Adoption of carsharing services in China

Studying the consumption values Chinese consumers create when using shared cars

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Abstract

China's economic success over the past decades has led to a massive increase in private car consumption. Even though this rise in private car use has positive societal effects, it is favorable to limit the consumption of private cars from an environmental point of view. For instance, because private cars cause a large amount of carbon emissions. One way to reduce private car use is by adopting shared cars. Earlier studies showed that consumers portray a positive attitude towards shared cars, but adoption rates remain low. To help the promotion of carsharing, this thesis has studied what values Chinese consumers create when using a car sharing service. This was done by distributing a qualitative questionnaire among mostly Chinese university students and analyzing the results by using the theory of consumption values. The findings of this survey showed that functional and emotional values are the most salient considerations for using shared cars. With regards to functional values, a car sharing service should be convenient, low-cost, and of high quality. To enhance emotional values, shared cars should be safe and hygienic, and provide freedom for users to go wherever they would want to go. The findings of this thesis show that the theory of consumption values is applicable to analyze consumption behavior within the sharing economy. Practically, the findings of this thesis also allow car sharing service providers to improve and promote their offerings.

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1. Introduction

One of the most pressing problems that China is currently facing, is environmental degradation. After the reform and opening up policy of 1978, China has reaped significant economic success, leading to a massive increase in domestic consumption, among which that of private cars. The rise in private car use is related to a wide variety of environmental problems, most notably a rise in carbon emissions. One way to solve these problems is to reduce private car use, which can be done by using shared cars (Pucher et al., 2007). Carsharing is a car rental system in which cars that are owned by a central operator can be found in designated parking spots throughout a city. Users rent a car via a designated online system and pay for the time they use the car. Whenever users have finished their trip, they park the car in one of the designated parking spots. With this service, consumers can use a car whenever they need, without having to purchase a private car (Wang et al., 2017). Studying Chinese consumers' interest in carsharing, Hui et al. (2019) found that 50% of Chinese consumers are willing to delay private car purchase when they can use car sharing services. As discussed above, this decision by consumers can play a role in environmental protection (Wang et al., 2017). It is therefore worth investigating why consumers would choose to use a shared car. One way to understand consumption behavior is the theory of consumption values by Sheth et al. (1991), which has been used in a wide variety of studies on consumption behavior (e.g., Awuni & Du, 2016; Suki, 2016). Using the theory of consumption values, this thesis tries to answer the following research question: *What values do Chinese consumers create when using a carsharing service?* The answer to this question has been found by deploying a qualitative questionnaire among Chinese consumers.

Previous studies of consumption values primarily focus on the purchase phase of consumption, not on the use phase (Zeithaml et al., 2020). Because this study focusses on carsharing, where the use phase is the most prominent phase of consumption, it allows testing the theory of consumption values in a scenario that has not been explored in previous research. This is especially relevant for the future, because carsharing and the greater paradigm of the sharing economy is expected to only grow further in the future (Ma & Zhang, 2019). Furthermore, understanding why Chinese consumers decide to use a shared car will help policy makers, service providers, product manufacturers, and marketeers promote carsharing to the public. Additionally, this study adds to the existing body of literature that studies sustainable consumption through consumption values, which has been relatively small to date (Suki, 2016).

This thesis consists of six chapters. Chapter 2 includes a literature review in which I outline the evolution of Chinese consumption behavior since the reforms, as well as that of the Chinese car

industry and carsharing in general. A literature review of consumption values lays the foundation for the methodology that is discussed in Chapter 3. In the methodology, I discuss how I developed, distributed and analyzed the questionnaire. Chapter 4 presents the results, in which I discuss the themes that were found during the analysis of the questionnaire's responses. In Chapter 5, I discuss how the findings of the previous chapter relate to the theory of consumption values. Based on this, I formulate several implications for both theory and practice. In the final chapter, I provide an answer to the research question, whereafter I state the limitations to this research and possible avenues for future research.

2. Literature review

One of the most pressing problems that China is facing today, is the environmental damage that is partly caused by its economic success since the 1980s. Part of this success are the significant increases in domestic production and consumption, which have given rise to carbon emissions, soil erosion, water contamination, and many other environmental problems (Yang & Weber, 2019). A significant instance in which the environmental influence of consumption manifests itself, is private car ownership, which has been rapidly rising during the last two decades (Pucher et al., 2007). Among other problems, this has raised carbon emissions and roadway congestions in densely populated areas, as well as traffic injuries and fatalities (ibid.). Because problems like these have only been rising for the last decades and are proven to affect the well-being of Chinese citizens negatively, Yang & Weber (2019) argue that it is of the utmost importance to find solutions to these problems. One of those solutions is decreasing private car ownership by stimulating consumers to opt for car sharing services instead. As more consumers adopt car sharing and less consumers choose for private ownership, significantly less cars would be driven on Chinese roads, which decreases the environmental problems that are created by the production and use of cars (Hui et al., 2019).

Despite the promising aspects of car sharing, acceptance of carsharing remains difficult, both in China and other places. One possible reason for this is the social role of consumption, as put forward by Bourdieu, one of 20th century's leading figures in sociology. According to Bourdieu, there is a link between consumption and social class (Bourdieu & Nice, 1980). When relating this to car consumption, Soron (2009) found that private cars can signal one's status and the belonging to a particular social class. Because shared cars are not owned by the user, such a service would not seem to allow its users to signal status or class. From this point of view, shared cars would pose a significantly less interesting option for consumers than private cars. However, according to Hua et al. (2021), the situation is more complex, because one can also acquire social status by choosing to consume sustainably (i.e., choosing for car sharing over private ownership). These factors form just the tip of the iceberg of all factors that possibly play a role in the choice of consumers to use shared cars. In order to understand what values Chinese consumers create when they choose for carsharing, it is relevant to first discuss China's car industry, as well as Chinese consumers' perception of sustainable consumption. This literature review ends with an outline of approaches that have been proposed for studying consumption patterns, where I focus on the theory of consumption values.

2.1. Sustainable consumption in China

Understanding sustainable consumer culture in China today requires studying the period that started in 1978. The reform and opening up policy of 1978 has had a significant influence on Chinese consumers. A consumer culture was almost non-existent in Maoist China. Starting in the late 1970s, as reforms were implemented, more and more Chinese citizens started to take part in China's consumer culture. As environmental effects of consumption have begun to manifest themselves since several decades, sustainable consumption has received increased attention by not only academics, but also consumers themselves. In this part of the literature review, I first provide a broad overview of the development of China's consumption culture since 1978, after which I zoom in on China's sustainable consumption culture.

Consumer culture in China since the reforms

After Mao's death and the end of the Cultural Revolution in 1976, the future was open for China to choose a new path in improving its economy. To Deng Xiaoping it was clear that chances were slim that continuing Mao's centralized planned economy would lead to significant economic success (Naughton, 1995). This led him to initiate the reform and opening up policy in 1978. There exists no academic consensus about what exactly influenced the decision to implement reforms, but according to Naughton, it seems to have been a combination of strong leadership by Deng, heightened bonds with the United States, and the need for China to spread its economic success to Chinese individuals. A partial manifestation of spreading economic success to Chinese individuals was the focus by the government on growing domestic consumption. At the time, this was also regarded by government officials as a source of economic growth (Lardy, 2006).

