1. INTRODUCTION

`New products, processes and methods that, in a creative and sustainable manner, offer a better solution to one or several social demands ` is a definition for `social innovation` suggested by Spila, Garcia-Fronti and Unceta (2016). Social innovations trigger and drive new businesses and the progeny of these innovations usually aim to solve social problems. These problems are called 'social' because they are shared by a group of people, and therefore the solution should have a large scope. According to Ali et al., there is a wide and growing gap between the problems' scale and the solutions offered (2008). There are three reasons for the aforementioned gap: application of innovations in fields where (1) the problems are intensifying, (2) existing systems are stagnant, and (3) new solution tools are not exploited (Ali et al., 2008). In order to solve these problems sharing businesses have emerged. The business' systematic structure and organized approach enable them to offer sustainable solutions. These organizations offer different kinds of products and services to be shared by a community, which form the sharing economy. These businesses and their contribution to the economy cannot be underestimated since 50 to 80 percent of the economic growth is generated by innovation and new knowledge (Helpman, 2004). As previously mentioned, social innovations refer to new ideas that solve social problems (Ali et al., 2008). Thus, increasing concerns for climate change, overcrowded cities, and aging populations can be perceived as a sign of the rising importance of social innovation (SI) for economic growth. Spila, Garcia-Fronti and Unceta investigate the indicators of a social innovation since the term is defined in different ways by different scholars (2016). Although this paper does not proceed more on the subject it is mentioned for the integrity of the paper. For the promising contributions and the large area of impact, SI should be given attention.

Social innovations give birth to sharing businesses and consumers share the products or services by which the social problems are eliminated. For the practice of using these products, Habibi, Kim, and Laroche suggest that exchange and sharing do not connote the same activity (2016). According to Habibi, Kim, and Laroche (2016) and Wagner and Shaheen, offers of sharing businesses are all on a continuum which has opposite sides as exchange and sharing and all collaborative nonownership

consumption activities are dualistic in nature. Wagner and Shaheen's study indicates that Zipcar (a less flexible car sharing program compared to Car2go) has a low sharing score, therefore is more close to exchange end of the continuum. As a similar result of that study, Belk's analysis indicates that car sharing does not belong either of the terms but is a conflation of both (2013). 'Access-based-consumption' is coined by Bardhi and Eckhardt as the correct term to classify car sharing (2012). The term refers to consumption activities where users temporarily access goods in exchange for a fee without owning them. Rothenberg classifies car sharing programs as `servicizing business model`s (2007). In this type of business model, the use of the product – in our case, of the car – rather than its ownership governs the producer and consumer's relationship.

Sharing economy, which is resulted by the activities of sharing businesses and the users in the market usually via the internet, has a growing public interest on itself for having a rapid growth (Cheng, (2007); Shaheen and Wagner). This high rate of growth is attributed to the unjust distribution of the supply chain (Gansky, 2010), ecological impacts (Schor and Fitzmaurice, 2015), and technological developments together with consumers' changing perceptions of ownership and social needs (Botsman and Rogers, 2010). The proliferation of sharing businesses can be associated with the 2008 financial crisis, after which people lost their savings and possessions and became more price sensitive (Belk, 2013).

Sharing economy (SE) causes concerns on governments' sides as sharing businesses are not always under governmental regulations (i.e. Airbnb), thus they may have a negative impact on the sector in case of consumer rights violations (Juul, 2015; Rauch and Schleicher, 2015). The negative effect would also be felt by the traditional players such as hotel chains. Also, sharing businesses have the lower price advantage which too negatively affects traditional business (Queensland Tourism Industry Council, 2014). The 'social' aspect of the sharing economy has an attractive effect on the consumers (Martin et al., 2015) which contributes to the growth of sharing businesses, thus SE. Users prefer sharing businesses instead of traditional business for the opportunity of social interaction or for the feeling of belonging to a community (Belk, 2013). In addition, Habibi, Kim, and Laroche assert that in some

sharing businesses – usually in short-term house renting/sharing businesses – the need for belonging to a community and bonding is effective on the inclination to participate (2016).

Daimler (Mercedes Benz AG), has launched its car sharing service, Car2go, in 2008. Car2go uses a free-floating, operating-area-restricted model, which means that after finding an available car on the map, individual users can begin their journey by booking the car online (via the smart phone application), and when users arrive at the destination, they can leave the car to any parking space, where is convenient for them within the operating area of the city. Car2go charges an initial one-time sign up cost, and when the users start to use the service, they pay on a minute-based, hourly or daily basis, plus an additional fee per mile on trips exceeding 150 miles / 241 kilometers.

Formed as a product of social innovation, Car2go took its place in the sharing economy in European and American cities. Currently, Car2go has over 2 million members. The fleet consists of 14,500 vehicles, and the firm operates in 31 cities in Europe and North America. The service that operates under Daimler Financial Services, was defined as one of the key business areas of Daimler/Mercedes Benz AG (Daimler 2015). The recent expansion of Car2go outside Europe and the United States, has occurred in Chongqing, China in 2016.

In this paper, the expected features of the service and personal characteristics that positively affect the inclination to use Car2go are investigated in order to design a promotional plan for the business if operated in Turkey.

We examined values and lifestyles of potential users via our online survey. The results are used to identify the consumer groups which are more inclined to try and use the service. Furthermore, the survey investigates the preference of communication channels, the service quality expected by the consumers, and the personal environmental concerns, technology and fashion consumptions in order to

define the potential users. We measure personal characteristics (community belonging, altruism) as the factors affecting the usage inclination and purpose to design the promotional plan accordingly.

The remainder of the paper is organized as follows: Section2 consists of the literature regarding social innovation, sharing and collaborative consumption, sharing economy and prior studies on car sharing, researceh questions and hypotheses developed are in Section3; Section4 describes the methodology and details on measurements are presented in Section5; Section6 presents the results; Section7 summarizes the findings, suggests a target market and a efficacious promotional plan for managerial practice; Section8 addresses the limitations of the study, and suggests areas for future research.

2. LITERATURE REVIEW

2.1. LITERATURE

Car sharing businesses has pulled scholars' attention as it conflated different concepts, namely the definition of the term, the indicators of a sharing business, factors affecting consumer attitudes and usage, product/service design, and its importance for the sharing economy.

Sharing economy, the platform that sharing businesses operate, is proliferated by information technology developments, consumer awareness, collaborative web communities, and social commerce (Hamari, Sjöklint and Ukkonen, 2016). Technology makes sharing of goods easier by enables producers and consumers to reduce barriers and transaction costs; thus constributes to the growth of sharing economy (Economist, 2013). According to Forbes' estimation more than $3.5 billion went into people's pockets, with growth more than 25% in revenues from collaborative consumption (Geron, 2013). Further, online sales are predicted to be highly affected by e-commerce, therefore any change in the electronic-commerce patterns can have substantial effects on the sales. According to PwC, the sharing economy will grow up to $335 billion from $15 billion in the coming 10 years (Habibi, Kim and Laroche, 2016). As sharing economy will grow, traditional rental sector is expected to lose a considerable amount of their revenues (PwC, 2015).

Many scholars assert that consumption behavior of people have shifted due to concerns about climate change. For the environmental effects of the business, there is no consensus among scholars (Albinsson & Perera 2010; Belk 2010; Botsman & Rogers, 2010). Bellos, Ferguson and Toktay present that car sharing does not decrease the carbon dioxide emissions because businesses will attract customers who initially were using public transport (2016). However, Baptista, Melo and Rolim indicate that a shared car takes 9 to 13 vehicles off traffic (2015). Further, Shaheen and Cohen maintain that car sharing businesses provide social benefits as less carbon dioxide emission and fewer car ownerships (2013). Nevertheless, the net effect of the car sharing business on environment has not yet been measured accurately (Shaheen and Cohen, 2013). It is not yet proved that environmental concerns do not constitute

a factor affecting the participation in car-sharing services (Habibi, Kim and Laroche, 2016; Lamberton and Rose, 2012). Since environmental concerns do not affect the usage, marketing activities emphasizing the eco-friendliness of sharing businesses are futile (Botsman and Rogers, 2010).

According to Belk, climate change, rapid population growth, rising raw material and fuel prices, and other costs associated with driving/owning a car contributed to the proliferation of sharing and collaborative consumption (2014). Furthermore, European car-sharing market verifies these factors by showing more success in areas with higher environmental concerns and higher associated costs (traffic congestion, parking fees, and ownership costs) (Wagner and Shaheen).

Hamari, Sjöklint and Ukkonen search what factors motivate people to participate in collaborative consumption (2016). According to their findings, sustainability of the business, enjoyment related to the activity, and economic gains motivates users to participate in collaborative consumption. However, there is an intriguing point in the effect of sustainability; it was found effective only when the individual has positive attitudes toward collaborative consumption. Durgee and O'Connor and Moeller and Wittkowski also assert that uncertainty of economic conditions, demand enjoyment in user experience, rising demand for more convenient solutions, and wish to use the latest products contribute to the participation in sharing economy (2010). Furthermore, Hamari, Sjöklint and Ukkonen point out that the attitudes may not translate into action (2016). Materialism is also effective on the participation in collaborative consumption. However, there is no consensus among scholar about the direction of the effect of materialism. Although materialist people are self-centered and not generous compared to others, Hamari, Sjöklint and Ukkonen assert that these people are more likely to participate in collaborative consumption (2016). On the other hand, Belk maintains that materialist people are less inclined to participate in sharing programs (2013).

Another factor increasing the likelihood of participation in collaborative consumption is the knowledge of the sharing programs (Cheng, 2007). Uncertainty is decreased with familiarity and this increases consumers' trust toward the sharing business (Laroche et al. 2013).

Lamberton and Rose found that cost of ownership is one of the main reasons that increase consumers' willingness to use car-sharing services. For that, people choose to use car-sharing services when cost of ownership is high (2012). It is very important that consumers see car-sharing businesses as an economic alternative to car ownership. For this reason, it can be said that, consumers who seek utilitarian benefits are more prone to participate in car-sharing programs who offer more economic solutions for transportation. Furthermore, if the cost of participation in a car-sharing business rises, consumers' inclination to use the service decreases. Moreover, propriety and stability of substitution of sharing businesses for ownership of a vehicle is too effective on consumer participation (Babione 1964; Obenberger and Brown 1976; Moeller and Wittkowski 2010). Furthermore, for young people, ownership is not as important as it was for prior generations for self-definition (Belk, 2013) Young consumers think that the additional expenses as parking fees and maintenance to be expensive and they prefer renting a vehicle at times of need. By renting instead of owning they are decreasing the cost of transportation, because car sharing businesses convert the fixed costs (e.g., insurance, purchase cost, depreciation) which occur due to the ownership of a vehicle to variable costs which only occur when a vehicle is used (Bellos, Ferguson and Toktay, 2016). This opportunity diverts consumer from buying a vehicle to sharing when it is needed. It is asserted that a vehicle is only utilized 5-8 percent (on average) of its lifetime and for the rest it stays parked in a garage (Symeonidis, Mustafa and Preneel, 2016; Sacks, 2011). According to these, the utilization of all resources taking place in production or in maintenance would be much more efficient with car sharing businesses. When this is the case, some might wonder why automakers form and invest in their own car-sharing business units. According to Bellos, Ferguson and Toktay, as these businesses cannibalize their sales at one end, they attract consumer who did not previously think owning a vehicle at the other (2016). Furthermore,

Bellos, Ferguson and Toktay assert that auto manufacturers can offer different classes of vehicles for car sharing and selling for better price discrimination (2016). This strategy can be seen in the case of Car2go. Daimler uses its highly efficient model 'Smart' for its car sharing business and offers high-performing vehicles to its customers. The model of vehicle to offer in sharing business is another subject that scholars investigate. Although not thorough, Shaheen and Wagner studied the effect of having several options in a car sharing business. Shaheen and Wagner maintains that the more the vehicle options in a car sharing business, the higher the technical costs associated with the rental. The user will have to search for the best option for their transportation needs and as the variety increase, the time spent on the search for the best vehicle will be longer. The variety of vehicle options will therefore affect the usage negatively. Besides these, feasibility and evolution of offering electric cars in car-sharing businesses is discussed by Shaheen and Chan (2015). Moreover, there is a consensus among scholars on the point that price is one of the main factors that affect consumer participation in car-sharing programs (Habibi, Kim and Laroche, 2016). This finding verifies the fact that one reason for participation in car-sharing businesses is financial.

Wagner and Shaheen investigate and discuss the developments in car sharing and mobility management and focuses on the success factors of a car sharing business. In order to sustain the operations, Wagner and Shaheen suggest that partnerships with various transportation institutes should be conducted, a mixed but balanced set of users for complementary usage should be generated, smooth interfaces should be designed, operations should be monitored with real-time data, evenly distributed stations should be placed, and the service quality should meet customer desires as much as possible (Habibi, Kim and Laroche, 2016; Lamberton and Rose, 2012). However Wagner and Shaheen emphasizes that the cost of utilizing the technology for maintaining the aforementioned factors to establish customer loyalty is high and would only be viable if the customer base is large enough.

Symeonidis, Mustafa and Preneel suggest an innovative business model, a keyless car sharing system. In their –model- the owner of the vehicle allows others to use his/her car in exchange for a fee (2016). The user and provider (the other user of the system) find each other on a platform generated by a business. The system eliminates the need for a physical key, thus negates the trouble for exchanging the key. As the vehicle element of the system is independent from the provider of the platform, Symeonidis, Mustafa and Preneel believe that the system could introduce security and privacy problems. In order to avoid the possible problems, security and privacy requirements are proposed for both provider and the users of the system (2016). The idea of not needing a physical key increases the accessibility of the system by eliminating the costs associated with the exchange of the physical key. In this system, user receives a digital key provided by the owner of the vehicle. Furthermore, in this system we see a heavy utilization of technology. Electronic devices and online systems are used in communication between two parties, generation of digital keys, and starting the vehicle to drive. Shaheen et al. too pointed out that the transfer of physical key hampers the user experience (Shaheen et al., 2012).

