

DOKUZ EYLÜL UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF BUSINESS ADMINISTRATION (ENGLISH)
BUSINESS ADMINISTRATION (ENGLISH) PROGRAM
MASTER’S THESIS

**COLLABORATIVE CONSUMPTION BASED SOCIAL
INNOVATION: ADOPTION OF CAR SHARING**

Yasemin ÜLKER

Supervisor
Assoc.Prof. Dr. Banu DEMİREL

İZMİR- 2018

MASTER THESIS/PROJECT
APPROVAL PAGE

University : Dokuz Eylül University
Graduate School : Graduate School of Social Sciences
Name and Surname : Yasemin Ülker
Title of Thesis : Collaborative Consumption Based Social Innovation: Adoption of Car Sharing
Defence Date : 26.07.2018
Supervisor : Assoc Prof.Dr. Banu DEMİREL

EXAMINING COMMITTEE MEMBERS

<u>Title, Name and Surname</u>	<u>University</u>	<u>Signature</u>
Assoc Prof.Dr. Banu DEMİREL	DOKUZ EYLUL UNIVERSITY	
Assist Prof.Dr. Sumeyra DUMAN	DOKUZ EYLUL UNIVERSITY	
Assoc Prof.Dr.Sinan NARDALI	IZMIR KATIP ÇELEBI UNIVERSITY	

Unanimity ☒
Majority of votes ()

The thesis titled as "**Collaborative Consumption Based Social Innovation: Adoption of Car Sharing**" prepared and presented by Yasemin Ülkeris accepted and approved.

Prof. Dr. Metin ARIKAN
Director

DECLARATION

I hereby declare that this master's thesis titled as "Collaborative Consumption Based Social Innovation: Adoption of Car Sharing" has been written by myself in accordance with the academic rules and ethical conduct. I also declare that all materials benefited in this thesis consist of the mentioned resources in the reference list. I verify all these with my honour.

Date

.././....

Yasemin ÜLKER

Signature

ABSTRACT

Master's Thesis

Collaborative Consumption Based Social Innovation: Adoption of Car Sharing

Yasemin ÜLKER

Dokuz Eylül University

Graduate School of Social Sciences

Department of Business Administration (English)

Business Administration (English) Program

Social innovation enhances more effective, efficient and sustainable solutions to social problems. Collaborative consumption, or in other words sharing economy, aims to reduce excessive consumption which damages the environment by accessing product or services that minimize the ownership level with a strong reliance on digital technologies. Therefore, some of collaborative consumption platforms can be conceptualized as a social innovation. This term has come to the fore with various platforms that have been established in recent years. Uber, Zipcar, Airbnb, Couchsurfing, Blablacar are just few examples where many other platforms are being developed to increase collaborative consumption. Considering the increasing effects of global warming and the depletion of the natural resources, the studies on collaborative consumption and social innovation gained importance. Hereby, the objective of this study is to identify the factors that are deemed to have an influence on social innovation adoption behavior on Uber at individual level. In order to identify the factors affecting social innovation adoption behavior, different theories have been used. A survey on university students in Istanbul is conducted. 423 usable questionnaires are analyzed with structural equation modeling. Findings reveal that perceived ease of use, perceived usefulness and perceived trust affect adoption behavior of Uber .

Keywords: Social Innovation, Collaborative Consumption, Sharing Economy, Adoption Behavior, Structural Equation Modelling

ÖZET

Yüksek Lisans Tezi

Ortak Tüketim Temelli Sosyal İnovasyon: Araç Paylaşımının Benimsenmesi

Yasemin ÜLKER

Dokuz Eylül Üniversitesi

Sosyal Bilimler Enstitüsü

İngilizce İşletme Anabilim Dalı

İngilizce İşletme Programı

Sosyal inovasyon, sosyal sorunlara daha etkili, verimli ve sürdürülebilir çözümler geliştirir. Ortak tüketim, ya da bir başka deyişle paylaşım ekonomisi dijital teknolojilere güçlü bir bağlılıkla sahip olma seviyesini en aza indirerek ürünlere ya da hizmetlere erişerek, çevreye zarar veren aşırı tüketimi azaltmayı amaçlamaktadır. Bu nedenle, bazı ortak tüketim platformları sosyal inovasyon olarak kavramsallaştırılabilir. Bu terim son yıllarda kurulan çeşitli platformlarla ön plana çıkmıştır. Uber, Zipcar, Airbnb, Couchsurfing, Blablacar, ortak tüketimi artırmak için başka birçok platformun geliştirildiği birkaç örnektir. Küresel ısınmanın artan etkileri ve doğal kaynakların tükenmesi göz önüne alındığında, ortak tüketim ve sosyal inovasyon üzerine çalışmalar önem kazanmaktadır. Bu noktadan hareketle, bu çalışmanın amacı, Uber üzerinde bireysel düzeyde sosyal inovasyonun benimsenme davranışı üzerinde etkili olduğu düşünülen faktörleri belirlemektir. Sosyal inovasyonun benimseme davranışını etkileyen faktörleri tanımlamak için farklı teoriler kullanılmıştır. İstanbul'daki üniversite öğrencileri ile anket çalışması gerçekleştirilmiş olup, 423 kullanılabılır anket, yapısal eşitlik modellemesi ile analiz edilmiştir. Bulgular, algılanan kullanım kolaylığının, algılanan yararlılığın ve algılanan güvenin Uber'in benimseme davranışını etkilediğini ortaya koymaktadır.

