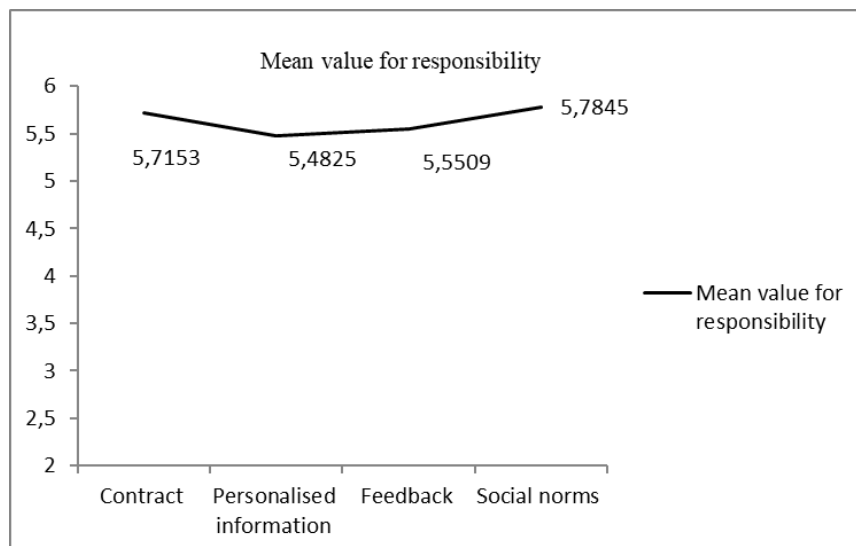
**Accept**

## Appendix 2 – Mean values for hypotheses 1 to 5

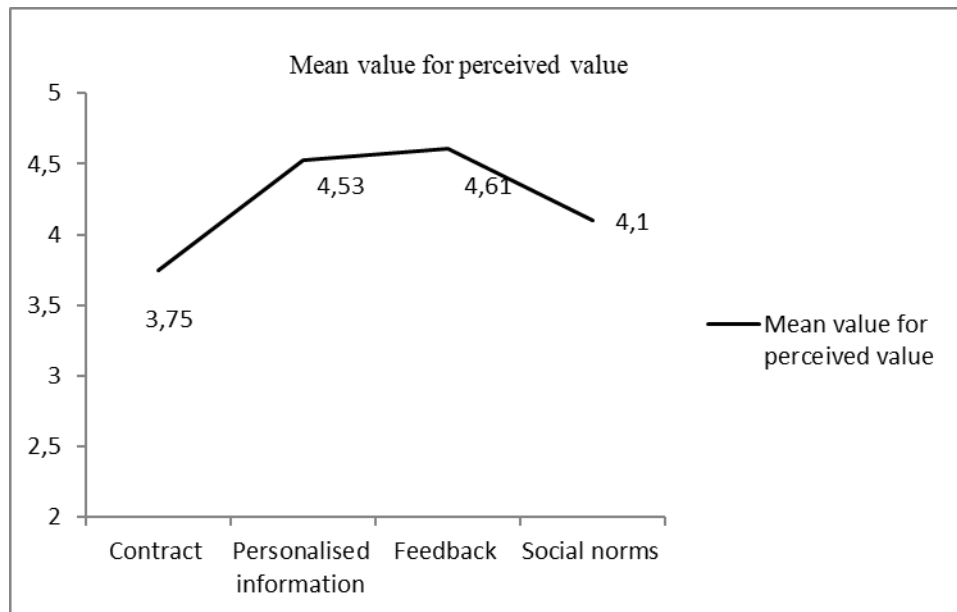
Mean value for psychological ownership for the different groups



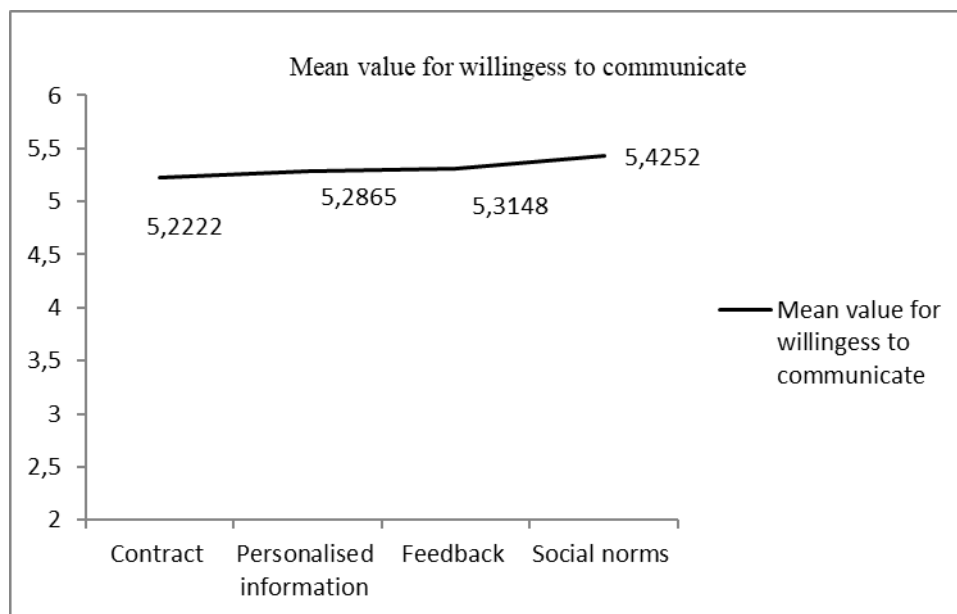
Mean value for responsibility for the different groups