Shaheen, Cohen, and Chung found that the usage of car sharing service was affected by idealistic and pragmatic reasons (2009). According to their research users perceive the service as a way to reduce costs and an eco-friendly mode of transportation. Another factor found to be effective on the inclination tojoin the service is flexibility (Franke, 2001). Car sharing programs have different business models; for instance Zipcar offers short-term renting option with the restriction that the vehicle should be returned to the same station which it was picked up; Car2go (and DriveNow) has a business model that users can rent a vehicle for short-term and return the car to any station of their preferance. The freedom of returning the car to any station the customer wishes is referred as flexibility. Flexibility is one of the factors found to be positively effective on consumers' willingness to use the service (Habibi, Kim and Laroche, 2016). Shaheen, Cohen, and Chung assert that these kinds of businesses reach a wider set of consumers (2009).

For community belonging factor, there is no consensus among scholars. Although anecdotal evidence shows that cultural orientation is effective on propensity to participate in collaborative consumption, empirical evidence has not yet proved this point (Bardhi and Eckhardt 2012; Lawson 2011). Lamberton and Rose assert that sharing businesses provide social utility to their users (2012). They expect social utility to be felt more on the sharing side of the aforementioned 'sharing and exchange continuum'. Since social relationship, emotions, and intimacy among users are associated with the nature of sharing, researchers expect social utility to be positively effective on sharing businesses (Belk 2013; John 2013). It should be noted that, car-sharing programs are closer to the exchange side of the continuum and thus do not show social utilities' effects on car-sharing participation (Habibi, Kim and Laroche, 2016). Furthermore, Cheng (2016) indicates the importance of social utility by pointing out community, collaboration, and changing consumer perceptions as factors that increase the success of sharing businesses (Albinsson and Yasanthi Perera, 2012). As participants of these businesses share, they become members of a community and start building social capital (Martin et al., 2015).

In terms of demographics, The 'most likely' user identifications found by Loose (2004), Sakhdari (2006) and Cairns (2011) are male, 25 to 45 years old, living in densely populated urban areas, having higher educational background, earning above average income, and living in a household without kids. Furthermore, they found travel behavior characteristics for users of car sharing services which are namely: not frequent driver, renting for shopping, leisure-time activities, and transportation of goods (Loose 2004; Sakhdari 2006; Cairns 2011). Kopp and Axhausen went further and examined the differences between the travel behavior of users and non-users of the car sharing service (2015).

Parallel to prior findings, we expect to find ownership costs, environmental concerns (not fully but to a degree), and flexibility to be positively effective on the inclination to participate in car-sharing programs. For the personal characteristics, we predict that collectivist people will come forward in the analysis of intention to participate. From VALS groups, we expect experiences (who seek and like trying new things)

and innovators (who like to be in charge and are sophisticated) to be more inclined to use the service. Further, in terms of demographics we expect to find people between the ages 24-30, single, without kids, and with the education level equivalent or higher than undergrad degree.

2.2. VALUES AND LIFESTYLES (VALS)

As acronym of values and lifestyles, VALS is a system used for identifying the basis of people's demographics, beliefs, needs, wants, and attitudes. The VALS system was first created by SRI International in 1978 in order to characterize the lifestyles of American consumers. The initial system (VALS) was changed in 1989 with VALS2. The first set of questionnaire was measuring the shifting lifestyles and values, the second measures the stable psychological stances (Astor, 2006). The new VALS system classifies people into eight categories; thinkers, achievers, experiencers, believers, strivers, makers, innovators, and survivors. There are two dimensions for the classification; resources and innovation as seen on the framework below.

FIGURE 1: VALS Framework

Thinkers show mature, comfortable, reflective, and satisfied nature. These people search for information before making a decision. They tend to purchase durable, functional, and valuable products. Achievers put their families and career at the center of their lives. These goal-oriented people avoid situations with high degree of change and stimulation. Achievers choose premium products which reflect success to others. Experiencers are impulsive and active; seeking new and risky experiences. They spend a considerable proportion of their income on entertainment, socializing, and fashion. Believers are traditional and they respect authority and rules. Due to their conservative nature, they resist change and slow to adopt new technologies. They prefer products that are familiar to them. Strivers have narrow interest and little discretionary income. The fun loving and trendy group choose to buy stylish goods which emulate people who have greater material wealth (Strategic Business Insight). Makers are practical and self-sufficient. These people spend their leisure time with close friends and family and prefer constructive activities. They tend to purchase basic products for choosing value over luxury. Innovators are the group that is most innovative. The group comprises of highly educated people who usually are the early adopters of new technologies. According to VALS system, these people are sophisticated, successful, and like to be in charge. Survivors' lives are narrowly focused. They often feel powerless for having the fewest resources among the eight groups. Security and safety are these people's primary concerns therefore they are brand loyal and prefer discounted merchandise.

VALS scale is used to segment the market and find the users who are more inclined to use the service. Furthermore, as VALS scale also tells researcher about the lifestyles and daily activities of potential users, proper and effective communication strategies can be recommended. Furthermore, for thıs study, groups' perceptions of Car2go are also examined.

Table 2.1: VALS Item Set - Values

Computed Item	Item Code	Item	Scale
Experiencers (VEXPERIENCER)	Values1	I like outrageous people and activities.	VALS
	Values2	I like a lot of variety in my life.	VALS
	Values8	I often crave excitement.	VALS
	Values20	I like to learn about things even if they may never be of any use to me.	VALS
	Values21	I like doing things that are new and different.	VALS
	Values23	I like the challenge of doing something I have never done before.	VALS
Makers (VMAKER)	Values3	I like to make things I can use every day.	VALS
	Values10	I would rather make something than buy it.	VALS
Thinkers (VTHINKER)	Values4	I am often interested in theories.	VALS
	Values14	I am very interested in how mechanical things, such as engines, work.	VALS
	Values22	I like to look through hardware or automotive stores.	VALS
	Values24	I would like to understand more about how the universe works.	VALS
Innovators (VINNOVATOR)	Values6	I like being in charge of a group.	VALS
	Values13	I must admit that I like to show off.	VALS
	Values17	I like to lead others.	VALS
Believers (VBELIEVER)	Values11	The government should encourage moral education in schools.	VALS
	Values16	There is too much sex on television today.	VALS
	Values19	A woman's life is fulfilled only if she can provide a happy home for her family.	VALS
Survivors (VSURVIVOR)	Values9	I am really interested only in a few things.	VALS
	Values25	I like my life to be pretty much the same from week to week.	VALS
Strivers (VSTRIVER)	Values5	I follow the latest trends and fashions.	VALS
Achievers (VACHIEVER)	Values7	I like to learn about art, culture, and history.	VALS
	Values12	I consider myself an intellectual person.	VALS
	Values15	I have more ability than most people.	VALS
	Values18	I would like to spend a year or more in a foreign country.	VALS

Table 2.2: VALS Item Set – Lifestyles

Computed Item	Item Code	Item	Scale
Activity (ACTIV)	Activ1	I am moderately active (gardening, walking, housework).	VALS
	Activ2	I am vigorously active for at least 30 minutes a day (running, cycling etc).	VALS
	Activ3	I feel uncomfortable if I cannot fulfill my weekly fitness program.	VALS
Interpersonal (INTERPER)	Interper1	I give and receive affection.	VALS
	Interper2	I have someone to talk to about things that are important to me.	VALS
Sports Consumption (SPORTS)	Sports1	I watch or listen to a popular sport.	VALS
	Sports2	I attend popular sport games.	VALS
	Sports3	I purchase the merchandise of a popular sport.	VALS
	Sports4	I follow the news on a popular sport.	VALS
Environmental Responsibility (ENVIRO)	Enviro1	I practice waste separation.	VALS
	Enviro2	I prefer the environmentally-responsible brands, even when they are more expensive than others.	VALS
	Enviro3	I prefer to use public transportation to protect the environment, even though I own a private car.	VALS
	Enviro4	I volunteer the projects of environmentally-concerned volunteer organizations.	VALS
	Enviro5	I prefer not to use plastic packages or bottles.	VALS
	Enviro6	I pay attention to the ingredients in the packaged goods that I purchase.	VALS
	Enviro7	I prefer not to use the products that have harmful effects on the ozonosphere.	VALS
	Enviro8	I consider myself economical when it comes to water consumption.	VALS
Nutritional Habits (DIET)	Diet1	I eat a balanced diet.	VALS
	Diet2	I pay attention to the ingredients in the vegetables/fruits that I purchase.	VALS
	Diet3	I often eat excess sugar, salt, animal fats, junk food, and snacks.	VALS
	Diet4	My weight is different than my healthy weight.	VALS
	Diet5	I drink caffeine-containing beverages (coffee, tea or colas).	VALS
Driving Habits (DRIVESAFE)	Driving1	I drive after drinking.	VALS
	Driving2	I use seatbelts while in the car.	VALS
Stress Management (STRESMAN)	Stresman 1	I am able to cope with the stress in my life.	VALS
	Stresman 2	I relax and enjoy my leisure time.	VALS
Art Consumption (ARTCON)	Art1	I like attending art events.	VALS
	Art2	I regularly purchase art magazines.	VALS

Table 2.3: VALS Item Set – Lifestyles (Continued)

Computed Item	Item Code	Item	Scale
Fashion Consumption (FASHIONCON)	Fashion1	I like reading beauty and fashion magazines.	VALS
	Fashion2	I often go shopping for my own needs.	VALS
	Fashion3	I prefer renowned brands for clothing.	VALS
	Fashion4	I care for the appearance of my clothing.	VALS
Insight (INSIGHT)	Insight1	I feel sad and depressed.	VALS
	Insight2	I seem to be in a hurry.	VALS
	Insight3	I am a positive or optimistic thinker.	VALS
(SLEEP)	Sleep	I sleep well and feel rested.	VALS
(CAREER)	Career	I am satisfied with my job or role.	VALS
Attitude Toward Technology & Technology Consumption (TECHATTD)	Tech1	I generally follow the latest technological developments.	VALS
	Tech2	I believe that technology will provide the solutions for our problems.	VALS
	Tech3	New technologies complicate our lives.	VALS
	Tech4	Attitude toward technology	VALS
	Tech5	Attitude toward technology 2	VALS
	Tech6	Channel of Information for Technological Improvements	VALS
(TOBACCO)	Tobacco	I smoke tobacco.	VALS
(SAFESEX)	Safesex	I practice safe sex.	VALS
(ALCOHOL)	Alcohol	My average alcohol intake per week exceeds 11-12 glasses.	VALS
(NEWS)	News1	I read the news every day.	VALS
(DRUGPRONE)	Health1	I overuse prescribed or over-the-counter drugs.	VALS
(BOOK)	Book1	Reading Frequency (Books/Year)	VALS

2.3. CULTURAL ORIENTATION (INDCOL)

Cultural orientation scale indicates how people perceive themselves, others, and their relations with others. These perceptions further affect individual experiences through cognition, emotion, and motivation. The scale enables researchers to classify people as independent and interdependent. Further, the two groups are divided into two subgroups according to their perception of authority in the community in which they live.

Horizontal Collectivism: people see themselves as a part of a collective and accepting all as equals in the collective;

Vertical Collectivism: people see themselves as a part of a collective and accept the inequality and hierarchy within the collective;

Horizontal Individualism: individuals see themselves as autonomous and accepting that individuals are equal;

Vertical Individualism: individuals see themselves as autonomous and accepting that inequality and hierarchy exist among individuals (Triandis and Gelfland, 1998).

Cultural orientation scale is used to examine the characteristics of the potential users. Prior studies indicate that community belonging, a feature of collectivism, is effective on the participation in collaborative consumption. However, there is no consensus among scholars about the effectiveness on the participation in car-sharing programs specifically.

Table 2.4: Cultural Orientation Item Set

Computed Item	Item Code	Item	Scale
Horizontal Individualism (HORIND)	CultOr1	I'd rather depend on myself than others.	Cult. Orn.
	CultOr2	I rely on myself most of the time; I rarely rely on others.	Cult. Orn.
	CultOr4	My personal identity, independent of others, is very important to me.	Cult. Orn.
	CultOr12	I often do "my own thing."	Cult. Orn.
Vertical Individualism (VERIND)	CultOr5	Winning is everything.	Cult. Orn.
	CultOr6	Competition is the law of nature.	Cult. Orn.
	CultOr7	It is important that I do my job better than others.	Cult. Orn.
	CultOr11	When another person does better than I do, I get tense and aroused.	Cult. Orn.
Horizontal Collectivism (HORCOL)	CultOr8	If a coworker gets a prize, I would feel proud.	Cult. Orn.
	CultOr9	The well-being of my coworkers is important to me.	Cult. Orn.
	CultOr13	I feel good when I cooperate with others.	Cult. Orn.
	CultOr16	To me, pleasure is spending time with others.	Cult. Orn.
Vertical Collectivism (VERCOL)	CultOr3	It is my duty to take care of my family, even when 1 have to sacrifice what I want.	Cult. Orn.
	CultOr10	Family members should stick together, no matter what sacrifices are required.	Cult. Orn.
	CultOr14	It is important to me that I respect the decisions made by my groups.	Cult. Orn.
	CultOr15	Parents and children must stay together as much as possible.	Cult. Orn.

2.4. TECHNOLOGY ACCEPTANCE MODEL (TAM)

The Technology Acceptance Model that was developed by Davis in 1989 was adopted for this section. The items in the model were organized to become compatible for studying on Car2go.

In order to inform the respondents on the free-floating car sharing model before asking the questions on technology acceptance, a brief case was written at the beginning of the Technology Acceptance Model Section in the survey. The case covers a 12-hour story of a male character, who gets invited for a job interview in Istanbul and seeks the alternative ways of traveling to the firm from his hotel. Finally, he decides on using Car2go. The rest of his story is designed to provide the respondents with a snapshot of the Car2go experience, from the registration stage to the payment and check-out stages.