Regardless of the initial motives, the reforms gave rise to production, which led in turn to an increase in consumption options for ordinary Chinese people. Naughton speaks of a 'consumer revolution' here, because the reforms allowed Chinese consumers to fulfill desires that had not been met for at least a decade (i.e., during the Cultural Revolution). The success of the reforms has been described by many authors and consists of many different aspects, but according to Tisdell (2009), the most important ones include a continuous annual rise in GDP, almost exclusively in double digits, as well as a rise in the per capita income, a rise in human welfare, measured through the Human Development Index (HDI = 0.530 in 1975, and HDI = 0.777 in 2005), and a decline in poverty. Admittedly, the reforms have also had negative effects, as increases in inequality and a growing income gap between urban and rural areas have been observed. With regards to the positive effects,

Tisdell further claims that one all-encompassing benefit of the reforms is the increase in freedom of choice of consumer goods and services, as more had become available. Products that were previously regarded as luxuries, such as washing machines or refrigerators, quickly became household necessities. Subsequently, mass media advertising became an integral part of Chinese consumer culture, as advertisers tried to let people consume as much as possible (Davis, 2005). According to Harris (2006), this new consumer culture led Chinese consumers to increasingly focus on becoming rich and achieving individual goals. Following this, Harris claimed that China's growing number of private cars is a manifestation of this individualistic consumer culture. The rise in individual consumption has been reported by more authors (e.g., Tisdell, 2009), and it corresponds with the initial motive to let economic success reach individuals, as mentioned before. It is therefore relevant to study how Chinese consumers perceive shared cars, because these are part of the sharing economy, which stands in contrast with individualistic consumption.

Now that Chinese consumer culture is maturing, the increase in freedom of consumption choice that Tisdell mentioned does not seem to be enough anymore for consumers. According to Peters (2017), Chinese consumers feel more responsible for their consumption choices. This finding is in line with Xi Jinping's current policies that regard the Chinese people as responsible consumer-citizens, who are willing to take responsibility but need guidance to make the right decisions (ibid.). Therefore, the findings of this thesis might serve as input for future policies to help the Chinese people to make responsible consumption choices.

The role of sustainability in China's consumer culture

As discussed, China's economic growth has had many positive consequences from a societal point of view, such as an increase in consumption choice. However, it has also led to environmental problems. Despite the urgency of solving these problems, Harris (2006) found that in general, Chinese consumers are unaware of the environmental consequences of their behavior and find that economic development should always come before the protection of the environment. These findings point towards a tension between environmental protection and socio-economic development, which is not specific to China, as it exists on a global scale and has received attention from academia, business, citizens, and legislators world-wide (Lupova-Henry & Dotti, 2018). The Brundtland report (1987, p.24) was the first to address this global tension under the umbrella of sustainable development: "meeting the needs of the present without compromising the ability of future generations to meet their own needs." This definition has since been commonly used throughout professional and academic literature to address the tension between environmental protection and socio-economic development (Lupova-Henry & Dotti, 2018). According to the Brundtland definition, development should be pursued in terms of social and economic factors, whilst the environment should also be

protected so that future generations are not negatively affected by current generations' behavior. Brundtland (1987) argued that this can be achieved when manufacturers improve their production practices, on the one hand, and consumers improve their consumption patterns, on the other hand. With regards to the consumption component of sustainable development, Geiger et al. (2018, p. 20) defined this as "individual acts of satisfying needs in different areas of life by acquiring, using and disposing goods and services that do not compromise the ecological and socioeconomic conditions of all people (currently living or in the future) to satisfy their own needs."

Sustainable consumption is a type of pro-environmental behavior. Based on survey results, Zheng et al. (2018) found that sustainable consumption behavior in China is influenced by the consumer's environmental attitude, which is in turn influenced by his environmental awareness. Although most authors do not explicitly mention this relationship between behavior, attitude, and awareness, I argue that they implicitly take it into account because most works can be categorized as either studying the influence of personal characteristics (e.g., Liu et al., 2012), awareness (e.g., Liu & Leiserowitz, 2009), or attitude (e.g., Yue et al., 2020), on pro-environmental behavior. In the following paragraphs, I discuss studies on each of these three factors in China.

Environmental awareness includes both knowledge of environmental issues in general, as well as knowledge of the effect of human behavior on the environment (Harris, 2006). In his review of surveys on pro-environmental behavior in China, Harris found that Chinese citizens lack a general understanding of global environmental issues, and even those who express concerns about the environment do not realize how much harm their consumption behavior causes to the environment. Although this study was performed nearly two decades ago, the findings seem to hold as both Liu & Leiserowitz (2009) and Shao (2019) found similar results. Liu & Leiserowitz (2009) used survey results to conclude that Chinese citizens are mostly unaware of global issues and focus instead on environmental problems in their immediate surroundings, such as local air quality. As to what causes environmental degradation, they found that Chinese citizens fail to mention "systemic factors such as population growth, consumption increases, or economic development" (p. 36). In a literature review of sustainable consumption, Shao (2019) found that Chinese consumers miss the right information to make the most sustainable choice. Based on the findings that information is vital to sustainable consumption, consensus exists in academia that education plays a vital role in stimulating sustainable consumption behavior (Harris, 2006; Liu & Leiserowitz, 2009; Liu et al., 2012; Wang et al., 2014; Shao, 2019). Furthermore, several studies found that well-educated people are more likely to portray environmentally sustainable behavior than their less educated counterparts, which suggests that education indeed has an influence on sustainable consumption (Liu et al., 2012; Chen et al., 2011; Duan & Sheng, 2018). Geng et al. (2017) even went so far as concluding that education is the most important prerequisite for sustainable consumption. They argued that only when consumers are

educated enough, other sustainable consumption initiatives will have effect, such as the improvement of a product's carbon emissions.

Zheng et al. (2018) found that a higher environmental awareness leads to a more positive attitude towards environmental protection. This attitude is defined by Yue et al. (2020) as the importance one attaches to the protection of the environment, the responsibility one feels towards environmental protection, and one's willingness to take effort in protecting the environment. In their quantitative study of factors that influence sustainable consumption behavior in rural China, Wang et al. (2014) found that the perceived consequences of environmental degradation to oneself is the most relevant predictor of environmental attitudes. Harris (2006) and Liu et al. (2012) found that Chinese consumers' ethical valuation of the environment also has a significant influence on one's environmental attitude. Harris (2006) found that more affluent and urbanized people tend to have a higher pro-environmental attitude.

In addition to a high environmental awareness and a pro-environmental attitude, there are several personal and circumstantial factors that influence sustainable consumption behavior. Chen et al. (2011) found that "being female, younger, highly educated and having environmentally oriented attitudes increased the odds of participating in pro-environmental behavior" (p. 1). The findings by Liu et al. (2012) are in line with this, as they found that "female, young, wealthy, well-educated and ideologically liberal urban dwellers have relatively higher levels of sustainable behaviors" (p. 295). Based on a Chinese national representative survey, Duan & Sheng (2018) agreed with these findings on most levels, but found that instead of younger people, older people are more likely to perform pro-environmental behavior. When they noticed the discrepancy between their results and those by Chen et al. (2011) and Liu et al. (2012), they suggested that future research should look into this. In addition to gender, age, education, income, and residence, Yang & Weber (2019) also found that the more one feels powerful over his behavior and subsequent outcomes, the more likely he is to perform pro-environmental behavior. This is in line with findings by Chen et al. (2012), which stated that people in leadership positions tend to engage more in pro-environmental behavior for this reason. In this thesis, I study the behavior of Chinese carsharing users by using the theory of consumption values, which will be further discussed in Chapter 2.3. Although this study focusses on consumption behavior rather than environmental awareness or knowledge, awareness and knowledge may provide a relevant way to understand differences between consumers' behavior. Additionally, because this study does not include a representative sample, I cannot draw conclusions about the influence of demographics on behavior. However, the findings that are presented above are used in the discussion section to compare this study's findings for different demographic groups.