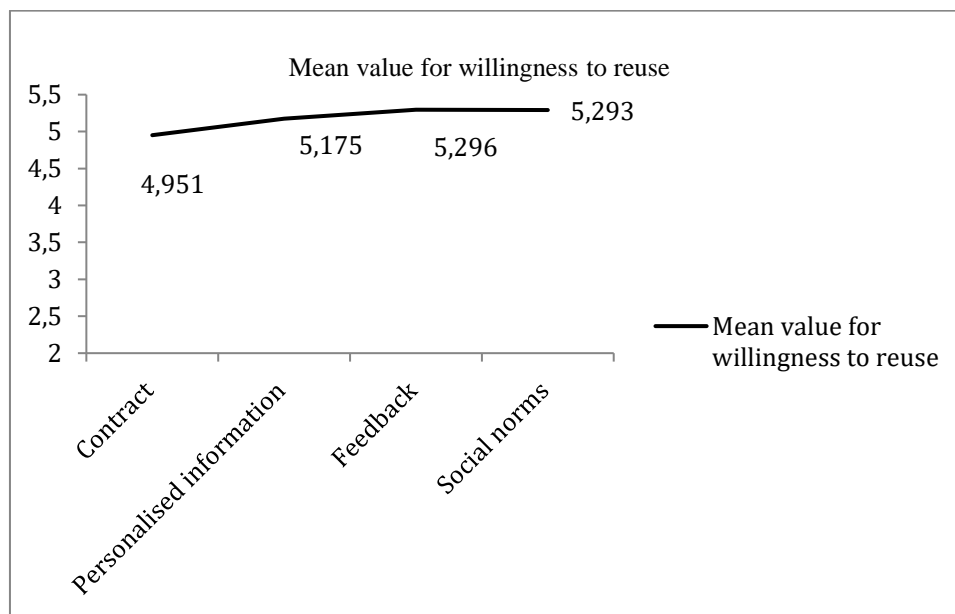
Mean value for perceived value for the different groups



Mean value for willingness to communicate for the different groups



Mean value for willingness to reuse for the different groups



## Appendix 3 – Question Battery

Psychological Ownership		
Statement	Scale	Source
I feel like I own this scooter	Likert 7 point	Van Dyne & Pierce (2004)
I feel personal ownership for this scooter	Likert 7 point	Van Dyne & Pierce (2004)
Responsibility		
Statement	Scale	Source
The way I use the shared service has an impact on others	Likert 7 point	Own
The way I use the shared service has an impact on the environment	Likert 7 point	Own
I will feel responsible for the condition the scooter is in after usage	Likert 7 point	Own
I would prioritise the safekeeping and maintenance of the shared scooter, whenever I'm using it or am around it	Likert 7 point	Own
Perceived Value		
Statement	Scale	Source
If I used this scooter, I would be concerned about not getting my moneys' worth	Likert 7 point	Hwang & Griffiths (2017)
Using this scooter would save me money	Likert 7 point	Hwang & Griffiths (2017)
Using this scooter would make me feel good	Likert 7 point	Hwang & Griffiths (2017)
Using this scooter would make me feel as part of a larger social group	Likert 7 point	Hwang & Griffiths (2017)
Willingness to reuse		
Statement	Scale	Source
How likely are you to choose this scooter service or another similar sharing service another time?	Likert 7 point	Lamberton & Rose (2012)
How likely are you to use this scooter service or another similar sharing service over owning a scooter or similar n	Likert 7 point	Lamberton & Rose (2012)
Willingness to communicate		
Statement	Scale	Source
How likely are you to say positive things about this scooter service to other people?	Likert 7 point	Zeithaml & Bitner (1996)
How likely are you to share information about this offer with other people?	Likert 7 point	Zeithaml & Bitner (1996)
How likely are you to encourage friends and family to use this scooter service?	Likert 7 point	Zeithaml & Bitner (1996)
Perceived Incongruence		
Statement	Scale	Source
Using this scooter will require less effort than using public transport	Likert 7 point	Own
Perceived Effort		
Statement	Scale	Source
It will take a lot of effort to start using this service	Likert 7 point	Own
The effort that it takes to use this scooter is worth it	Likert 7 point	Own
Familiarity		
Statement	Scale	Source
How familiar are you with sharing services in the mobility industry like car sharing, scooter sharing, bike sharing et	Likert 5 point	Own
Q8 How often do you use a shared service from the mobility industry, such as car sharing, scooter sharing, bike shar	Number	Own
Attitude		
Statement	Scale	Source
What is your overall attitude towards shared services?	Likert 7 point	Hamari et al. 2016