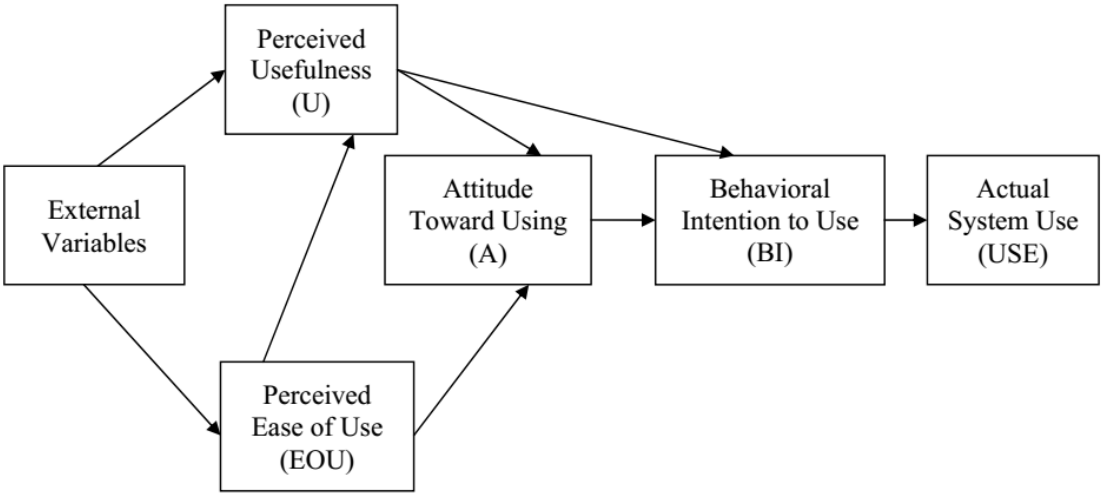


FIGURE 2: Technology Acceptance Model

The model adopted for TAM Scale includes twelve items, which are measured on a 5-point Likert Scale from 1, representing “Strongly Disagree” to 5, representing “Strongly Agree”.

Table 2.5: TAM Item Set

Computed Variable	Variable	Item
TAMACCESS System Accessibility	TAM1	I would be able to use Car2go if I wanted to.
	TAM2	There are no barriers to my using Car2go.
	TAM3	I have the resources I would need to use Car2go.
TAMPERUSE Perceived Usefulness	TAM4	Using Car2go would make it easier for me to accomplish my everyday tasks.
	TAM5	Using Car2go would enable me to accomplish tasks more quickly.
	TAM6	Using Car2go would enable me to accomplish tasks more comfortably.
	TAM7	I would find Car2go useful.
TAMPEREASE Perceived Ease of Use	TAM8	Learning to use Car2go would be easy for me.
	TAM9	Car2go's smartphone application makes it easy for me to use the service.
	TAM10	Car2go is flexible.
	TAM11	I would find Car2go easy to use.
TAMATTD Attitude	TAM12	Car2go is beneficial.
	Intention3	It is worth it to use Car2go.
TAMINTENT Behavioral Intention	Intention1	Assuming I have access to Car2go, I intend to use it.
	Intention2	Given that I have access to Car2go, I plan to use it.
	Intention4	I will frequently use Car2go in the future.
	Intention5	If I knew that Car2go will be launched in Istanbul/Turkey, I would make my plans for using it.

2.5. SERVICE QUALITY (SERVQUAL)

Service quality scale (SERVQUAL) was developed by Parasuraman Zeithaml and Berry in 1988 and is widely cited by researchers. This scale enables researchers to find and maintain the customers. Zeithaml defines the scale as a customer's perception of the overall superiority of an organization's excellence in providing service (Zeithaml, 1998).

The scale has five criteria to be evalutaed by customers; tangibles, reliability, responsiveness, assurance, and empathy. The scale can also be used to assess the quality standards that are expected by the potential cutomers for the design of the product or service. The widely used scale provides the backbone for the specific

research needs of a business since it consumers' quality service perceptions (Parasuraman et al., 1988).

Table 2.6: Service Quality Item Set

Computed Item	Item Code	Item	Scale
Comfort	Parking1	I should be able to see Car2go parking spaces on the navigation menu.	SQ
	Interior1	The cars' interior should be spacious.	SQ
	Interior2	The seats of the car should be comfortable.	SQ
	GPS1	The Car2go vehicle should have a built-in navigation system.	SQ
	Parkassist	Car2go vehicles should have built-in parking assistant.	SQ
Accesibility	Parking2	Car2go parking spaces should be easily accessible.	SQ
	Parking4	There should be a sufficient number of Car2go parking spaces, and they should be uniformly distributed throughout the operating area.	SQ
	Access3	Company/service employees should easily be accessible.	SQ
	Signup1	I can sign-up to Car2go system easily.	SQ
	Safety4	Employee of the company should be available to meet with me in case of extraordinary situations such as accident or technical breakdown.	SQ
Handing Over	Parking3	It is important that I can park the Car2go vehicle where I want.	SQ
	Interior3	Car should be clean when I receive it.	SQ
	Tourist	Local maps and tourist information should be provided when I receive the car.	SQ
	Fuelpow	Car should have enough gas/power when I receive it.	SQ
	Access2	I should be finding the Car2go vehicle conveniently.	SQ
Delivery	Access1	I should be able to find the Car2go vehicle at the exact place as it appears on the map.	SQ
	Inform1	Employee of the company should inform me about the cars' functions and accessories.	SQ
Security	Safety1	Car should have no technical problems.	SQ
	Safety2	Car should have necessary safety features like ABS, Airbags...	SQ
	Safety3	Car should have insurance and collision damage waiver.	SQ
Ergonomics	Gear1	Car should have manual and automatic gear option.	SQ
	Special1	Car2go fleet should include cars that have ergonomic features for customers with disabilities or special needs.	SQ
Transaction	Transaction1	I should be allowed to choose method of payment.	SQ
	Transaction2	Car2go application should notify me when the online transaction (payment) process is complete.	SQ
	Transaction3	It is important that I do not experience any transaction problems after using the service.	SQ
	Transaction4	Transaction security is an important factor for me while using this service.	SQ
Additional	Reminder	There should be a reminding mechanism in the Car2go vehicles in order to prevent customers from losing their possessions while using the service.	SQ

2.6. ENVIRONMENTAL CONCERNS

In the last decade, concerns regarding climate change and environmental problems have increased. Consumers and producers take more considerate stand in their purchases and production processes and resources. In this study, environmental sensibility is measured to see if there is a relationship between concerns regarding the environment and the inclination to use Car2go. There is also the premise of Car2go being perceived as an eco-friendly transportation mode, with electric cars and the possibility of decreasing the likelihood of car ownership, thus the number of car in traffic.

Although there is no consensus among scholars on the effectiveness of environmental concerns on the participation in sharing programs, for the sake of aim of this research, analysis includes survey questions to examine the effect. If the factor were found to be effective, eco-friendliness of Car2go service can be put forward.

Table 2.7: Environmental Responsibility Item Set

Computed Item	**Item Code**	**Item**	**Scale**
Environmental Responsibility (ENVIRO)	Enviro1	I practice waste separation.	VALS
	Enviro2	I prefer the environmentally-responsible brands, even when they are more expensive than others.	VALS
	Enviro3	I prefer to use public transportation to protect the environment, even though I own a private car.	VALS
	Enviro4	I volunteer the projects of environmentally-concerned volunteer organizations.	VALS
	Enviro5	I prefer not to use plastic packages or bottles.	VALS
	Enviro6	I pay attention to the ingredients in the packaged goods that I purchase.	VALS
	Enviro7	I prefer not to use the products that have harmful effects on the ozonosphere.	VALS
	Enviro8	I consider myself economical when it comes to water consumption.	VALS

2.7. CULTURE, FASHION, AND TECHNOLOGY CONSUMPTION

Development in status for a person is not achieved by imitating a social group's lifestyle but by demonstrating concordance in inward actions of the group.

Lifestyles show people's values, where they live, what they do, what they eat, and dailylives (Wilkie, 1994). Therefore, cultural, fashion, and technology consumptions can indicate the lifestyle that person has. As people's consumption patterns can be identified through the set of questions used for this scale, proper communication strategies and target market can be generated. Questions ask people about their purchase behavior, personal characteristics, areas of interest, club/organization memberships and activities which they enjoy.

The questions for this scale are included in the VALS section.

3. HYPOTHESES

Table 3.1: Hypotheses Table1

Hypothesis	Status	Section
H_{0a}. Perceived Usefulness is not positively associated with Attitude Toward Technology. H_{1a}. Perceived Usefulness is positively associated with Attitude Toward Technology.	*H_0 is rejected.*	TAM
H_{0b}. Perceived Usefulness is not positively associated with Behavioral Intention. H_{1b}. Perceived Usefulness is positively associated with Behavioral Intention.	*H_0 cannot be rejected.*	
H_{0c}. Perceived Ease of Use is not positively associated with Attitude. H_{1c}. Perceived Ease of Use is positively associated with Attitude.	*H_0 is rejected.*	
H_{0d}. Perceived Ease of Use is not positively associated with Behavioral Intention. H_{1d}. Perceived Ease of Use is positively associated with Behavioral Intention.	*H_0 is rejected.*	
H_{0e}. Attitude is not positively associated with Behavioral Intention. H_{1e}. Attitude is positively associated with Behavioral Intention.	*H_0 is rejected.*	
H_{0f}. Perceived Ease of Use is not positively associated with Perceived Usefulness. H_{1f}. Perceived Ease of Use is positively associated with Perceived Usefulness.	*H_0 is rejected. (Weak Correlation)*	
H_{0g}. Behavioral Intention is not positively associated with VMAKER (Values – Maker) Score. H_{1g}. Behavioral Intention is positively associated with VMAKER (Values – Maker) Score.	*H_0 cannot be rejected.*	VALS
H_{0h}. Behavioral Intention is not positively associated with VSURVIVOR (Values – Survivor) Score. H_{1h}. Behavioral Intention is positively associated with VSURVIVOR (Values – Survivor) Score.	*H_0 cannot be rejected.*	
H_{0i}. Behavioral Intention is not positively associated with VSTRIVER (Values – Striver) Score. H_{1i}. Behavioral Intention is positively associated with VSTRIVER (Values – Striver) Score.	*H_0 is rejected. (Weak Correlation)*	
H_{0j}. Behavioral Intention is not positively associated with VBELIEVER (Values – Believer) Score. H_{1j}. Behavioral Intention is positively associated with VBELIEVER (Values – Believer) Score.	*H_0 cannot be rejected.*	
H_{0k}. Behavioral Intention is not positively associated with VEXPERIENCER (Values – Experiencer) Score. H_{1k}. Behavioral Intention is positively associated with VEXPERIENCER (Values – Experiencer) Score.	*H_0 is rejected. (Weak Correlation)*	
H_{0l}. Behavioral Intention is not positively associated with VTHINKER (Values – Thinker) Score. H_{1l}. Behavioral Intention is positively associated with VTHINKER (Values – Thinker) Score.	*H_0 cannot be rejected.*	

Table 3.2: Hypotheses Table2

Hypothesis	Status	Section
H_{0m}. Behavioral Intention is not positively associated with Active Lifestyle. H_{1m}. Behavioral Intention is not positively associated with Active Lifestyle.	*H_0 is rejected. (Weak Correlation)*	TAM & VALS & Demg.
H_{0n}: $\mu_{TAMINTENT} = 3$ H_{1n}: $\mu_{TAMINTENT} \neq 3$	*H_0 is rejected.*	
H0o: There is not a significant difference between women (1) and men (2) in terms of Perceived Usefulness. H1o: There is a significant difference between women (1) and men (2) in terms of Perceived Usefulness.	*H_0 is rejected.* $\mu_{women} > \mu_{men}$	
H_{0p}. $\mu_{ATTITUDE9} = 3$ H_{1p}. $\mu_{ATTITUDE9} \neq 3$ *Car2go enables me to save money, by eliminating fuel costs.*	*H_0 is rejected.*	
H0r: There is not a significant difference among age groups in terms of Behavioral Intention. H1r: There is a significant difference among age groups in terms of Behavioral Intention.	*H_0 cannot be rejected.*	
H0s: There is not a significant difference among age groups in terms of Perceived Usefulness. H1s: There is a significant difference among age groups in terms of Perceived Usefulness.	*H_0 cannot be rejected.*	
H_{0t}. $\mu_{ATTITUDE8, 0} = \mu_{ATTITUDE8, 1} = \mu_{ATTITUDE8, 2}$ H_{1t}. At least one of the means is different. The index values 0, 1, and 2 indicate the age groups 18-24, 25-35, and >35, respectively.	*H_0 is rejected.*	
H_{0t}. $\mu_{ATTITUDE6, 0} = \mu_{ATTITUDE6, 1} = \mu_{ATTITUDE6, 2}$ H_{1t}. At least one of the means is different. The index values 0, 1, and 2 indicate the age groups 18-24, 25-35, and >35, respectively.	*H_0 cannot be rejected.*	
H_{0u}. $\mu_{ATTITUDE9, 0} = \mu_{ATTITUDE9, 1} = \mu_{ATTITUDE9, 2}$ H_{1u}. At least one of the means is different. The index values 0, 1, and 2 indicate the age groups 18-24, 25-35, and >35, respectively.	*H_0 is rejected.*	
H_{0v}: $\mu_{TAMINTENT, 0} = \mu_{TAMINTENT, 1} = \mu_{TAMINTENT, 2}$ H_{1v}: At least one of the means is different.	*H_0 cannot be rejected.*	
H_{0w}: $\mu_{TAMINTENT, 0} = \mu_{TAMINTENT, 1}$ H_{1w}: The means are different. The index values 0 and 1 indicate Vehicle Ownership.	*H_0 cannot be rejected*	