2.2. China's car industry

Since the 2000s, private car adoption has been rising among Chinese households. Gan et al. (2020) predicted that without any restrictions on car sales, the Chinese private car stock will grow from 150 million in 2016 to 455 million in 2040. In the scenario that car sales would be restricted by the government to an annual maximum of 20 million, the private car stock would only reach 280 million by 2040 (Gan et al., 2020). Scholars agree that these restrictions on car sales would help combat the negative effects of private car ownership (Pucher et al., 2007; Han & Hayashi, 2008; Hui et al., 2017). This can be especially valuable for urban areas, because that is where private car ownership rates, carbon emissions, roadway congestions, as well as traffic injuries and fatalities are currently the highest (Le Vine et al., 2018; Pucher et al., 2007).

On the other hand, Yu & Zhao (2021) argued that in rural areas, private car ownership should be supported instead of discouraged, which means that sales caps would not be the right solution. In their study of Chinese rural residents, Yu and Zhao found that private car ownership is the most significant determinant of one's mobility. Furthermore, they found that Chinese residents are less likely to purchase a car when their access to highways is low rather than high, which is mostly true for rural areas. Therefore, they pledge that more highways should be accessible for rural residents, and private car ownership should be supported, so that rural residents become more mobile. It thus seems, on the one hand, that limiting private car ownership would have a positive effect on the environment, but a negative effect on Chinese society, on the other hand. Acknowledging this dilemma, Yu and Zhao indicated that increasing public transport services might be a better solution for both the environment and society. They warned, however, that public transport has only a limited potential of increasing rural residents' mobility. This is where carsharing poses a solution. Compared to public transport, shared cars can have a similar potential to limit private car use but a greater potential to increase mobility (Hui et al., 2017). Thus, carsharing seems to be a better option than limiting private car sales or promoting public transport, as it creates both environmental and social benefits (Duan et al., 2020).

Carsharing

Carsharing services, also known as short-term car rental, allow consumers to rent a car for a short period of time, only for when they need to use it. There are two main types of carsharing systems: a system with a central carsharing operating company (e.g., GoFun), and a peer-to-peer carsharing platform, where owners of a personal vehicle rent out their car to others (e.g., ATzuche).

This thesis only considers the first type of shared cars, because these are the most common ones in the current Chinese market (Hui et al., 2019). Shared cars can be regarded as being part of the 'sharing economy'. The sharing economy is "an economic model facilitated by efficient matching through internet platforms adopting internet information technology, with numerous providers that temporarily share the use rights of idle capacity with numerous receivers, gain monetary profit, achieve the optimal allocation of social resources and promote the underlying social values" (Liu et al., 2020, p. 14). Usually, consumption is divided into separate phases: acquirement, use, and disposal, such as Geiger et al. (2018) did in their definition of sustainable consumption. Sharing economy concepts, on the other hand, merge all consumption phases into a single act of consumption. Because consumers do not own the product that they use, they do not need to acquire and dispose of it, which makes only the use phase salient (Ma & Zhang, 2018). According to Zhang & Li (2020), the first carsharing service dates back to Europe's 1990s, and the first service was introduced to China in 2011. Currently, most shared cars in China are small electric cars of domestic brands, available in city centers and business districts. Although 1.5 million shared cars are currently available for use, Zhang and Li claim that adoption rates remain low. This is in line with findings by Müller (2019), which stated that Chinese consumers are not likely to use a shared car, even though they have a positive attitude towards carsharing in general.

Many studies have been performed on the demographics and use characteristics of carsharing users (e.g., Efthymiou, Antoniou, & Waddell, 2013; Zhou, 2014; Bi et al., 2020; Duan et al., 2020; Liao & Correia, 2020). These studies focus mostly on the age, gender, education, and income of the user, as well as the duration, destination, distance, and repetition of use. Efthymiou et al. (2013) found that Greek carsharing users mostly consist of young, well-educated people with low incomes. The findings of a study of carsharing users in Shanghai by Duan et al. (2020) are only partially in line with this, as they stated that carsharing users tend to be relatively young (around 26 years old), but also tend to have a relatively high income, be married, and have children. These findings are then in line with a study by Liao & Correia (2020) in Germany, where most carsharing users were found to be university graduates with a relatively high income, aged between 30 and 40. Furthermore, Duan et al. (2020) found that carsharing users are mostly women, while both Bi et al. (2020; study in Gansu) and Liao and Correia found that most users are men.

Feng et al. (2020) found that shared cars in Beijing are mostly used for commuting from suburban homes to urban work and recreation places, covering short distances between 10 to 60 kilometers, but having relatively long use times because of lengthy stops during use. Bi et al. (2020) also found that shared cars in Gansu were mostly used for short distances, but rather for short timespans than long ones. Both Feng et al. (2020) and Bi et al. (2020) concluded that most consumers use carsharing for only a small number of occasions. In a study of several European countries, Martins

Silva Ramos et al. (2020) found that most users substitute carsharing for non-motorized transport or public transport. Based on the discussion above, the background of carsharing users seems to vary across studies. However, most studies seem to point out that shared cars are mostly used by young, highly educated users who do not own a car and only occasionally need one. This made Zhang & Li (2020) conclude that in China, university students are potentially the most suitable target group for carsharing companies to focus on, because they are not likely to own a car, are comfortable to use smartphones for such services, do not need cars often, and have limited income to purchase a private car. Yu et al. (2018) added to this that younger generations (i.e., the generation of today's university students) are more interested in environmental behavior and are more willing to adapt to technological changes than their older counterparts.

When studying the reasons for using shared cars, findings vary widely. Hui et al. (2019) found that 50% of current users of car sharing services are willing to delay their car purchase, as they were satisfied with the service, used it relatively often, and used it mostly for commuting. However, Müller (2019) found that Chinese consumers are not likely to choose for car sharing, even though they portray a positive attitude towards the concept. This contradicts findings by Wang et al. (2017), which stated that Chinese consumers were willing to participate in carsharing because of its flexibility as a complement to public transport. Hui et al. (2017) found that consumers are most likely to choose for car sharing more often when they regard it as an alternative to public transport and use it for commuting to work. Furthermore, Ma et al. (2019) suggested that Chinese consumers find the act of sharing a car with other users, instead of owning a car for oneself, to have social meaning. This is because sharing a car with others enables users to cocreate value for the offering, rather than simply obtaining the value of a privately owned car. The findings that have been discussed above show that university students are potentially the most relevant user group for using shared cars. This will be further addressed in the methodology of this study. Furthermore, the identified reasons for using carsharing services are compared in the discussion section with the results of this study.