Table 3.3: Hypotheses Table3

Hypothesis	Status	Section
H_{0x}: The sample is homogeneous in terms of Values. H_{1x}: The sample is clustered.	*H_0 is rejected.*	Clus. & SQ
H_{0y}: The sample is homogeneous in terms of Lifestyles. H_{1y}: The sample is clustered.	*H_0 is rejected.*	
H_{0z}: The sample is homogeneous in terms of Cultural Orientation. H_{1z}: The sample is clustered.	*H_0 is rejected.*	
H_{0a1}: There is not a significant difference between women (1) and men (0) in terms of Comfort scores. H_{1a1}: There is a significant difference between women (1) and men (0) in terms of Comfort scores.	*H_0 cannot be rejected.*	
H_{0b1}: There is not a significant difference between women (1) and men (0) in terms of Accessibility scores. H_{1b1}: There is a significant difference between women (1) and men (0) in terms of Accessibility scores.	*H_0 is rejected.*	
H_{0c1}: There is not a significant difference between women (1) and men (0) in terms of Handing Over scores. H_{1c1}: There is a significant difference between women (1) and men (0) in terms of Handing Over scores.	*H_0 is rejected.*	
H_{0d1}: There is not a significant difference between women (1) and men (0) in terms of Delivery scores. H_{1d1}: There is a significant difference between women (1) and men (0) in terms of Delivery scores.	*H_0 is rejected.*	
H_{0e1}: There is not a significant difference between women (1) and men (0) in terms of Transaction scores. H_{1e1}: There is a significant difference between women (1) and men (0) in terms of Transaction scores.	*H_0 is rejected.*	
H_{0f1}: $\mu_{ADDITIONAL}=3$ H_{1f1}: $\mu_{ADDITIONAL} \neq 3$ ADDITIONAL: Additional Features component of the Service Quality scale.	*H_0 is rejected.*	
H_{0g1}: $\mu_{SQ,1} = \mu_{SQ,2} = \mu_{SQ,3} = \mu_{SQ,4}$ H_{1g1}: At least one of the means is different. The index values 1,2,3, and 4 indicate Educational Background groups.	*H_0 cannot be rejected.*	
H_{0h1}: $\mu_{SQ,1} = \mu_{SQ,2} = \mu_{SQ,3} = \mu_{SQ,4} = \mu_{SQ,5}$ H_{1h1}: At least one of the means is different. The index values 1,2,3, 4, and 5 indicate Income groups.	*H_0 cannot be rejected.*	
H_{0i1}: $\mu_{SQ,0} = \mu_{SQ,1}$ H_{1i1}: $\mu_{SQ,0} \neq \mu_{SQ,1}$ The index values 0 and 1 indicate the age groups 18-24 and 25-35, respectively.	*H_0 is rejected.*	

4. METHODS

In this paper, several methods were used for a thorough research. First, literature on social innovation, sharing economy, collaborative consumption, car-sharing programs, and prior studies on Car2go were examined. Following that, we had an interview with one of the employees of Mercedes Turkey. Then, we had in-depth interviews with people from different ages and occupations. With the garnered information, a survey was prepared and disseminated via the internet in social media sites, professional social networks, and social media groups.

4.1. IN-DEPTH INTERVIEWS

In depth interviews were conducted with 11 respondents, including private sector workers and students from both undergraduate and graduate levels. The respondents' ages vary between 20 and 35.

A summary of the insights obtained while interpreting the in depth interview responses;

A) *Awareness (car2go)*: Two out of eleven respondents stated that they had heard of car2go and free-floating car sharing model before. However both respondents have never actually used the service. One of them has seen some cars from the car2go fleet during a holiday he spent in Vancouver, Canada, and the other one has seen the free-floating car sharing model in the movie, Inferno.

B) *Awareness (Other Service Providers)*: Although it is a station-based car sharing service, Yoyo, which installs its stations mainly to university campuses in Istanbul, ranked first in terms of Top of Mind Awareness. It was the first name that the respondents (6/11) would recall, when they were asked about their previous experiences with car sharing.

C) *Intention*: Seven out of eleven respondents have expressed positive intention toward using car2go, and three of them stated that they would become loyal users in the long term, if the cars became accessible throughout the area they live and work.

D) *Pricing*: All respondents (11/11) stated that, if the car2go service was priced cheaper than taxi, they would definitely use it.

E) *Perceived Advantages* of car2go were listed as;
   i) Accessibility of the cars throughout the day, especially out of public transportation hours,
   ii) Cost saving from fuel, insurance, and tax expenses,
   iii) Elimination of the need for private car ownership,

F) *Perceived Disadvantages* of car2go were listed as;
   i) Concerns regarding information security,
   ii) Any inconvenience caused by the improper use of other users,
   iii) Delays in communication with the service employees while experiencing a breakdown or accident.

After interpreting the results of these in depth interviews, perceived advantage/disadvantage questions and attitudinal questions were designed and included in the consumer survey. For a complete list of the aforementioned perceived advantage/disadvantage and attitudinal questions, please refer to the Table 04.17.

The interviewers' checklist for the in depth interviews is as follows;

Table 4.1: Interviewers' Checklist

1	How does the respondent …… his/her daily transportation needs?
2	Which transportation methods does the respondent use while traveling for work?
3	Does the respondent travel for shopping? If yes, then which transportation methods does he/she use while traveling for shopping?
4	Has the respondent heard of free-floating car sharing?
5	How, does he/she think, does this service differs from private car ownership?
6	Does he/she know anyone who has used this service before?
7	Does he/she have an intention to try this service?
8	Would he/she think of becoming a loyal customer?
9	What are the advantages of this service according to him/her?
10	What are the disadvantages of this service according to him/her?
11	Does he/she have a customer profile for this service in mind?
12	(If he/she does not mention environmental awareness) Would the service have an environmental impact?
13	What are his/her opinions on pricing?
14	Has he/she used a sharing service, such as AirBnb or ZipCar, before?
15	Which firm or organization should provide such a service according to them?
16	(If it is a firm) Which firm should provide such a service according to him/her?
17	What features should the cars on the fleet have?
18	Is built-in navigation is an important feature for him/her?
19	What are their opinions on information security?
20	If it had been present in Turkey, when would he/she start using this service?
21	Which communication channels would they prefer the firm to use to reach them?

4.2. MERCEDES INTERVIEW

On 11th of November, we had a meeting with Çağrı Kutay, who works at Passenger Car Product Management and Marketing Communications department, at Mercedes Headquarters/Hadımköy. First, Mr. Kutay provided us with the general information about Car2go and then he answered the questions prepared by the research team. As Mr. Kutay indicated, there is a specific guideline for the implementation of the business and the tools do not differ according to the location of the business. `There is not certain number for cars to be allocated to an area, the number changes according to the number of potential users`, he says. Total population can be a reference point in European cities since the users can prefer to use Car2go instead of public transportation. This is one of the crucial points for the business if decided to be launched in Turkey. Public transportation fees are very low when compared to Europe and this makes the cost gap between Car2go and public transportation wider than it is in Europe. In Turkey, potential users cannot be indifferent between the two modes of transportation as the case in Europe. This is one of the reasons that the business is not feasible in Turkey. Furthermore, Istanbul is a metropolitan, has a wider circulation area compared to Frankfurt, a European city where Car2go is available. Mr. Kutay states that in Europe, users rent Car2go vehicle to run their errands in the city circling a small radius. However, when a user rents a Car2go vehicle in Istanbul, he or she is likely to travel in a wider circle because only one city center is hard to locate for Istanbul. This is also a factor that lowers the effectiveness of the system and compounds the feasibility of the business. The effectiveness is lower because the users will travel a longer distance and will consume more battery and this will hamper the availability of the same car for the next rent. The availability together with the charge status of the vehicle is very important for the operability of the business. Users check the charge percentage and the possible mileage for that charge percentage and rent the car only if the distance can be covered without running out of power. Therefore charge units should be located where the density of Car2go vehicles expected to be high. This issue is parallel to parking space availability and accessibility. For Europe, these two issues are considered as benefits of the service since parking costs are eliminated with Car2go and charging stations are widespread. “In Turkey, parking fees are around 6TRY/h whereas it is 16Eu/h in

Frankfurt". Also the initial investment and maintenance of a parking space is higher in Europe in Turkey. Municipalities set up a parking meter next to a parking space and after that they do the necessary maintenance of the parkingmeter. However in Turkey, a parking lot is built and one security is employeed there to run the parking lot. This difference in parking space costs justifies the difference between two parking fees. Furthermore the availability of a high number of charging units and an available/ready infrastructure for the system makes it easier and less costly to launch Car2go in a European city. There should be widespread stations that users can go and rent a Car2go vehicle, also to drop the vehicle when they are done with it. In order to conflate the charging system and parking space, the city should have the necessary infrastructure. There should be enough space for Car2go vehicles to be parked and also there should be enough charging units to sustain the availability of the cars and also the system. As Mr. Kutay says, if the business were to be launched in Turkey, Car2go should try to concert with Ispark (for Istanbul) for parking spaces and charging units. There are also charging units already located in shopping mall parking spaces which can also be utilized by Car2go vehicles. However, as logical as these solutions sound, the implementation of the whole business in Istanbul is far from feasible.

Mr. Kutay tells us about a prior feasibility study for Car2go in Istanbul/Turkey, which dates back to 2008. According to the findings of that study, there needs to be at least 4000 vehicles available to potential users. It should be noted that this number is calculated only for the area between Bostancı and Topkapı. Mr. Kutay asserts that these 4000 car is hard to be parked in the specified area and this hampers the feasibility at the beginning. Furthermore, there are not enough charging units for these 4000 cars for the time being. Another drawback for the business is that these 4000 electric cars will be sold in the second-hand market in four years (a time limit indicated to be the average usage period by Mercedes) and there is no foreseeable sales potential for the vehicles in question. Also, when the high initial investment of the business -cost of these electrical cars, is considered, these drawbacks discourage the company to launch Car2go in Turkey.

As mentioned before, Car2go is perceived as an alternative to public transportation both of which are to be used in the urban areas. In a city like Istanbul, where the usage rate of public transportation is high and the circulation of the mode is widespread, a service such as Car2go should be able to fill the gaps that public transportation leaves out. This suggests that Car2go vehicles can be utilized to go to places where public transportation does not reach. Also, Mr. Kutay indicates that European users' mindset differs from Turkish people's in individualism and collectivism. He asserts that European people are more inclined to have individualistic characters and therefore prefer the individual transportation forms, whereas Turkish people are more likely to have collectivist characters and therefore prefer to do things with other people. This also lowers the expectations of the usage rate of Car2go in Turkey and it is one of the main point that marketing efforts should be directed at. There is also a high rate of taxi usage in Istanbul and this service can be perceived as more comfortable when compared to Car2go, since the customer will be transported by the taxi driver to his or her destination. Another difference between European and Turkish lifestyle is the size of the area that they live and socialize. European people run their errands and socialize in or near the city center. In Istanbul, however people can travel between continent for work and go to specific areas such as Taksim, Kadıköy, Beşiktaş, or Bebek to be social with their friends. This wide circulation makes the utilization of Car2go futile since there is a long distance to travel in a city like Istanbul where the traffic congestion is very high. Furthermore, almost every company provides personnel services for transportation to and from work for their employees. This decreases the potential traffic congestion and employees have more pleasant time on the way. This tradition suggests that, people would not be inclined to use Car2go for going to and returning from work since they could do other things like sleeping, playing games, or chatting on the way while they are in a personnel service.

For the marketing activities, Mr. Kutay says that there is no specific target market for the business since in Europe, usage rate is high and people prefer to rent a Car2go vehicle to run their errands in the city when they have limited time. As for promotional activities, TV advertisements are perceived as costly even though they

reach a wider crowd than other modes of communication. Mr. Kutay says that location based advertisement would be more effective considering Car2go stations and population of the area. Furthermore, he adds that billboards at public transportation stations and handles in the vehicles could be effective for advertisement considering that Car2go aims to be perceived as a substitute of public transportation.

Finally, we talked about the competition in the market. Mr. Kutay asserts that Car2go is more preferable compared to other companies in the market. Car2go is a free-floating car sharing business, which means that consumers do not have to return the car to the station that they rented it. There is only Car2go to offer such option. Furthermore, Car2go charges hourly where as car rental companies rent the vehicles on daily basis. In addition to that, renting process for Car2go is more convenient compared to traditional car rental companies and other car sharing companies in the market since there is no need for a physical facility to complete any paper work. Users of Car2go can download the application to their smartphones, enter their personal information, find the nearest Car2go vehicle, and unlock the car with the digital key provided via the application.

4.3. SURVEY

Survey for this study is designed by conflating prior studies's focuses, researchers' interview with Mercedes, indepth interviews with potential users, and general tools used for market segmentation and character analyses.

A consumer survey including VALS, Technology Consumption, Environmental Awareness, Fashion and Culture Consumption, Personality, Technology Acceptance Model, and Service Quality Scales was prepared and distributed via email and social media platforms.

The survey was prepared on Google Forms and distributed via social media platforms, email, and professional social networks.

The survey can be accessed via the following URL: https://goo.gl/forms/ZXUXJaFCcBbRmw9u2

4.4. SAMPLE PROFILE

The survey was conducted with a sample of 124 respondents between the ages 22 and 59. The mean age is 28, and the median age is 24. There are 57 male and 63 female respondents in the sample. 94 out of 124 respondents are single, and the other 30 are married.

The sample was divided into four groups in terms of educational background; High School Graduates (17), University Graduates (Undergrad - 80), Masters Graduates (25), and PhD Holders (2). 118 respondents live in Istanbul, and the other 6 respondents live in Ankara, Izmir, and Kocaeli.
Employed consumers (61) and students (50) constitute the majority of the sample.

Age

N	Valid	124
	Missing	0
Mean		28,04
Median		24,00
Range		37
Minimum		22
Maximum		59

Gender	Frequency	Percent
Do not wish to declare	4	3,2
Male	57	46,0
Female	63	50,8
Total	124	100,0

Marital Status	Frequency	Percent
Single	94	75,8
Married	30	24,2
Total	124	100,0

Education	Frequency	Percent
PhD & Postdoc	2	1,6
Master's Degree	25	20,2
Undergrad Degree	80	64,5
High School Degree	17	13,7
Total	124	100,0

Residency	Frequency	Percent
Ankara	1	,8
Istanbul	118	95,2
Izmir	1	,8
Kocaeli	4	3,2
Total	124	100,0

Employment Status	Frequency	Percent
Employed	61	49,2
Unemployed	11	8,9
Retired	2	1,6
Student	50	40,3
Total	124	100,0

Income	Frequency	Percent
>7001	52	41,9
0 - 1500	8	6,5
1501 - 3000	29	23,4
3001 - 5000	12	9,7
5001 - 7000	23	18,5
Total	124	100,0

5. MEASUREMENTS

On the Values subscale of VALS, 25 items were measured on a 5-point Likert Scale between 1, representing “Strongly Disagree” and 5, representing “Strongly Agree”.

There are 45 items included on the Lifestyles subscale of VALS. These 27 items are measured on a 5-point Likert Scale between 1, representing “Strongly Disagree” and 5, representing “Strongly Agree”.

On the Altruism subscale of Personality, 10 items were measured on a 5-point Likert Scale between 1, representing “Strongly Disagree” and 5, representing “Strongly Agree”. Additionally on the Cultural Orientation subscale of Personality, 16 items were measured on the same 5-point Likert Scale.

The Technology Acceptance Model includes 17 items that were measured on a 5-point Likert Scale between 1, representing “Strongly Disagree” and 5, representing “Strongly Agree”.

On the Car2go Service section;

- Membership item (the consumers’ preferred platform of membership) was measured on a nominal scale that required the actual names of the platforms to be selected on a multiple-choice question.
- Purpose item (the consumers’ preferred purpose of usage) was measured on a nominal scale.
- All pricing items were measured on interval scales.
- On the Attitude subscale 10 items were measured on a 5-point Likert Scale between 1, representing “Strongly Disagree” and 5, representing “Strongly Agree”.

On the Vehicle Ownership section, all items were measured on nominal scales.

On the Service Quality scale, all 27 items were measured on a 5-point Likert Scale between 1, representing “Strongly Disagree” and 5, representing “Strongly Agree”.

On the Car and Brand Preference section, Segment and Fueltype items were measured on nominal scales.

On Promotional section, Chan1 and Chan2 items were measured on nominal scales.

The Maxdist item on the Usage section was measured on an interval scale. Bevehicle1 and Bevehicle2 were measured on nominal scales, and Bevehicle3 was measured on a ratio scale.

6. FINDINGS

6.1. ANALYSIS

VALS, Personality (Altruism, Individualism and Collectivism), Technology Acceptance Model, Car2go Service, and Service Quality Scales were used on the survey, and measured on 1-to-5 Likert scales.

Other (nominal and interval) items that were not measured on Likert scales are grouped under Vehicle Ownership, Promotional, Usage, and Demographics categories.

IBM SPSS was used throughout the analysis. Confidence level was used as .05 for all statistical tests. For comparing the mean values of two separate groups, independent samples t-test was conducted, and one-way ANOVA was used for comparing the mean values of three or more groups.

Pearson Correlation (for interval-scale variables) and Spearman Correlation (for ordinal-scale variables) were used for determining the direction and strength of associations between variables.

Factor Analysis was conducted for Attitude scale for the reduction of items.
Cluster Analysis was conducted for the segmentation in order to identify the homogeneous consumer groups within the data.

6.2. FINDINGS

6.2.1. Technology Acceptance Model (TAM)

After conducting Pearson Correlation, positive relationships were observed between 1) Perceived Usefulness and Attitude Toward Technology, 2) Perceived Ease of Use and Attitude, 3) Perceived Ease of Use and Behavioral Intention, 4) Attitude and Behavioral Intention, and 5) Perceived Ease of Use and Perceived Usefulness.

The relationhip between Perceived Ease of Use and Perceived Usefulness is characterized by a correlation coefficient lower than .5, therefore the correlation is weak.

Additionally, the mean value of Behavioral Intention variable was lower than expected. The negative effect was caused by the items Intention4 and Intention5, which reflect long term loyalty and forward looking usage plans.

Table 6.1: TAM Hypotheses

H_{0a}. Perceived Usefulness is not positively associated with Attitude Toward Technology. H_{1a}. Perceived Usefulness is positively associated with Attitude Toward Technology.	*H_0 is rejected.*
H_{0b}. Perceived Usefulness is not positively associated with Behavioral Intention. H_{1b}. Perceived Usefulness is positively associated with Behavioral Intention.	*H_0 cannot be rejected.*
H_{0c}. Perceived Ease of Use is not positively associated with Attitude. H_{1c}. Perceived Ease of Use is positively associated with Attitude.	*H_0 is rejected.*
H_{0d}. Perceived Ease of Use is not positively associated with Behavioral Intention. H_{1d}. Perceived Ease of Use is positively associated with Behavioral Intention.	*H_0 is rejected.*
H_{0e}. Attitude is not positively associated with Behavioral Intention. H_{1e}. Attitude is positively associated with Behavioral Intention.	*H_0 is rejected.*
H_{0f}. Perceived Ease of Use is not positively associated with Perceived Usefulness. H_{1f}. Perceived Ease of Use is positively associated with Perceived Usefulness.	*H_0 is rejected. (Weak Correlation)*

It was also found that, Behavioral Intention is positively associated with Striver and Experiencer values on the VALS scale. However, the associations are not strong as both correlation coefficients are lower than .5.

On the other hand, Behavioral Intention was observed to be positively associated with Activity Level, Strong Interpersonal Relationships, Environmental Responsibility, Stress Management, Sports Consumption, and Healthy Nutritional Habits. Even though all of the correlations were significant at the .01 level, none of them indicated very strong relationships.

Among the hypotheses tested for Gender groups, Perceived Usefulness null hypothesis (below) was rejected. Hence the higher Perceived Usefulness mean value of women.

H_0: There is not a significant difference between women (1) and men (2) in terms of Perceived Usefulness scores.
H_1: There is a significant difference between women (1) and men (2) in terms of Perceived Usefulness scores.

> *H_0 is rejected. There is a significant difference between women and men in terms of Perceived Usefulness. Women perceive Car2go as more useful than men do.*

The mean values of the age groups were compared against TAM items. There was one significant difference found between the age group 0 and the age group 1. The difference indicates that the age group 1 perceives Car2go as more accessible than ageo group 0 does.

AGEDUM2	**Description**
0	0 thru 24 years
1	25 thru 35 years
2	35 thru highest

6.2.2. Brand Preference

Values were assigned to the brands on a high preference – high value basis. If the brand is selected as the 1st preference by a respondent, then the brand has the value of "3" for that respondent. If it is selected as the 2nd preference, then it has the value of "2". If it is selected as the 3rd preference, then the brand has a value the "1". If the brand is not included in the ranking of the respondent, than it has a value of zero.

After assigning the values, the means of each brand were calculated. As seen on the table below, Volkswagen, BMW, and Mercedes have the highest three mean values, .93, .79, and. 69 respectively. The three brands are followed by Audi (.65).

Brand Preference	Value
1. Tercihim	3
2. Tercihim	2
3. Tercihim	1
0	0
(High preference - High value)	

The four most preferred brands of the survey are VW, BMW, Mercedes, and Audi. (Table 6.2: Brand Preferance). Even though BMW and Mercedes do not differ much in terms of overall frequency, it is observed that 1st Preference Frequency of BMW is greater than that of Mercedes by 8 respondents.

Another observation is, all four of the highest-ranking brands are German car manufacturers.

This issue is addressed in the Recommendations section.

Table 6.2: Brand Preferance

Ranking	Frequency (Number of Respondents by Brands)			
	Volksvagen	**BMW**	**Mercedes**	**Audi**
"1. Tercihim" (1st Preference)	22	20	**12**	15
"2. Tercihim" (2nd Preference)	18	14	**18**	12
"3. Tercihim" (3rd Preference)	13	10	**13**	12
Frequency in first 3 Preferences	53	44	**43**	39

6.2.3. Attitude

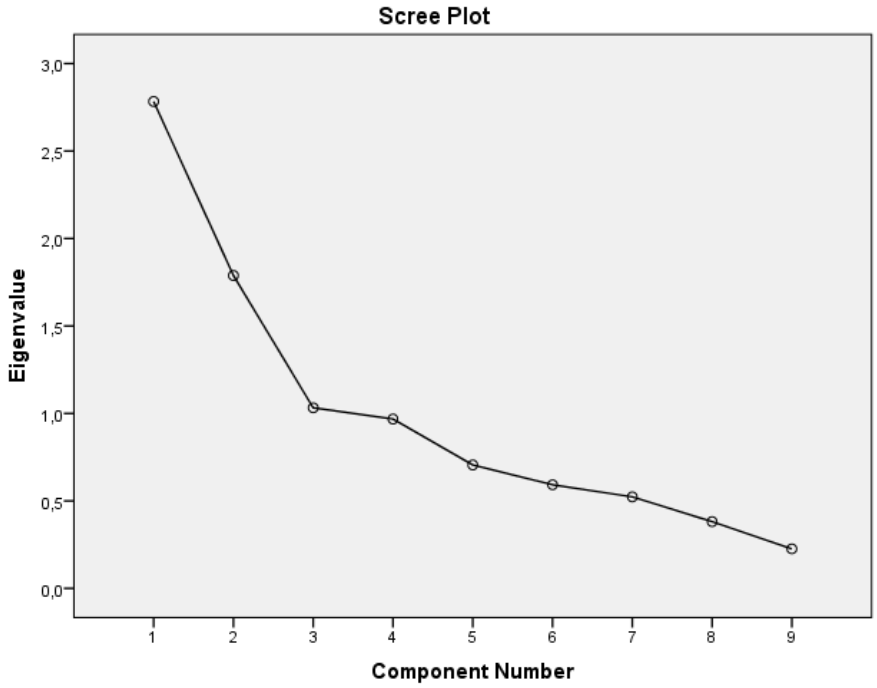
Car2go was perceived more advantageous by 25 – 35 year-old consumers than it was by 18 – 25 year-old consumers, in terms of overall cost of car ownership. The same relationship between the two groups' mean values was present in terms of the item Attitude9. Therefore it can be inferred that Car2go was perceived more advantageou by 25 – 35 year-old consumers than it was by 18 – 25 year-old consumers, in terms of its contribution to personal savings.

Attitude Items and Factor Analysis

As a result of the one-sample t-test, H_0 is rejected for all variables. The means of Attitude 1, Attitude 2, Attitude 3, Attitude 4, Attitude 5, Attitude 6, Attitude 7, Attitude 8, and Attitude 9 are significantly greater than 3 (Neither Agree Nor Disagree).

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,675
Bartlett's Test of Sphericity	Approx. Chi-Square	282,226
	Df	36
	Sig.	,000

KMO Measure of Sampling Adequacy is .675. Since it is greater than the .5 threshold, sampling is said to be adequate, and the significance value (<0.05) indicates that the factor analysis for the Attitude scale is valid.



Total Variance Explained						
Comp.	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,783	30,923	30,923	2,543	28,261	28,261
2	1,788	19,871	50,794	1,826	20,285	48,546
3	1,032	11,469	62,263	1,157	12,856	61,402
4	,968	10,756	73,020	1,046	11,618	73,020
Extraction Method: Principal Component Analysis.						

The first three eigenvalues are greater than 1. Thus, the first three components of the factor analysis output are taken into consideration.

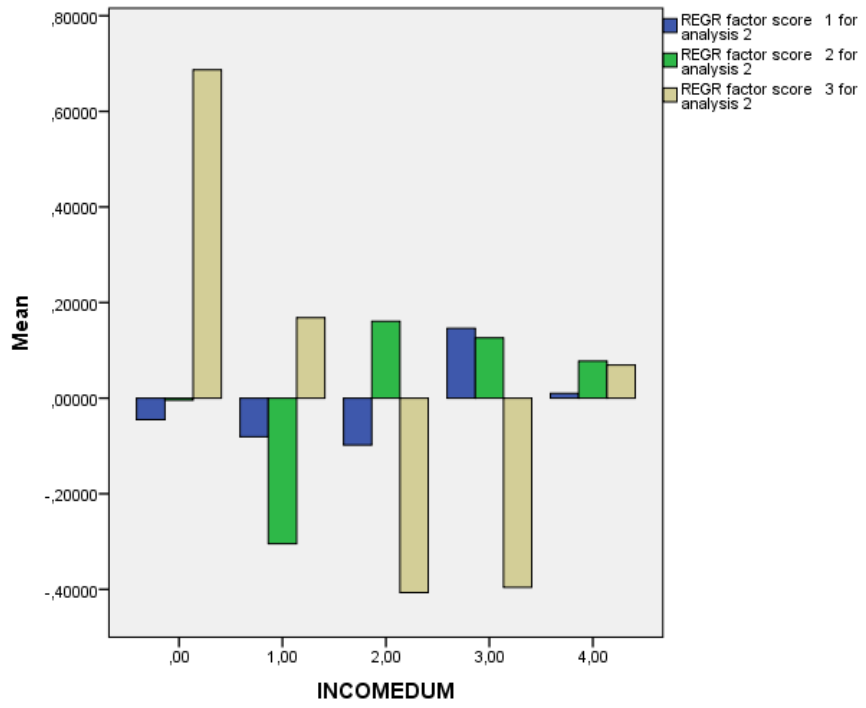
Rotated Component Matrix[a]				
	Component			
	1	2	3	4
Attitude4	,833			
Attitude7	,773			
Attitude2	,733			
Attitude6	,594			
Attitude5	,586			
Attitude9		,927		
Attitude8		,910		
Attitude3			,939	
Attitude1				,962
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 5 iterations.				

As a result of the factor analysis, the 9-item Attitude scale was reduced to 3 components. First component is composed of five original items, namely, Attitude4 (Car2go should be accessible when the public transportation is not working), Attitude7 (In a case of breakdown/accident, service employees should contact me quickly), Attitude2 (Car2go should be cheaper than taxi), Attitude6 (Car2go allows me to act freely, without being dependent on another person/transportation system), and Attitude5 (Reduction/elimination of parking costs is an important factor for me). The first component was expected to yield divergent results for different income groups, as it reflects the items that are concerned with cost sensitivity and public transportation usage. Graph 6.1 below indicates the difference among income groups. It is inferred, from the graph, that lower income groups are characterized by higher scores for Component 1, when compared with higher income groups.

The five income groups also have a meaningful and expected difference in terms of Component 2 scores, which are generated by Attitude8 and Attitude 9, since these items reflect the cost disadvantage of private car ownership. Higher income groups have higher scores in Component 2 items because people who belong to higher income groups are more likely to own private cars.