2.3. Studying consumption

Whether consumers choose to consume sustainably, depends on their level of environmental awareness, environmental attitude, and demographics, as discussed in Chapter 2.1 (Zheng et al., 2018). However, the sole fact that a certain good or service is sustainable, may not be the only or primary driver for a consumer to choose for a certain type of consumption. In fact, many other aspects are at play. Carsharing services pose a wide variety of advantages and disadvantages compared to other modes of transport, for instance regarding costs or convenience. These advantages and disadvantages can be modelled with the value-attitude-behavior model by Liu et al. (2012), which assumes that a product's values influence consumers' perception and attitude, which in turn influence their behavior. This model differs slightly from the model by Zheng et al. (2018), because it focusses more on the product or service rather than the environment. Thus, instead of using environmental awareness and attitude, the model by Liu et al. uses a product's perceived value and the attitude of the consumer towards the product as determinants of consumption behavior. Costs and convenience are examples of the functional value of a product. The notion of functional value is in line with the microeconomic utility theory of consumption, which states that consumer demand is negatively related to price (Braun & Wicklund, 1989). In addition to functional value, Veblen (1899) proposed that products also possess symbolic value. This type of value allows a consumer to construct social identity through the consumption of the given product or service. Veblen was the first who addressed the link between consumption and culture, which has given rise to many other scholars proposing their own theories. Bourdieu for instance, stressed the importance of distinction, as consumers try to set themselves apart from other consumers (Bourdieu & Nice, 1980). McCracken (1986) posed a major criticism on Veblen's theory, as he showed how the transfer of cultural meaning from the culturally constituted world to consumer goods and consumers, is dynamic, and thus more complex than Veblen described. McCracken further described how the rituals of possessions, exchange, grooming, and divestment play a role in transferring the cultural meaning of goods to consumers. As an extension of Veblen's consumption values, Sheth et al. (1991) proposed their theory of consumption values,

The role of consumption values in consumer behavior

Sheth et al. (1991) progressed Veblen's definition of consumption values to five different types: functional, social, emotional, epistemic, and conditional (see Table 1). Functional value is traditionally regarded as the main driver of consumption, as stated in the microeconomic utility

theory. When I relate this to cars, examples of functional value include the top speed and the price of a car. A product has social value when it is highly visible and allows the consumer to create a desired social image. Social value is similar to the symbolic value that was proposed by Veblen (1899). For instance, a luxury sports car can have social value as it allows the consumer to show his high social status. When a product has emotional value, the consumer feels an emotional response to the acquirement or use of the product. A consumer can, for instance, 'fall in love' with his car. The epistemic value of a product includes the provision of a novel experience to the consumer. An example is that car sharing allows a consumer to drive a different type of car every time. The conditional value of a product involves the consumer's varied perception of it in different situations. For instance, a consumer may prefer to drive a Toyota Aygo for doing groceries but prefer to drive a Bentley Continental GT when he goes to a wedding.

Table 1

Consumption values (by author, based on Sheth et al., 1991)

Value	*Definition*
Functional	"possession of salient functional, utilitarian, or physical attributes" (p.160)
Social	"association with positively or negatively stereotyped demographic, socio-economic, and cultural-ethnic groups" (p.161)
Emotional	"association with specific feelings or precipitating or perpetuating those feelings" (p.161)
Epistemic	"capacity to arouse curiosity, provide novelty, and/or satisfy a desire for knowledge" (p.162)
Conditional	"presence of antecedent physical or social contingencies that enhances its functional or social value" (p.162)

These fives values are based on three propositions. First, "consumer choice is a function of multiple consumption values" (p. 160), which means that all five consumption values can play a role in the consumer's mind. However, the role of every value is not equally large, which brings us to the second proposition, "consumption values make differential contributions in any given choice situation" (p. 160). This is exemplified when a consumer chooses for car sharing simply because it is an easy form of transport (functional value), other values may then not play a significantly large role for this consumer. The third proposition is that "consumption values are independent" (p. 160). This means that a high level of one consumption value does not automatically relate to a high level of another type of value.

Because of the variety of possible reasons for consumption that the theory of consumption values covers, it is a valuable method to study the motivation of consumers to consume in a certain way. Research has already been conducted on sustainable consumption in China by using this theory (e.g., Lin & Huang, 2012; Awuni, & Du, 2016). Most of these studies have focused on the acquirement of products, rather than the use of them (Zeithaml et al., 2020). Lin & Huang (2012) found that the

choice of Chinese consumers for green products was not influenced by the functional values of the product, but rather a combination of all other four values. Awuni & Du (2015) found that specifically social and emotional value are the most significant predictors of green purchases. In this thesis, I use the theory of consumption values to study why consumers choose (not) to use shared cars. Theoretically, this will show whether this theory is valid within the sharing economy, where the use phase is salient, rather than the purchase phase. Also, in the discussion, I compare my findings with those by Lin & Huang (2012) and Awuni & Du (2016) to conclude whether the reasons for using carsharing comply with the reasons they have found for sustainable consumption.

3. Methodology

To study what values Chinese consumers create when using a carsharing service, a qualitative research was conducted. Qualitative research was preferred over quantitative research because it allows the findings to emerge from the data, rather than the other way around (Braun & Clarke, 2013). This method of theory building is most relevant to this study because no prior research had been conducted on consumption values of carsharing services in China. Additionally, generalizability as usually achieved in quantitative research was not an aim of this study. This qualitative study consists of an online self-administered questionnaire (see Appendix A), which was distributed among Chinese consumers. In this chapter, I discuss the measures that were used in the questionnaire, the findings of the pre-test, the distribution method, and the method of data analysis.

3.1. Measures

In order to develop measures for the questionnaire, I took the methodology of the study by Mäntymäki & Salo (2014) on consumption behavior in virtual games as a starting point. The study by Mäntymäki and Salo is relevant as it resembles both the topic and the research methodology of this study (i.e., the use of a qualitative questionnaire to study consumption values). In their study, Mäntymäki and Salo asked only one question to respondents: "Why do you purchase Habbo items and/or Habbo Club [premium] membership?" When contextualizing this question to carsharing services, I developed the following question: "Why do you (choose not to) use carsharing services?" Whether to use the phrase in parentheses depends upon whether the respondent would indicate he has ever used a carsharing service or not. In the study by Mäntymäki and Salo, saturation was achieved after the analysis of 1,000 responses. As this study only aimed for 100 responses because of time constraints, I chose to include other questions in addition to the 'why'-question. Another reason to include more questions is that previous studies have found that 'why'-questions tend be difficult for respondents to answer because it presupposes that the respondents are aware of a particular reason that they make a certain decision, which is often not true (Patton, 2014).

In order to develop additional questions, I took the study by Liu & Murphy (2007) as a starting point. In their study of Chinese wine consumption, they interviewed consumers on four main topic areas: (1) when and where consumption takes place, (2) how frequently consumption takes place, (3) how much is consumed per occasion, and (4) what factors influence the decision to

consume. I contextualized all four topics into a separate question about carsharing (e.g., "When and where do you use carsharing services?"). During the pre-test, which will be further addressed below, I found that these questions were slightly overlapping, as the phrasings of these questions were found to be ambiguous. This made it difficult for respondents to answer these questions. Therefore, I decided to include three of the topic areas as an extension of the 'why'-question, to sensitize respondents to what a potential answer would be: "Please be as elaborate as possible, include the places, times, and occasions for which you use car sharing." I did not include this elaboration for the 'why'-question that is asked to consumers that have not used carsharing services, because they would not be able to answer this. Furthermore, to those who indicated that they have used carsharing services, I asked an additional question: "How frequently do you currently use car sharing services?" This would allow me to understand whether the respondent is a heavy or light user of carsharing services. Finally, to expand the study even further, I added one question about the benefits of carsharing and one about its downsides. By allowing both users and non-users to compare benefits with downsides, respondents are sensitized to access all reasons they might have for (not) using carsharing services (Wänke et al., 1995).

In addition to the open-ended questions about carsharing, several questions were included in the questionnaire to understand the demographic background of the respondents. These background questions included the respondent's gender, age, education, nationality, place of residence and whether they had ever used a car sharing service. The nationality question functioned as a check to see whether the respondent belonged to the target group of Chinese consumers. Gender, age, education, and place of residence then provided additional demographic information about the respondent, helping me contextualize their answers during analysis. The question whether the respondent had ever used a carsharing service not only allowed me to contextualize their answers, but it also allowed the questionnaire program to filter out the relevant questions, as discussed in the previous paragraphs. The questionnaire was developed in English, as this language was used in the literature that provided the starting points for the questions. To make the questionnaire available to the wider Chinese public, the questionnaire was translated into Chinese. The majority of respondents filled out the questionnaire in Chinese, while some used English. All Chinese responses that are included in the analysis have been translated by me to English.