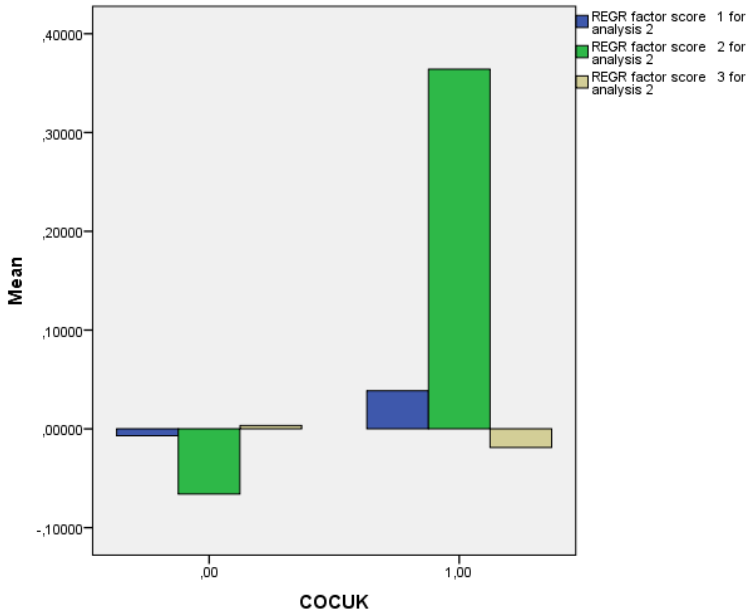
Therefore eliminating the costs of car ownership is perceived as more advantageous by higher income groups, than it is perceived by lower income groups.

Graph 6.1



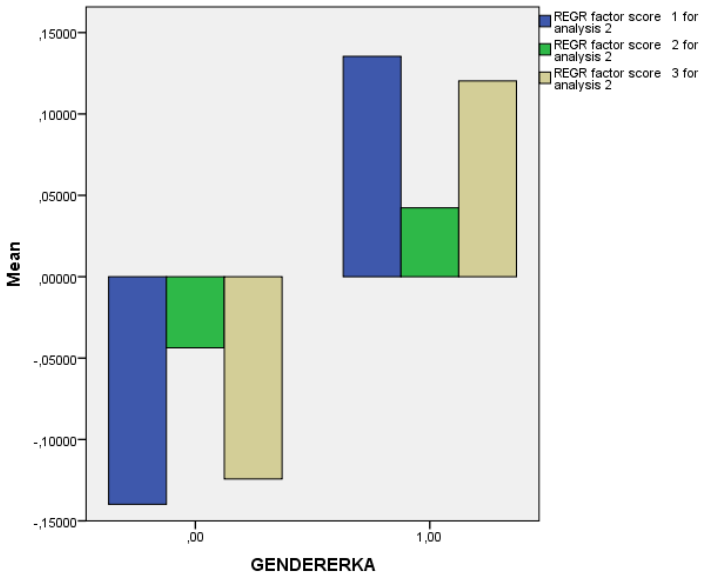
On the other hand, consumers who have children differ from those who do not in terms of cost sensitivity and cost-related items as seen in the Graph 6.2 below. However the difference in Component 1 is not as significant as the difference in Component 2 between these groups. This indicates that the overall cost of car ownership and fuel costs lead to a broader gap between groups as consumers with children are more likely to own private cars, and the **elimination of the overall cost of ownership is a more important factor for these consumers**.

Graph 6.2



According to female consumers, the elimination of both fixed and variable costs of car ownership are more advantageous factors. The findings also indicate that independence, as represented by Attitude2 and Attitude4 items, is a more important factor for females than it is for males.

Graph 6.3



6.2.4. Cluster Analysis

Cluster Analysis was conducted in order to determine the customer segments within the sample.

6.2.4.a. Cluster Analysis: Values

The data was clustered into four groups according to values scores. However, it was determined that the second cluster included only one case, and it was an outlier. Therefore it was filtered out from the dataset before second clustering. The second clustering yielded a more accurate result, as it grouped respondents into four clusters, as well. The clusters 1, 2, 3, and 4, include 43, 46, 20 and 14 cases, respectively. For the descriptive statistics concerning these three clusters, please refer to the Appendix.

Cluster 3 has significantly lower Perceived Usefulness scores when compared with the clusters 1, 2, and 4.

Cluster 3 has the lowest VMAKER score among all clusters, and all of its mean value differences are statistically significant. The VMAKER score is measured by the two items "I like to make things I can use every day" and "I would rather make something than buy it".

The cluster also has a lower VEXPERIENCER score than the 1st and 2nd clusters. This indicates that people who do not seek variety in their lives and who are risk-averse tend to have lower Perceived Usefulness scores then those who seek variety and who are risk-prone.

VINNOVATOR score for Cluster 3 is significantly lower than all other clusters, individually. Therefore, it can be inferred that people with leadership aspiration perceive Car2go more useful than people who do not have leadership aspiration or innovative edge.

The cluster does not have any significant differences in terms of VACHIEVER score when compared with other clusters.

Other comparisons among clusters and Perceived Usefulness or Intention scores did not lead to any findings.

Demographics of Values Clusters

Income group membership did not lead to any differences among Values clusters in terms of Perceived Usefulness, as it can be inferred from the graph that the clusters 3 and 4 that have the lowest and highest PU mean values, respectively do not have a significant difference between the distributions of income groups.

INCOMEDUM * Complete Linkage Crosstabulation

Count

		Complete Linkage				
		1	2	3	4	Total
INCOMEDUM	,00	2	1	4	1	8
	1,00	9	16	2	2	29
	2,00	6	4	2	0	12
	3,00	5	10	4	3	22
	4,00	21	15	8	8	52
Total		43	46	20	14	123

The Cluster 2 which includes 40 single and 6 married respondents has a significantly higher Perceived Usefulness value than the Cluster 3, which includes 13 single and 7 married respondents.

MARITALDUM * Complete Linkage Crosstabulation

Count

		Complete Linkage				
		1	2	3	4	Total
MARITALDUM	,00	13	6	7	4	30
	1,00	30	40	13	10	93
Total		43	46	20	14	123

Similarly, the 2nd cluster includes 34 respondents who are younger than 25 versus 12 respondents who are older than 25, and the 3rd cluster includes 12 respondents in the same age group versus 8 respondents who are older than 25. These findings suggest that younger consumer groups tend to have higher Perceived Usefulness scores.

AGEDUM2 * Complete Linkage Crosstabulation						
Count						
		Complete Linkage				
		1	2	3	4	Total
AGEDUM2	,00	17	34	12	5	68
	1,00	19	6	4	7	36
	2,00	7	6	4	2	19
Total		43	46	20	14	123

Within the Values clusters, the gender composition is balanced when compared with the demographics of other scales' clusters. Therefore the composition does not yield any findings for the study.

GENDERERKA * Complete Linkage Crosstabulation						
Count						
		Complete Linkage				
		1	2	3	4	Total
GENDERERKA	,00	22	21	11	6	60
	1,00	21	25	9	8	63
Total		43	46	20	14	123

According to the Educational Status composition of Values clusters, consumer groups in which university graduates constitute the majority are more likely to perceive Car2go as "Useful".

On the below table, it can be seen that university graduates are in majority in the first two clusters.

EDUCDUM * Complete Linkage Crosstabulation						
Count						
		Complete Linkage				
		1	2	3	4	Total
EDUCDUM	1,00	6	6	3	2	17
	2,00	27	36	12	4	79
	3,00	10	4	4	7	25
	4,00	0	0	1	1	2
Total		43	46	20	14	123

Purpose of Usage in Values Clusters

Within Cluster 1, the most frequent observations for Purpose of Usage item were "While going out in the evening", "During domestic long-distance travels", and "While traveling from home to work". Cluster 1 was characterized by high VMAKER, VINNIVATOR, and VEXPERIENCER scores.

Within Cluster 2, the most frequent observations were "While traveling on a route that is not covered by public transportation system", "While traveling in touristic regions", and "While returning home after work". Cluster 2 was characterized by higher VSTRIVER, VINNOVATOR, VTHINKER, and VACHIEVER scores than the clusters 1 and 3.

Within Cluster 3, "While going out in the evening" and "While going to places, to where that I do not want to travel with my car" were the most preferred options. The cluster has significantly lower VINNOVATOR, VEXPERIENCER, and VMAKER scores than other clusters.

Within the Cluster 4, the most frequent observations were "While traveling from an airport to the city center" and "While going out on weekends".

Membership Platform Choices of Values Clusters

99 out of 123 respondents preferred Car2go Smartphone Application as the platform for membership (registration). Clusters 1,2, and 4 have similar frequency percentages with the sample, however in Cluster 3 the most frequent observation was "Car2go Website".

Automotive Segment Preference in Values Clusters

Frequency distribution for the sample is as follows; Compact City Car = 56/123, Small Family Car = 36/123, Mid-size Executive Car = 25/123, Full-size Luxury Car = 5/123, and Other = 1/123. All clusters follow a similar pattern.

Communication Channel Preference in Values Cluster

Within Cluster 1, “e-mail”, “Outdoor Billboards”, and “My social circle” were the most frequent observations.

Within Cluster 2, “e-mail” and “Facebook Ads” were the most frequent observations. The respondents in Cluster 3 indicated e-mail and professional social networks as the preferred communication channel, and those who are in Cluster 4 chose “Twitter Ads” and “e-mail” most frequently.

The three least preferred communication methods were telephone call and professional social network ads among all clusters.

6.2.4.b. Cluster Analysis: Cultural Orientation

In terms of Cultural Orientation, the cases were grouped into 4 clusters as expected. Cluster 1, 2, 3, and 4 include 48, 25, 45, and 5 respondents, respectively.

Significant differences were observed in Horizontal Collectivism, Vertical Individualism, and Vertical Collectivism subscales.

On Horizontal Collectivism subscale, only the Clusters 1 and 2 are not significantly different. However they are both significantly different than Clusters 3 and 4. The rest of the mean comparisons yielded significant differences. As paralel to the literature, Horizontal Collectivism was found to be positively associated with Behavioral Intention. Therefore, the researchers made the conclusion that Clusters 1 and 2 are more likely to have positive Behavioral Intention towards Car2go.

Therefore the following relationship applies for the clusters in terms of Horizontal Collectivism: $\mu_1 = \mu_2 > \mu_3 > \mu_4$.

On Vertical Individualism subscale, the mean differences of the clusters are as follows: $\mu_3 > \mu_1 > \mu_2$ and $\mu_3 > \mu_4$. The significance value does not indicate any difference between μ_4 and $\mu_{1\&2.}$

On Vertical Collectivism subscale, Clusters 1 and 4 are individually different from all other clusters in terms of mean value. However the Clusters 2 and 3 are not significantly different from each other. $\mu_1 > \mu_2 = \mu_3 > \mu_4$

Cluster 3 is characterized by lower mean values on collectivism subscales and higher mean values in terms of perceived usefulness than Cluster 4.

It is predicted by the researchers that the underlying mechanism involves the effect of individualism. As it exceeds a certain degree, it does not affect Perceived Usefulness positively or it can be inferred that its effect is reversed.

Purpose of Usage in Cultural Orientation Clusters

Within the cluster 1, the most frequent observation for Purpose of Usage variable was “While returning home from work”. It was followed by “While traveling to a point, which I do not know well”, and “While traveling on a route that is not covered by public transportation system”. As explained in the previous section, Cluster 1 has a significantly higher mean value than other clusters on collectivism scales.

Within the cluster 2, the three most frequent observations were “While going out on weekdays”, “While traveling on a route that is not covered by public transportation system”, and “While traveling to a point, which I do not know well”. Cluster 2 has similar characteristics with Cluster 1 in terms of cultural orientation, and both clusters are characterized by low Perceived Usefulness scores.

Within the cluster 3, the three most frequent observations were “While going out on weekends”, “During domestic long-distance travels”, and “While traveling from an airport to the city center”. The scores of Cluster 3 on the collectivism subscales is significantly lower than the clusters 1 and 2.

For the respondents in Cluster 4, the most frequently preferred purpose of usage was city center-airport transportation. Other options were evenly distributed. Cluster 4 consists of highly individualistic consumers, and their Perceived Usefulness scores are lower than Cluster 3.

Membership Platform Choices of Cultural Orientation Clusters

The smartphone application of Car2go was the most frequently observed preference in the sample and in all clusters separately. For all clusters, it was followed by Car2go Website.

Automotive Segment Preference in Cultural Orientation Clusters

For the clusters 1,2, and 3, the most frequently preferred segment was Compact City Car. Within the 4th cluster, it was Small Family Car segment.

Communication Channel Preference in Cultural Orientation Clusters

Within the cluster 1, the most frequent observations for the Communication Channel item were “e-mail”, “My social circle” and “Facebook Ads”.

Within the cluster 2, the most frequent observations were “My social circle” and “TV Ads”. Within the cluster 3, “Facebook Ads” and “YouTube Ads” were preferred.
By the consumers in Cluster 4, Facebook and YouTube Ads, and Subway Billboards were preferred as communication channels.

The least preferred communication channels, for the sample and for each cluster, are Telephone and Professional Social Networks.

6.2.4.c. Cluster Analysis: Lifestyles

In terms of Lifestyles, the respondents were grouped into four clusters. The 1st, 2nd, 3rd, and 4th clusters include 68, 33, 13, and 9 people respectively. Here, even though

the Cluster 4 is smaller in size when compared with the others, its mean differences are significant on the subscales that are intended to be used while performing final segmentation.

In terms of Activity, Cluster 4 has a significantly different mean value than other clusters. Its mean value exceeds those of the other clusters, therefore the respondents in Cluster 4 are considered to have an active lifestyle. Cluster 4 is followed by Cluster 1, which includes consumers who are moderately active.

Cluster 4 is characterized by significantly higher mean values of Environmental Responsibility, Art Consumption, Career Satisfaction, Stress Management, and Fashion Consumption subscales than all other clusters. Tobacco consumption is significantly lower

Cluster 4 has a significantly higher mean value in Perceived Usefulness than Clusters 2 and 3.

However, these four clusters do not have any statistically significant differences among each other in terms of behavioral intention. For the analysis output, please refer to the Appendix.

Demographics of Lifestyle Clusters

Within the Cluster 1, there are 30 male and 38 female respondents. These numbers are 18 males to 15 females, 9 males to 4 females, and 3 males to 6 females for the clusters 2, 3, and 4, respectively.
This indicates that, females are more inclined to perceive Car2go as "Useful".

The Cluster 1 includes 38 respondents who are younger than 25, 21 respondents who are between 25 and 35 ages, and 9 respondents who are older than 35. The age composition for the rest of the clusters can be found in the below table.

Value 0 corresponds to the respondents who are younger than 25, Value 1 corresponds to the respondents who are between 25 and 35 ages, and Value 2 corresponds to the respondents who are older than 35. According to these findings, consumers who are younger than 35 perceive Car2go more useful than those who are older than 35.

Cluster 1 includes 19 married and 49 single respondents. These values are 7 married to 26 single, 3 married to 10 single, and 1 married to 8 single for the clusters 2, 3, and 4, respectively. These findings indicate that the clusters in which single consumers constitute the vast majority are more likely to perceive Car2go as useful.
Income group membership did not lead to any difference among clusters in terms of perceived usefulness or behavioral intention.
Educational Status composition did not lead to a significant difference among clusters in terms of perceived usefulness or intention.

Purpose of Use for Lifestyle Clusters

In the survey, the respondents were asked the occasions in which they would use Car2go. Among the consumers in Cluster 1, the most frequent answers were "While going out in the evening", "While going out on weekends", and "While traveling on a route that is not covered by public transportation system". These answers reflect the cluster's young profile as expected.

The second cluster most frequently preferred the "While going out on weekends", "While traveling in touristic regions", "While traveling on a route that is not covered by public transportation system", and "For a task that will take 2-3 hours, within the city" options.

Among the consumers in Cluster 3, "During domestic long-distance travels", "While going out on weekends", and "While traveling on a route that is not covered by the public transportation system" were the most frequently preferred choices.

By the consumers in Cluster 4, the most preferred areas of usage were indicated as "While returning home from shopping", "While traveling from home to work", "While returning home after work", and "While traveling from an airport to the city center". As explained in the previous section, the findings are consistent with the cluster profile that consists of single, university or master graduates whose Perceived Usefulness scores are significantly higher than other those of other clusters.

Membership Platform Choices of Lifestyle Clusters

The Smartphone Application choice is the most frequent observation throughout the sample as it was preferred by 99 of 123 survey respondents. When the clusters are taken into consideration separately, "Smartphone Application" is the most frequent observation in all four of them.

The second most frequent observation, in the sample and in the clusters, is "Car2go Website". Therefore registration feature can be on the website, as well, in addition to the informatory pages and communication materials.

Automotive Segment Preference in Lifestyle Clusters

Compact City Car is the most frequently preferred segment in the clusters 1, 2, and 3. In the cluster 4, Compact City Car and Small Family Car (or Hatchback) have equal frequencies.

Communication Channel Preference in Lifestyle Clusters

In order to determine the appropriate communication channels for consumer segments, the respondents were asked to select their top three choices from a list of channels. In overall, "e-mail" is the most frequently observed answer.

Moreover, the clusters also differ in terms of the communication channels preferred.

The most frequently observed preferences for Cluster 1 were "e-mail", "Facebook Ads", and "Subway Billboards". For Cluster 2, "e-mail", "My social circle", and "Facebook Ads" were the most frequent answers. The consumers in the 3rd cluster

preferred Email, Twitter Ads, and YouTube Ads. Finally the most frequent answers for the 4th cluster were “My social circle”, “TV Ads”, and “Outdoor Billboards”.

The respondents were also asked the least-preferred communication channels. The most frequent observations were “Telephone Call”, “Professional Social Networks”. The clusters do not differ in terms of their least preferred communication methods.

6.2.5. Service Quality

The Service Quality scale consists of seven components, namely: Comfort, Accesibility, Handing Over, Delivery, Ergonomics, Transaction, and Additional.

There were not any observed significant differences among Educational Background groups in terms of Service Quality Items.

There were not any observed significant differences among Income groups in terms of Service Quality Items.

H_0: There is not a significant difference between the age groups 18-24 (0) and 25-35 (1) in terms of Comfort scores.
H_1: There is a significant difference between the age groups 18-24 (0) and 25-35 (1) in terms of Comfort scores.
H_0 is rejected. There is a significant difference between the age groups 18-24 (0) and 25-35 (1) in terms of Comfort scores. Comfort is a more important factor for 25-35 year-old consumers than it is for 18-24 year-old consumers.

H_0: There is not a significant difference between the age groups 18-24 (0) and 25-35 (1) in terms of Accessibility scores.
H_1: There is a significant difference between the age groups 18-24 (0) and 25-35 (1) in terms of Accessibility scores.
H_0 is rejected. There is a significant difference between the age groups 18-24 (0) and 25-35 (1) in terms of Accessibility scores. Accessibility is a more important factor for 25-35 year-old consumers than it is for 18-24 year-old consumers.

H_0: There is not a significant difference between people who do not have children (0) and people who have children (1) in terms of Accessibility scores.
H_1: There is a significant difference between people who do not have children (0) and people who have children (1) in terms of Accessibility scores.

H_0 is rejected. Accessibility is a more important factor for people with children.

H_0: There is not a significant difference between consumers who do not have children (0) and people who have children (1) in terms of Delivery scores.
H_1: There is a significant difference between consumers who do not have children (0) and people who have children (1) in terms of Delivery scores.

H_0 is rejected. Quality of the service delivery is a more important factor for consumers with children.

There were not any observed significant differences between consumer who own a vehicle (1) and consumers who do not own a vehicle (0) in terms of Service Quality Items.

6.2.6 Pricing

The four items on the Pricing scale were designed to determine the pricing method and the highest values that the consumers are willing to pay for each method.

For the pricing method, the most frequently observed variable is "A combination of the two (duration-based and distance-based pricing)".

Pricing1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Duration-based	26	21,1	21,1	21,1
	Distance-based	35	28,5	28,5	49,6
	A combination of the two	62	50,4	50,4	100,0
	Total	123	100,0	100,0	

In the following section, the respondents were directed to one of the below items according to their responses to the first pricing item.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pricing2	49	10	25	14,18	4,372
Pricing3	43	10	25	14,19	4,747
Pricing4	74	35	65	42,03	7,891
Valid N (listwise)	19				

The maximum prices that the consumers are willing to pay for 30-minute and 5-kilometer trips are the same.

Table 6.3.: Pricing Items Table

Item	Explanation
Pricing1	Pricing Method
Pricing2	Pricing "Distance Based" (Max price)
Pricing3	Pricing "Duration Based" (Max price)
Pricing4	Pricing "Combination" (Max price)

7. DISCUSSIONS

The study has analyzed the data and the results are now available for managerial recommendation. Findings that will be included in this section are namely: consumer groups that are more likely to participate in the service; communication channels which are preferred by the potential consumers; lifestyles, regular activities, and values of user groups.

The results regarding the aforementioned subjects will be used for target market and promotional plan design recommendations.

7.1. RECOMMENDATIONS FOR TARGET MARKET DESIGN

Market segmentation is done to divide consumer groups into smaller ones with distinct needs, characteristics, and behaviors (Kotler and Armstrong, 2014).

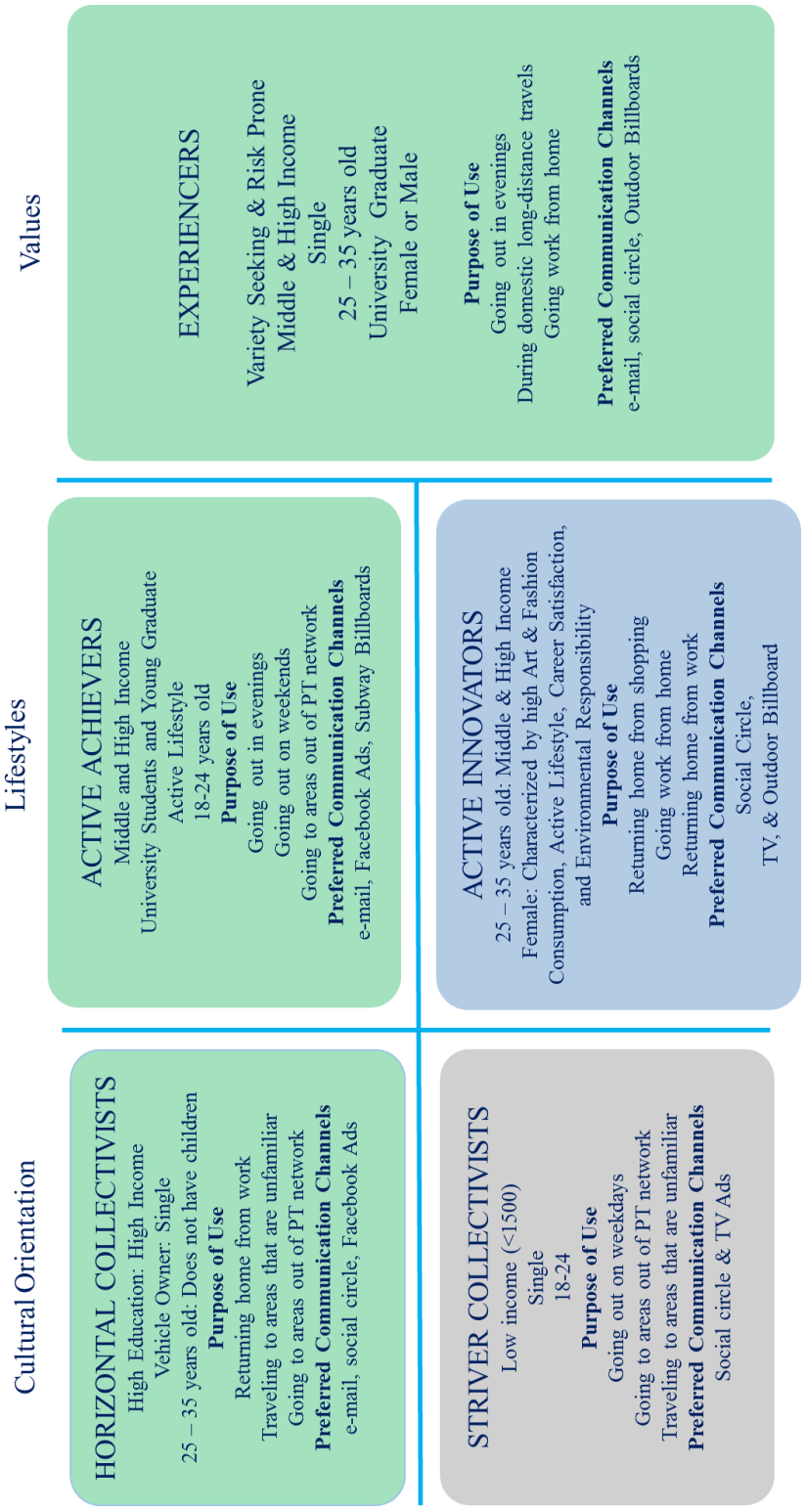


FIGURE 3: Segments Recommended for Targeting

The market is segmented according to four variables; geographic, demographic, psychographic, and behavioral. From geographic, the researchers have chosen the city Istanbul, for the higher percentage of data collected from Istanbul residents. Furthermore, consumers were grouped according to their lifestyles, values, and personalities. Following that, Clusters were divided into behavioral variables; intention and perceived usefulness were examined by demographics; age, gender, income level, and occupation.

Here the company should pick at least two different consumer groups to form a heterogenous and complementary customer base. This strategy will provide the company with higher utilization of vehicles, being used in different periods of time by different demographic segments, and with a wider customer base.
The findings that led the research to this conclusion and their implications are explained below.

After the statistical analysis of Technology Acceptance Model variables, there were significant positive associations found between Behavioral Intention and Attitude Toward Technology, Behavioral Intention and Perceived Ease of Use.
However, it was observed that the respondents did not think that they would frequently use the service in the long term. To address this issue loyalty activities can be executed.

The study also observed a positive association between Behavioral Intention and Horizontal Collectivism. Therefore, after performing cluster analysis for Cultural Orientation scale, Cluster 1 and Cluster 2, which have the highest horizontal collectivism values, were included in the target segments. The first cluster is characterized by middle and higher-income level (>7000), single consumers who do not have children, who own vehicles, and higher educational status (mostly university and master graduates), in terms of demographics.

On the other hand Cluster 2 includes lower-income (<1500), single, and younger (18-24) consumers than Cluster 1.

The data were clustered into four, in accordance with the Values scores. Here, Cluster 3 was automatically excluded as it has significantly lower mean values in terms of Behavioral Intention and Perceived Usefulness than other clusters. The cluster also has a lower VEXPERIENCER score than the 1st and 2nd clusters. This indicates that people who do not seek variety in their lives and who are risk-averse tend to have lower Perceived Usefulness scores then those who seek variety and who are risk-prone. Among the value clusters, Cluster 1 and Cluster 2 have significantly higher Perceived Usefulness scores than other two clusters, and the latter two do not have any significant differences between each other. Therefore, from the Values, Cluster 1 was included in the target segment. As explained before these two segments differ from the others in terms of risk-aversion and variety seeking. Both segments include people who seek variety in their lives and who are more risk-prone than others. In terms of demographics, Cluster 1 is composed of middle-income university and master graduates, between the ages 25 and 35.

Cluster 2, in terms of demographics, middle-income university students and graduates between the ages 18 and 24.

According to the Lifestyles scores, the cases were clustered into four consumer groups, well. Among these four clusters, Cluster 1 and Cluster 4 have the highest mean values in terms of Perceived Usefulness. However, these four clusters do not have any statistically significant differences among each other in terms of Behavioral Intention.

Cluster 1 includes single, middle and higher-income university students and graduates, mostly between the ages 18 and 24. Young white-collar workers are included in this segment. This cluster is chosen as the target lifestyle segment. The consumers included here have a moderately active lifestyle.