3.2. Pre-test

Prior to distributing the survey, I performed a pre-test with two Chinese participants. The goal of the pre-test was to understand whether the questions were clear and relevant to the local

context, and to catch any unforeseen errors. The pre-tests were performed through an online video call with them, as both participants were located in China while I was in the Netherlands. The participants were found through convenience sampling. Although this sampling method is not ideal for generalizability of the findings, I expected that the goal of the pre-test would still be met. The pre-test started by letting the participants read and fill out the questionnaire. Then, I asked what their general opinion was of the questionnaire and discussed their understanding of each question. I checked not only whether they found each question to be clear, but also whether they understood the question in the way that I intended. As already addressed in Chapter 3.1, it was unclear to both participants how to answer the questions 'why', 'when and where', 'how much', 'how frequently', and 'what factors.' This made me choose to replace the five different questions with one 'why'-question that includes 'when and where', 'how much', and 'what factors', and one 'how frequently'-question. Both participants indicated that the questions were relevant to the Chinese context. With regards to unforeseen errors, I found out that Qualtrics software is unavailable in China when not using a VPN connection. This made me choose to use SurveyMonkey instead, because it contains the same features as Qualtrics and allows Chinese citizens to access the questionnaire without needing any VPN connection. After changing the questions based on the participants' feedback, I sent the questionnaire again to one of the participants to check whether the questions were clear. No issues were identified, which allowed me to conclude that the questionnaire was ready to be distributed.

3.3. Distribution method

The questionnaire has been distributed in the form of an online self-administered one, using SurveyMonkey. To distribute the questionnaire, I used a combination of convenience sampling and snowball sampling (Patton, 2014). I started by contacting all of my Chinese acquaintances, asking them to fill out the questionnaire themselves and send the questionnaire to their friends and family. Additionally, they added me to WeChat groups for Chinese university students in the Netherlands. In those groups, I distributed the questionnaire myself. I was added to a general group for all Dutch universities, one group for the Delft University of Technology, and one group for Erasmus University Rotterdam. The groups consisted of approximately 300-500 members at the time of distributing the questionnaire. Several members of the WeChat groups volunteered to distribute the questionnaire to their friends and family. Admittedly, this sampling strategy does not provide a fair representation of Chinese society, because it primarily allowed me to find university students that are studying, or have studied, in the Netherlands. This means that the opinions of university students are overrepresented. However, because generalizability was not the aim of this study, the chosen sampling strategy remains

adequate. Future research could look into possible differences between generations and education levels. This study thus mainly focusses on highly educated, young Chinese consumers, which is in line with the main target group of carsharing users as identified in Chapter 2.2. Furthermore, because of the sampling strategy, the sample includes many respondents that are currently living in the Netherlands, which is not ideal because I aimed to study the Chinese domestic market. As Chinese students usually visit the Netherlands for only one to three years during their studies (Hong et al., 2009), I expected that their responses would be mostly about their experiences in China. However, the questionnaire did not specifically ask for the participants' duration of stay in the Netherlands, which means that a share of participants could have lived in the Netherlands for more than one to three years and may have only referred to their experiences in the Netherlands when answering the questions about carsharing. Thus, this forms a limitation of this study's findings.

3.4. Data analysis

After a distribution period of two weeks, lasting from April 13 to April 27, 2021, in which I reached a total of 110 respondents, I closed the questionnaire. Of the 110 responses, 94 are complete. Only one respondent indicated to live in the Netherlands and have a Dutch nationality, whereas all other respondents indicated to be Chinese. This one respondent was excluded from the analysis. Of the Chinese respondents who filled out the questionnaire completely, nine respondents only provided their country of residence and did not provide their city of residence. Because I did not regard this as required information for analysis, I chose to still include these nine responses in the analysis. This makes that the final analysis consists of 93 responses.

The data were analyzed by means of content analysis, just as Mäntymäki & Salo (2014) did in their study of consumption values. I chose to follow the Grounded Theory Method in this, because this allowed me to let the findings emerge from the data, so that I would be able to test the applicability of the theory of consumption values on carsharing (Saldaña, 2013). Thus, I started by open coding the responses without using the theoretical framework of consumption values. As the sample is relatively small, time allowed me to perform two rounds of open coding. The first round resulted in the development of a final coding scheme that consists of 85 unique codes, which I used in the second round to assign the relevant code to all data points. I concluded that saturation was reached after the analysis of 75 of 93 respondents, because only four new codes arose in the analysis of the last 18 responses, which is below the threshold of 5% of all codes, as set by Guest et al. (2020). Even though saturation seemed to have been reached, I included all responses in the analysis, because time allowed to analyze the entire dataset. After I had finished open coding, I performed axial coding and

selective coding, following the Grounded Theory Method (Saldaña, 2013). For both axial coding and selective coding, I used the theory of consumption values by Sheth et al. (1991) as discussed in Chapter 2.3, to create and categorize codes. Finally, by counting the occurrence of each open code, I was able to conclude which factors are the most salient ones that Chinese consumers consider when choosing for a carsharing service.

4. Results

As can be seen from Table 2, 44.1% of respondents indicated to have used a carsharing service before, at the time that the data were collected. In the remainder of this thesis, I call those who have used shared cars before 'users', and those who have not used shared cars before 'non-users'. None of the respondents indicated to be regular users of carsharing, as most indicated that they had only used it once or twice, or that they currently use it only for several times a year. Only one user explicitly indicated to have used a shared car outside of China, while most respondents were not clear about the country where they had used a shared car. As discussed in the methodology, it cannot be stated with any certainty that all other users in the sample have used shared cars in China. This forms a limitation of this study. Furthermore, as expected due to the sampling method, mostly consumers under the age of 30 have been reached (83.8%), as well as academically educated people (90.3%). There is about an even distribution of male and female respondents, as well as an even distribution of residents of the Netherlands and those of China. In the following sections, I first discuss the reasons of consumers to use carsharing, after which I discuss reasons for not using carsharing. To indicate how many respondents mentioned a specific reason, I provide percentages of each reason's occurrences. It must be noted that this does not relate to a specific percentage that is representative of the entire population.

Table 2

Background information of the respondents.

Value	*Frequency*	*Percentage*
Gender		
Female	53	57.0%
Male	40	43.0%
Age		
18-19	6	6.5%
20-24	33	35.5%
25-29	39	41.9%
30-39	10	10.8%
40+	5	5.4%
User of shared cars		
Yes	41	44.1%
No	52	55.9%
Country of residence		
China	51	54.8%
The Netherlands	40	43.0%
Thailand	1	1.1%
Belgium	1	1.1%
Education		
High school	4	4.3%
Vocational education	5	5.4%
University	84	90.3%
Total	93	100.0%

4.1. Reasons for using carsharing services

When users were asked why they had used shared cars, they mostly indicated specific situations in which they used the service. As respondents were specific about the conditions for which they had used carsharing, and none of the users indicated to use shared cars regularly, all participating users seem to use shared cars only for occasional situations. To explain why these consumers chose not to purchase a private car or use any other mode of transport for these situations, analysis showed five main reasons: convenience, affordability, environment, curiosity, and freedom. An overview of these five reasons and the specific usage conditions is shown in Table 3. For the analysis of these reasons, I not only included the opinions of users, but also the benefits that the non-user group perceived for carsharing.

Usage conditions

The conditions for which users indicated to have used carsharing varied widely, as well as the conditions for which non-users indicated to find carsharing suitable. The mentioned conditions can be categorized in five main themes: practicalities, distance, time, destination, and activity. With regards to practicalities, users indicated to use a shared car because they simply did not possess a car themselves, they found their own car insufficient, or the family car was occupied. Four users indicated

that carsharing is best suitable for long distance travel, while only one user indicated that carsharing is best suitable for short distance travel. For those respondents mentioning rental time, all argued that carsharing is suitable for occasional use during short periods of time and emergencies. Specific destinations for which users indicated to have used a shared car include the city shopping center and the airport. About half of all users discussed for what type of activity they have used shared cars, while only several non-users indicated for what type of activity carsharing would be suitable. Users and non-users aligned in their opinions, as they indicated that carsharing can be used for travelling on a holiday, visiting multiple places, or being with friends.

Convenience

Most respondents indicated to find carsharing convenient. Almost all users pointed this out as an advantage, while only about half of the non-users did so. Convenience was expressed as simply "convenience", or as "quickness" or "flexibility". Some respondents compared carsharing to public transport, from which users mostly concluded that carsharing is more convenient, while non-users mostly concluded that public transport is more convenient. Users were more specific than non-users in expressing what they find convenient about carsharing and pointed towards self-service and parking. For instance, respondent 4 indicated that there is "no need to deal with staff", while respondent 19 indicated that she does not "need to drive back to the starting place". When mentioning the convenience of self-service, the respondents seemed to refer to an advantage of carsharing over car rental, where service is performed by service clerks in designated service centers. When mentioning the convenience of parking, the respondents seemed to refer to an advantage of carsharing over having a privately owned car, which does not have reserved parking spots. However, when referring to the convenience of self-service and parking, none of the respondents specifically mentioned what they compared carsharing to.

Affordability

About a third of respondents pointed towards the price of carsharing as one of its advantages. Users and non-users did not differ significantly in the frequency of bringing this up. Some respondents simply indicated that they find carsharing to be cheap or saving money, while others compared carsharing to other modes of transport or mentioned specific aspects that they find cost saving. A comparison that was made relatively often (N = 12) is with purchasing a private car, where all respondents indicated to find carsharing the cheaper option. Respondents explained this as carsharing users would not need to pay parking costs or maintenance costs. Specifically, one of the carsharing users (respondent 88) indicated: "It's a fixed one-time fee, there is no need to maintain and

repair, so there is no additional monthly payment." Furthermore, whenever respondents compared carsharing to car rental or taxis, all concluded that carsharing is cheaper.

Environment

One aspect of carsharing that was mentioned by nearly a quarter of respondents is environmental protection. The finding that less than 10% of users brought this point up, in comparison to about a third of non-users, is noteworthy. Respondents mostly related carsharing to environmental protection in general and more specifically, the optimization of resource allocation. For instance, respondent 81 (a non-user) indicated that carsharing allows "to meet the demand for using cars with only a low number of cars available". More aspects of environmental protection that were mentioned include the reduction of energy consumption, pollution, private car use, and waste. However, these aspects remain somewhat ambiguous, as respondents did not explain why carsharing allows for reduction of pollution, for instance.

Curiosity

A small but significant number of users mentioned that they used carsharing specifically to try out something new. For instance, respondent 11 said: "There is an open-air parking lot downstairs of the building I live, some of which slots were previously reserved for shared cars. I used it once out of curiosity." While this respondent wanted to try out carsharing as a whole, other respondents indicated that they used carsharing to try out different types of cars.

Freedom

A similar number of respondents that mentioned curiosity, related carsharing to "freedom". In this case, however, it was mostly non-users who brought this point up. Some respondents simply indicated that carsharing provides freedom. Others specifically mentioned that carsharing can create freedom in choosing the destination and route of a trip. For instance, respondent 45 (non-user) said: "you can go wherever you want to go." This seems to be a comparison of carsharing with public transport, which does not provide the user with unlimited freedom to go wherever he wants to go. But again, this comparison has not been addressed explicitly.

Table 3

Reasons for using carsharing services

Theme	*Users*	*Non-users*	*Individual codes*
Convenience (72.0%)	92.6%	55.8%	More convenient than other modes of transport
			Self-service
			Parking
Usage conditions (44.1%)	82.9%	13.4%	Practicalities
			Distance
			Destination
			Time
			Activity
Affordability (32.3%)	34.1%	30.8%	Less expensive than other modes of transport
			No parking costs
			No maintenance costs
Environment (22.6%)	7.3%	34.6%	Reduce energy consumption
			Reduce pollution
			Reduce private car use
			Reduce waste
Curiosity (7.5%)	17.1%	0.0%	New service
			Different types of cars
Freedom (7.5%)	4.9%	9.6%	Go wherever you want to

4.2. Reasons for not using carsharing services

Both users and non-users noticed significant downsides to carsharing services, whereas some respondents raised the same arguments that others had used for the benefits of carsharing. Both sides mentioned convenience and price. Next to these two reasons, respondents also mentioned specific usage conditions, safety, hygiene, and quality (see Table 4).

Convenience

Again, a majority of respondents raised convenience as a point of discussion. In this case, it was mostly non-users who pointed towards the inconvenient aspects of carsharing. Those aspects of carsharing that were found to be convenient by some, were found to be inconvenient by others: parking and self-service. Users mostly pointed towards the limited number of available parking spots for shared cars. For instance, respondent 10 (user) indicated that "the parking spots are fixed and limited, so that parking is not easy". Non-users indicated that they find the procedures needed for activating carsharing use very difficult. For instance, respondent 45 (non-user) indicated that you "first need to go to a store to pick up the car, which is not convenient". This, however, seems to point towards a lack of understanding of carsharing, because an advantage of shared cars should be that they can be rented by the user through a mobile application at any location, rather than only in physical stores. In addition to parking and self-service, a large share of respondents raised concerns with regards to the availability of cars. About a quarter of non-users mentioned availability as a reason for why they do not use carsharing services. First of all, some of the non-users indicated that there are

simply no shared cars available in their cities at all. This was, for instance, mentioned by a respondent from Tai'an. Furthermore, a large share of respondents indicated that it is difficult to find a shared car nearby and that there is no guarantee that a car will be available for them. For instance, respondent 52 (user) mentioned that "there are no service points in remote areas". Respondent 86 (non-user) mentioned that it is "difficult to ensure the right number of cars, whether you can use one depends on luck." When comparing carsharing to public transport, metros and taxis, the other modes of transport were found to be more convenient than carsharing.

Usage conditions

Most non-users raised several practical reasons for why they do not use carsharing services. First of all, over a third of non-users indicated that they do not have a driving license, while some of the other non-users indicated to own a car themselves or have a family car that they can use.

Safety

About a quarter of the respondents raised worries with regards to the safety of carsharing services. Respondents argued that the chance of accidents is high because of two reasons. Some respondents thought their own driving skills are insufficient to drive a type of car that they are not used to, while other respondents argued that the driving skills of others are insufficient. For instance, respondent 46 (user) asked: "Does the previous user have bad use habits?" Several respondents (N = 7) indicated that they expect troubles with regards to insurance whenever an accident would take place.

Quality

A small but significant share of respondents indicated that the "quality" of shared cars is usually quite poor. When respondents compared the quality of a shared car to a rental car, they all concluded that rental cars are of higher quality. The ways in which respondents explained that shared cars are of poor quality include wear and tear, as well as poor maintenance and repair. Thus, with quality, respondents seemed to refer to the technical state of the car. For instance, respondent 103 (user) indicated that "the vehicle wears out too fast because nobody cares about carsharing". This also relates to the safety aspect of carsharing, such as explained by respondent 2 (non-user) who indicated that "a traffic accident will occur when the car is not repaired in time". Thus, safety and quality are related aspects, whereas safety refers to an emotional value and quality to an objective consideration of functional value.