Cluster 4, on the other hand, is characterized by significantly higher mean values of Environmental Responsibility, Art Consumption, Career Satisfaction, Stress Management, and Fashion Consumption subscales than all other clusters. Tobacco consumption is significantly lower than other segments.

Since Cluster 4 has unique and significantly distinct characteristics than other clusters and it is considerably smaller in volume, it is chosen as the niche consumer segment for the service. In terms of demographics, this cluster is also different than other clusters in terms of gender composition. Here, females constitue the vast majority. The respondents here are mostly middle and higher income group vehicle owners, between the ages 25 and 35.

For segmentation, Cluster 1s from the three analyses are united as Segment 1; and Cluster 4, the niche group, is the Segment 2. Segment 4 differs from the other group in terms of lifestyle and holds very high scores regarding intention and perceived usefulness; therefore it is taken as one segment. Segment 1 includes 3 customer groups with similar demographics and the segments slightly differ in terms of purpose of use. However, it is better that they differ in their purposes because that enables the company to hold a heterogenous set of customers and be able to allocate the vehicles at different times of the day for different purposes. This difference between the clusters in Segment 1 creates a complementary effect among the user groups.

7.2. RECOMMENDATIONS FOR PROMOTIONAL PLAN DESIGN

There will be two separate promotional plan designs for two different target groups.

7.2.1. Segment 1 – Horizontal Collectivists & Active Achievers & Experiencers

7.2.1.a. Product

Car2go offers the same product for its customers. There is only one type of car in Car2go fleet, compact city car. In Europe, Smart and A-series vehicles are offered and in the US Smart and A-series vehicles are offered. In our analysis, there was only one cluster from values cluster analysis, which preferred a car type other than compact city car (small family car) and it was not significant therefore the group was directly eliminated. The other clusters from the analyses preferred compact city car, which is in-line with the type of vehicle Car2go offers. Therefore the product will not require any change regarding the type of vehicle for any segment including Segment 1.

7.2.1.b. Price

For pricing strategy, the majority of this segment prefers to pay a fee that is calculated by a combination of distance and time traveled. The scope of this research does not include the price calculation model at time being.

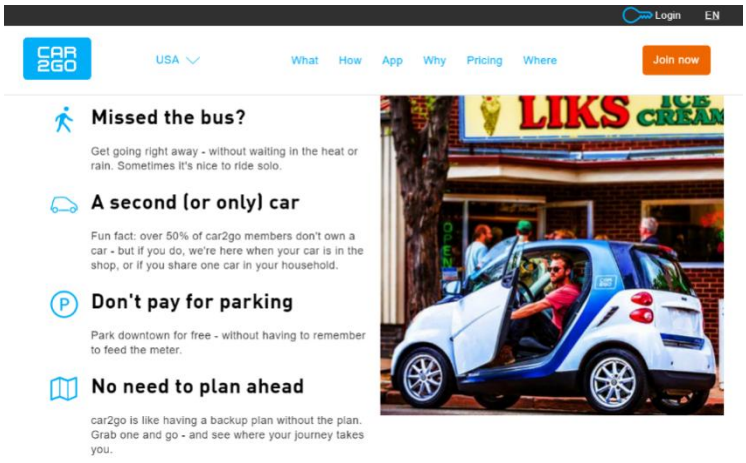
7.2.1.c. Place

The usage preferences of this segment are going out in evenings and as an alternative for public transportation. In accordance with their aims, the Car2to stations should be located near entertainment areas such as Kadiköy, Beşiktaş, Etiler, and Taksim.

7.2.1.d. Promotion

Promotion refers to activities done to introduce a product and its values to target customers, in order to persuade them to purchase the products (Kotler and Armstrong, 2014).

On the Car2go website, there is informative content on the service featuring branding and vehicle imagery together with users who reflect the target customer profile of the brand. For the market in Turkey, the most preferred purposes of use by Segment 1's groups (in the survey) are "While going out on weekends", "While traveling on a route that is not covered by public transportation system", "While going out in the evening", and "While returning home from work".



Therefore, in order to design appropriate communication materials for the Segment 1, these purposes of use should be addressed both on the brand website and on the Facebook page. The materials should feature people between the ages 18 – 35. Gender composition did not lead to any differences in Behavioral Intention or Perceived Usefulness within the Segment 1, thus the visual communication materials should feature both genders.

Another issue that probably arises from the high fuel costs in Turkey, the consumers in the Turkish market perceive the elimination of fuel/power costs as a more important factor than the elimination of parking costs. Therefore the communication materials should address fuel cost elimination instead of or together with parking cost elimination.

Segment 1 (includen former Cluster1s) should also be targeted as mentioned above. This group prefers to be communicated via email, outdoor billboards, and their social circle. It appears, Segment 2 (Cluster 4 and Segment 1 (Cluster 1s) do not differ by means of communication channels and therefore strategy to advertise via billboards proves right for this consumer group too. The proposed idea of the billboard design can be applied for this group too since it communicates the gist of the service, quick, cheap and entertaining personal transportation.

7.2.2. Segment 2 – Active Innovators

7.2.2.a. Product

For Segment 2, the same product as in Segment 1 can be offered since they too preferred the compact city car without knowing that Car2go offers this type only. The company does not have to differentiate the product for the two targeted segments.

7.2.2.b. Price

Segment 2 does not differentiate the pricing methods; therefore it would be more convenient and reasonable to adopt the same pricing strategy as that of Segment 1. This segment will too pay a fee that is calculated as a combination of distance and time traveled.

7.2.2.c. Place

Consumers in Segment 2 prefer to use the service while going back home from shopping, and traveling between work and home. Therefore, locating the Car2go stations in or near business centers such as Levent, Maslak, Zincirlikuyu, Gayrettepe, Maçka, Bostancı, and Kadıköy would be most logical. In addition, these locations are also public transportation hubs, and with that the company can cover the option of 'other transportation mode to reach a Car2go station'. The vast majority of the respondents indicated that they would be willing to use a public transportation vehicle to reach a Car2go station. However, for the viability and sustainability of the business the car should be returned to the central locations, therefore the company can offer a discount for the user who took the car and drove away from the central station. This would also contribute to the frequency of usage and increase the familiarity of the service for the user. This is one of the factors found to be positively effective in the inclination to use sharing services.

There is also the parking issue of the vehicles. Literature suggests that partnerships with local rental companies increase the growth of new car-sharing businesses. One of the rival of Car2go, DriveNow is a joint venture of BMW and Sixt. The merger they have enables DriveNow vehicles to be easily accessed and provides DriveNow a platform to make itself familiar with potential users. According to recent events, attempt to merge Car2go and DriveNow was rejected by Sixt and this put Car2go in an upleasant situation. Car2go now has to find a partner if it wants to stay in the market it enters. For our case, Car2go can still work with rental car companies; however Car2go can also work with İSPARK. İSPARK has an extensive network

and this enables potential users to access a Car2go vehicle quickly and easily. Furthermore, the aforementioned business centers have İSPARK parking spaces; and these parking spaces have charging units already set. This is also an important issue because setting up charging units is costly and having already set charging spaces would be very beneficial for the business.

7.2.2.d. Promotion

The most preferred purposes of use among consumers in the Segment 2 are "While returning home from shopping", "While traveling from home to work", "While returning home after work", and "While traveling from an airport to the city center".

The consumers in this segment are environmentally responsible people with higher Art Consumption, Physical Activity, Career Satisfaction, Stress Management, and Fashion Consumption scores than the consumers in other segments.

Since the consumers in this segment have distinct characteristics, and the segment is relatively small in terms population than other segments, it should be treated as a niche segment.

As in the other clusters, the customers in Active Innovators segment prefer to register via Car2go Smartphone Application. Compact city cars are the most preferred automobile segment among the consumers in this segment.

Active Innovators prefer to be informed by their social circles, through TV Ads, and Outdoor Billboards. However, the segment is niche, and TV Ads have high utilization rates when they reach to broad audiences. So, it will not be appropriate to include TV Ads in the promotional mix.

This group should be targeted for its significantly higher Perceived Usefulness score. The group resembles a representation of white-collar workers. These people aim to use Car2go for transportation from home to work, work to home, and market/shopping mall to home.

They prefer TV commercials, outdoor billboards, and their social circles to be communicated about the service. According to these results, the company can allocate its budget to outdoor billboards for a wider reach and the design could include holograms, resembling a passing Car2go vehicle, to attract the viewers. TV commercials could reach a wide crowd too, however, these people are clearly working (for having chosen purposes as ‘travel form home to work’ and ‘travel from work to home’, therefore catching them with expensive prime time advertisement may not be effective and efficient for the inchoate stages of the business.

Depending on the size of the customer base, the firm may choose adding TV Ads to the promotional mix in the future. Outdoor billboards in the areas that are crowded with working people can be utilized in order to reach the Active Innovators where they work.

In order to utilize word-of-mouth, the first-time user experience design should be effective as much as possible so that the first-time users disseminate information on Car2go to their social circles.

On the visual materials women should be featured more frequently as they constitute the majority of the segment.

The visual communication materials should feature 25-35 year-old working women

7.3. BUYER DECISION PROCESS SIMULATIONS FOR TARGET SEGMENTS

7.3.1. Segment 1: Active Achievers, Horizontal Collectivists, and Experiencers

7.3.1.a. Need Recognition

A consumer in this segment, is highly educated, sociable, and has an active lifestyle. He likes to spend his spare time socializing with close friends and family. He likes to go out on weekends and in evenings. But it is not practical to use public transportation since it is not available 24/7. It is known that young people are less inclined to own a vehicle as it is not practical to drive in crowded cities.

7.3.1.b. Information Search

Trying to find a way to return home after socializing in evenings is frustrating. This motivates our character to search for alternative solutions for his problem. There are several factors forcing him to search for an alternative. Public transportation is not available after midnight and taking a taxi after every social event is not affordable. Furthermore, young people do not always trust the taxi drivers' driving skills and the taxi's safety, therefore taxi is not a good transportation alternative.

7.3.1.c. Evaluation of Alternatives

One day, our character notices a Car2go ad on Facebook and clicks on it. As he reads the features of Car2go, he sees that the service is more convenient than public transportation and cheaper than taxi. Further, he learns about the ease of the registration process and the flexibility of the service.

7.3.1.d. Purchase Decision

After a birthday party, our character tries to find a taxi. However, it is late and he is away from the main street. At that moment, he recalls the Car2go ad he encountered

on Facebook. He downloads the application and registers to the service. Then he searches for the closest Car2go station to him and starts to walk there.

7.3.1.e. Postpurchase Behavior

On the next morning, he receives a personal message from Car2go. The message says that he can have a 15% discount in return for making one of her friends or family members join the Car2go community.

7.3.2. Segment 4: Active Innovators

7.3.2.a. Need Recognition

A consumer in this segment is environmentally responsible and perceives car ownership as disadvantageous. Furthermore she is active and spends a considerable amount of her income on fashion and culture. She values her career greatly and is sophisticated. She would like to go to work in a fashionable outfit, but if she drives her own car she will lose time in highly congested roads in Istanbul. On the other hand if she uses public transportation she may be exposed to bad weather conditions or may have unconfortable travels.

7.3.2.b. Information Search

The dilemma she has to face every morning, decreases her quality of life. This inconvenience forces her to search for a better solution. However, at least in Istanbul there is not such a transportation mode.

7.3.2.c. Evaluation of Alternatives

One day, she sees a Car2go ad on an outdoor billboard near her office in Maslak. At her shortest convenience, she searched for Car2go on a search engine and saw that Car2go has a flexible system. The users can pick up a vehicle from one of the many

stations of Car2go and return it to another one. The vehicles offered by Car2go are electric cars, and the cost of usage is not very different from public transportation. The only resource she needs to sign up to Car2go is a smartphone. Via the smartphone application one can register and pick up a vehicle from any station easily and quickly.

Compared with public transportation and prive car, Car2go is more comfortable and convenient.

7.3.2.d. Purchase Decision

When compared with public transportation, Car2go is much more comfortable and convenient. Elimination of buying, fuel, and parking costs makes Car2go more advantageous and attractive than private car ownership.

One day, while returning home from work, our character decides to give Car2go a try.

7.3.2.e. Postpurchase Behavior

After her first Car2go experience, she receives a message saying that if she returns the car to the station or a near one that first picked the car up, she will have a 15% discount.

7.3.3. Differences Between Simulations

The product does not differ for the two segments. For place, Car2go should have high accessibility to make itself viable and convenient for the users, therefore the company should plan to set up stations in all the aforementioned ares. The purpose of usage differs for the two segments, however this is advantageous for the company for the complementary relationship between the segments. This will increase the time a

vehicle is driven by customers since they will prefer to pick the car up on different times of a day. The promotion differs slightly for the segments. However, outdoor billboards have wider reach and they will be seen by all customer groups and if not seen by potential customer groups the billboard will increase its popularity among people as a subject of conversation. The messages however differ from each other for very different lifestyles of the segments. The advertisements should be desgined accordingly. Recommendations for ad messages and content is given in the recommendations section above.

8. CONCLUSIONS

This study contributes to literature by verifying some of the prior findings regarding car sharing and participation in car sharing programs. Further, this paper provides managerial recommendation for marketing activities regarding target market and promotional plan design. The general outline for car-sharing research studies are composed of effective factor identification. However, with this study, readers are provided with the factors and the information for how they can be used by marketers.

8.1. LIMITATIONS

For the sake of the business, more data could have been collected to better assess the characteristics and behaviors of the respondents. Futhermore, the majority of the data is collected from Istanbul citizens. However, diversity could have provided us with different results and insights.

8.2. FUTURE RESEARCH

It should be noted that the survey used for the study were filled by 124 respondents. The number could be higher to glean more information from different locations of Istanbul, and from other cities of Turkey.

The paper investigated several factor which were analyzed prior by other scholars. However, this research did not include one factor, materialism, which deserves attention. In addition, pricing was out of this study's scope; therefore this factor was not included in the survey and thus analysis. This factor is studied on by several scholars and we believe this factor requires further attention. We encourage future studies to examine the effects of materialism and price on participation in sharing programs.

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