Hygiene

Often mentioned by the same respondents who raised safety concerns, "hygiene" and "cleanliness" form another aspect of carsharing that both users and non-users raised concerns about. Most respondents were not specific in what they would find unhygienic or unclean about a shared car. Most of all, they expressed uncertainty as to what would be clean about the car and what would not be. This is also what respondent 46 (user) asked: "Has this car been thoroughly cleaned since the last time it was used?" Similar to quality, hygiene seems to be related to safety as well. However, hygiene refers more to discomfort, whereas safety refers to (the lack of) protection from immediate danger or risk.

Affordability

Just like some respondents indicated that they find carsharing cheap, there were some respondents who argued that carsharing is relatively expensive. For instance, respondent 36 (user) said that "she did not expect it at first, but you have to buy insurance in order to avoid paying high expenses in the case of a traffic accident". Respondent 9 said: "You have to make a good plan to avoid paying for the time you are not using it."

Table 4

Reasons for not using carsharing services

Theme	*Users*	*Non-users*	*Individual codes*
Convenience (68.8%)	58.5%	76.9%	Self-service
			Parking
			Availability
Usage conditions (37.6%)	2.4%	65.4%	Driving license
			Car possession
			Family car use
Safety (26.9%)	14.6%	36.5%	Trust in other users
			Own driving skills
			Responsibility of accidents
Quality (21.5%)	19.5%	23.1%	Trust in other users
			Maintenance
			Repair
Hygiene (15.1%)	17.1%	13.5%	Hygiene
Affordability (8.6%)	9.8%	7.7%	Affordability

5. Discussion

The aim of this thesis has been to find out *what values Chinese consumers create when using a car sharing service.* To achieve this, I distributed a questionnaire that showed what reasons Chinese consumers have for using a carsharing service and what reasons they have for not using a carsharing service. Analysis showed six different reasons for using shared cars, as well as six different reasons for not using shared cars. These reasons differed slightly between the user group and the non-user group, but when I compared the provided reasons with the demographic background of the respondents (age, gender, education, and residence), no patterns were found. By relating the identified reasons to the theory of consumption values by Sheth et al. (1991), I categorized all reasons into one of the five consumption values (see Table 5). In the paragraphs below, I discuss how each consumption value of carsharing takes shape.

A large share of themes that emerged from the data can be categorized as functional values: convenience, affordability and quality directly relate to a functional attribute of the service. First of all, the procedures that users need to follow to access a car, as well as the number and location of available cars and parking spots determine how convenient the user finds the service to be. With regards to this, most respondents concluded that carsharing has an edge over public transport. Then, the price of using the service and having an insurance determine the affordability. Physical attributes of the car such as wear and tear, as well as the maintenance service by the operating company determine the perceived quality of the vehicles. This corresponds with findings by Hui et al. (2017) and Wang et al. (2017), who both found that carsharing becomes most attractive when consumers compare it to public transport. The flexibility that was mentioned by Wang et al. (2017) was also observed in the results of this study. Affordability of carsharing also came forward in the literature review (e.g., Zhang & Li, 2020), but the physical quality of the vehicles has not been mentioned in any of the discussed literature.

Social values of carsharing are less prominent in the data than functional values, as only environment can be categorized as such. The reductive effect of carsharing on private car use made a substantial share of respondents conclude that carsharing helps in environmental protection. As found by Hua et al. (2021), this environmental consciousness could help carsharing users acquire social status. However, the results showed that it was mostly non-users who mentioned environmental benefits of carsharing, which suggests that the environmental benefits of carsharing are not relevant for users. Furthermore, no evidence has been found for the findings by Ma et al. (2019) that carsharing is regarded by consumers as a socially meaningful act. On the contrary, distrust towards

other users with regards to safety, quality and hygiene was mentioned by a substantial share of respondents.

From the results, it seems that carsharing raises a variety of emotional values, of which most are negative, and thus reasons to not use carsharing. The only positive emotional value that respondents related to carsharing is freedom, as shared cars allow users to go wherever they would want to go, without having to purchase a car. However, this positive emotion was again mentioned more often by non-users than by users, which makes me conclude that freedom is possibly less salient in the mind of users. With respect to safety and hygiene, consumers express a lack of trust in other users to behave properly and leave the car behind in a safe and hygienic state. This makes users of carsharing feel unsafe and uncomfortable in a shared car.

Although only a small share of respondents mentioned this, carsharing allows consumers to satisfy their curiosity, which is an epistemic value. As expected, and as discussed in the literature review, consumers value that carsharing allows them to try out different types of cars. Additionally, as carsharing is a relatively new type of service, users can also satisfy their curiosity with regards to carsharing itself. The results showed that only users mention curiosity as a reason to use, while none of the non-users mentioned this. This may imply that carsharing allows users to satisfy their curiosity, while non-users remain unaware of this potential benefit.

Finally, the results showed that there is a wide variety of conditions for choosing (not) to use a shared car. First of all, many consumers have practical reasons, such as that they do not have access to any privately owned vehicles (i.e., either their own or from someone else), or that they do not have a driving license. In addition to these practical reasons, both users and non-users have an opinion about what types of trips shared cars are suitable for. Mostly, consumers argue that shared cars are suitable for long distances (e.g., going from city to city), uncommon and remote destinations (e.g., the airport), short periods of time (e.g., an emergency), and special activities (e.g., travelling on a holiday). It is noteworthy that the claim by Feng et al. (2020) that shared cars in Beijing are mostly used for short distances and long periods of time is opposite to what the results of this study indicate. The findings by Feng et al. (2020) as well as those by Bi et al. (2020) of their study in Gansu, that most carsharing users have only used it for several times, is in line with the findings of this study.

Table 5

Values Chinese consumers can create with carsharing

Value dimension	*Reasons for (not) using*	*Elaboration*
Functional	Convenience	Functional attributes such as the number of available cars, self-service and parking spots provide the user a certain degree of convenience.
	Affordability	The price of the carsharing service provides the user a certain degree of affordability.
	Quality	Functional attributes such as wear and tear, and maintenance, as well as behavior by other users determine the degree of quality of carsharing.
Social	Environment	The potential effects of carsharing on the environment provide users with a way to identify themselves as being environmentally conscious.
Emotional	Freedom	By allowing users to visit any place they want, carsharing provides the user with a feeling of freedom.
	Safety	The way in which other users behave and the vehicles are maintained, provides users with a certain degree of safety.
	Hygiene	The way in which other users behave and the vehicles are cleaned, provides users with a certain degree of hygiene.
Epistemic	Curiosity	Carsharing as a new phenomenon and allowing the user to try out different vehicles provides users with a means to satisfy curiosity.
Conditional	Conditions	(Intended) practicalities, distance, destination, time, and activity provide users with a reason (not) to use carsharing.

6. Conclusion

The aim of this thesis was to find out *what values Chinese consumers create when using a car sharing service.* To study this, I distributed a questionnaire of which the findings showed what reasons Chinese consumers have for using a carsharing service and what reasons they have for not using a carsharing service. I found that functional and emotional values seem to be the most salient considerations for using shared cars. In order for the consumer to choose for carsharing, the service should be convenient, low-cost, of high quality, safe, and hygienic. Furthermore, when shared cars provide the user with freedom to go wherever he wants to go, emotional values are further enhanced. In addition to these values, carsharing also allows users to create social and epistemic values by offering a sustainable and novel solution. Finally, it was found that conditional values differ per consumer, but in this study, Chinese consumers seem to be most interested in carsharing when using it for long distances, short periods of time, uncommon and remote destinations, and special activities.

Limitations and future research avenues

Despite having tried to cover all relevant aspects of this study as well as I can, there are several limitations to this thesis. I will discuss these limitations below, and how these can serve as input for future research. First, the research question of this thesis focusses on Chinese consumers in general. However, as the results showed, mostly young and highly educated consumers have been found, of which half of them did not reside in China at the moment of filling out the questionnaire. Although generalizability of my findings to the entire population of Chinese consumers was not the aim of this thesis, this does give a skewed insight into the overall opinion of Chinese consumers. Therefore, when interpreting the findings of this thesis, it should be taken into account that it mostly covers the opinions of highly educated Chinese consumers under the age of 30, who may have lived in the Netherlands for several years. With regards to living in the Netherlands, I assumed that students would only live there for one to three years. However, if I were to do this study again, I would include a question in the survey that asks how long the respondent has lived outside of China, and I would include a statement that participants should only consider their experiences in China when answering the questions. Furthermore, future research could perform a comparative study of this target group with other target groups or focus on the entire population of Chinese consumers instead. For instance, based on the indication of Yu et al. (2018) that young generations are relatively open to accept the technological aspect of carsharing, I expect that older generations might provide more downsides to the procedures of the carsharing service.

Although the questionnaire started with an introduction of what carsharing entails, I think this explanation could have been more elaborate, because some answers of respondents still seemed to refer to car rental, instead of carsharing. For instance, one of the respondents indicated that she disliked the fact that she needed to visit a store to rent the car. As one of the main advantages of carsharing is that the user does not have to visit a store for renting a car, this respondent had either trouble explaining herself or she interpreted carsharing in a way that I did not intend to. If I were to do this research again, I would include a more elaborate explanation of carsharing in the introduction of the questionnaire, to prevent this from happening.

In addition to the sample not being optimal to represent the entire population of Chinese consumers, the sample size is also too small to conclude whether one theme is more salient than the other. It was clear from the data that convenience is important for users, as about 90% of the user group mentioned this. However, when the percentages get lower, such as 20% or 30%, this sample size does not allow me to conclude whether one theme is more salient than the other. Future research that uses a similar approach as mine, should try to find more respondents in order to have a sample from which it is possible to draw these kinds of conclusions.

Finally, in this thesis, I have divided the analysis into two parts: usage reasons and non-usage reasons. The usage reasons are based on both the responses to why users had used shared cars and the responses to what users and non-users found to be the benefits of carsharing. The non-usage reasons are based on the responses to why non-users had not used shared cars before, as well as the responses to what users and non-users found to be the downsides of carsharing. Although this provided me with a solid basis to analyze both positive and negative aspects of carsharing, I did not account for differences in meaning of the responses to the different questions. More specifically, the 'why'-question asks for the exact reasons why consumers have used a shared care before, while the benefits question asks respondents to raise any positive aspect of carsharing that they can think of. Although the respondents raised these aspects by themselves, they may not regard the aspects as a (potential) reason to use carsharing. For instance, do users find shared cars convenient, or do they think that convenience would be a benefit of carsharing for other potential users? I think the method as applied in this research, to combine the responses to these questions is valid, because any point that respondents provide is salient in their mind. However, for future research, I recommend using this as input for qualitative interviews with both users and non-users, to study what values of carsharing are more salient than others in the minds of Chinese consumers.

Implications

When comparing my findings to earlier literature, both differences and similarities can be identified. Earlier research mostly focused on the likelihood that Chinese consumers would adopt

carsharing. Müller (2019) concluded that Chinese consumers are not likely to adopt it, while Wang et al. (2017) found that Chinese consumers are likely to do so. Although this thesis did not study the likelihood of adoption, it was found that almost half of the respondents had used carsharing before and both users and non-users were positive about it. Especially the finding by Wang et al. (2017) and Hui et al. (2017) with regards to the flexibility and carsharing as an alternative to public transport arose in my research. However, users and non-users noticed significant downsides to carsharing. Also, both users and non-users indicated that carsharing is best suited for long trips that do not occur daily. The finding by Ma et al. (2019) that sharing is a social act was also not found as a benefit in my study at all. On the contrary, both users and non-users expressed a lack of trust in how other users behaved with the car.

When it comes to the theory of consumption values by Sheth et al. (1991), the results show that all themes that emerged from the data can be categorized as one of the five consumption values. This creates a foundation that, in addition to the purchase of products, the theory of consumption values can also be applied to the usage of services within the sharing economy. Furthermore, the three propositions of Sheth et al. seem to apply to shared cars as well, because consumers' choice for shared cars seems to be based on a combination of multiple consumption values, whereas the role of each value is not equally large, and the values seem to be (mostly) independent. That being said, some consumption values do seem to share relationships. For instance, not only the functional value of quality but also the emotional values of safety and hygiene are influenced by the trust one has in other users.

The findings of this thesis can help any party in promoting or demoting carsharing. The themes that were found within the reasons for (not) using shared cars can be used as a starting point to improve carsharing services, as well as to develop promotional campaigns. For instance, when more cars and parking spots are made available and procedures for rental take less effort, consumers are likely to find the service more convenient. When the positive environmental impact of carsharing is stressed and users are stimulated to trust each other, consumers will be able to acquire more social status by using a shared car. And when the cars are being maintained and cleaned more often, consumers will feel more comfortable and safer in the car. Then, allowing shared cars to stimulate curiosity may help consumers to create epistemic value. Finally, by focusing on the usage conditions that were found in this thesis, the carsharing service could be developed in such a way that it is suitable for these circumstances. However, it must be noted that the identified circumstances from this research do not completely correspond with earlier studies. Therefore, care should be taken when interpreting these results, and future research should further address this. Finally, car manufacturers and public transport providers may also use the findings of this study to tailor their own offerings to convince carsharing users to switch to their offering.

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Appendix A: Questionnaire

Questionnaire about carsharing in China

Introduction

Thank you for taking part in this survey on carsharing. The researcher is a student at Leiden University in the Netherlands, who conducts this survey as part of her studies. Carsharing services allow individuals to rent a car for a short period of time, often by the hour. In particular, the researcher examines why Chinese consumers choose (not) to use carsharing services. Please note that there are no correct or incorrect answers to the questions of this survey.

This survey contains 13 questions on your use of carsharing services, and several questions about your background. The survey takes approximately 5-10 minutes to complete. Please be as elaborate as you can when filling in the open-ended questions. Your responses are recorded anonymously and cannot be traced back to you. The provided answers will only be used for the stated research purpose. They will be saved securely and will not be shared with anyone other than the researcher. Please note that you can always quit this questionnaire, when feeling uneasy to answer a question.

If you have any questions, please reach out to Louise Platell at s2018527@vuw.leidenuniv.nl

Background questions

1) What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other

2) How old are you? (in years)

___

3) What is the highest type of education that you have completed?

- ☐ Primary school
- ☐ High school
- ☐ Vocational education
- ☐ University degree
- ☐ Other: ___

4) What is your nationality?

- ☐ Chinese
- ☐ Other: ___

5) What is your current place of residence? (please provide a city and country)

___???

Car sharing

6) Have you ever used a carsharing service?

- Yes
- No

If the answer to question 6 is 'yes', fill in question 7 and 8. Otherwise, proceed to question 9.

7) How frequently do you currently use car sharing services?

___

8) Why do you use car sharing services? Please be as elaborate as possible, include the places, times, and occasions for which you use car sharing.

___

If the answer to question 6 is 'no', fill in question 9. Otherwise, proceed to question 10.

9) Why do you choose not to use car sharing services?

___

10) In your opinion, what benefits do car sharing services have?

___

11) In your opinion, what downsides do car sharing services have?

___

End

Thank you for your response.