Anahtar Kelimeler: Sosyal İnovasyon, Ortak Tüketim, Paylaşım Ekonomisi, Benimseme Davranışı Teorileri, Yapısal Eşitlik Modeli

**COLLABORATIVE CONSUMPTION BASED SOCIAL INNOVATION:
ADOPTION OF UBER**

CONTENTS

APPROVAL PAGE	II
DECLARATION	III
ABSTRACT	IV
ÖZET	V
CONTENTS	VI
ABBREVIATIONS	X
LIST OF TABLES	XI
LIST OF FIGURES	XII
LIST OF APPENDICES	XIII
INTRODUCTION	1

CHAPTER ONE

COLLABORATIVE CONSUMPTION BASED SOCIAL INNOVATION

1.1. SOCIAL INNOVATION	4
1.1.1. The Concept of Social Innovation	4
1.1.2. Social Innovation as a Theoretical Category	8
1.1.2.1. Sociological perspective	9
1.1.2.2. Creativity perspective	10
1.1.2.3. Entrepreneurship Perspective	10
1.1.3. Features of Social Innovation	10
1.1.4. Key Dimensions of Social Innovation	12
1.1.5. The Process of Social Innovation	14
1.1.6. Areas of Usage	15

1.1.7. Types of Social Innovation within the Sustainable Consumption Framework	16
1.2. COLLABORATIVE CONSUMPTION	18
1.2.1. Types of Collaborative Consumption	20
1.2.2. Benefits of Collaborative Consumption	21
1.2.3. Principles of Collaborative Consumption	23
1.2.4. The Barriers of Collaborative Consumption	24
1.3. COLLABORATIVE CONSUMPTION PLATFORMS	25
1.3.1. Zumbara	25
1.3.2. Airbnb	25
1.3.3. Couchsurfing	26
1.4. CAR SHARING	26
1.4.1. The Advantages of Car sharing	28
1.4.2. Uber	29
1.4.2.1. Uber's Advantages	31
1.5. COLLABORATIVE CONSUMPTION BASED SOCIAL INNOVATION	32
1.6. STUDIES RELATED TO SOCIAL INNOVATION AND COLLABORATIVE CONSUMPTION ADOPTION	34

CHAPTER TWO

THEORIES OF ADOPTION BEHAVIOR

2.1. THE THEORY OF REASONED ACTION (TRA)	36
2.1.1. Attitude toward behavior	37
2.1.2. Subjective Norm	37
2.2. THE THEORY OF PLANNED BEHAVIOR (TPB)	38
2.2.1. Perceived behavioral control (PBC)	38
2.2.2. Subjective norms	40
2.2.3. Intention	40
2.3. THE THEORY OF TECHNOLOGY ACCEPTANCE MODEL (TAM)	41
2.3.1. Model Introduction	42
2.3.2. Model Validation	44

2.3.3. Model Extension	45
2.3.4. Model Elaboration	45
2.4. INNOVATION DIFFUSION THEORY	46
2.5. EXTENSION THEORY	50
2.6. VALUE BELIEF NORM THEORY (VBN)	50
2.7. CONSUMER BEHAVIOR THEORY (CBT)	52

CHAPTER THREE

METHODOLOGY AND FINDING

3.1. DESIGN OF THE STUDY	54
3.1.1. Objective of the study	54
3.1.2. Type of the study	54
3.2. MODEL OF THE STUDY	55
3.2.1. Variables of the Model	56
3.2.2. Hypotheses	58
3.3. METHODOLOGY	59
3.3.1. Questionnaire Design	59
3.3.2. Sampling	61
3.3.3. Data Analysis	62
3.3.3.1. Structural Equation Modelling (SEM)	62
3.3.3.1.1. Assumptions of Structural Equation Modeling	64
3.3.3.1.2. Structural Equation Modeling Steps	65
3.3.3.1.2.1. Model Specification	66
3.3.3.1.2.2. Model Identification	67
3.3.3.1.2.3. Model Estimation	68
3.3.3.1.3. Model Testing	69
3.3.3.1.3.1. Chi-square test statistic	70
3.3.3.1.3.2. Goodness of Fit Index (GFI)	70
3.3.3.1.3.3. Comparative Fit Index (CFI)	71
3.3.3.1.3.4. Root mean square error of approximation (RMSEA)	71
3.3.4. Limitation of the Study	72

3.4. FINDING	73
3.4.1. Reliability of the Scales	73
3.4.2. Demographics Characteristics of the Sample	73
3.4.3. Descriptive Statistics and Frequencies	75
3.4.4. Confirmatory Factor Analysis	78
3.4.5. Structural Equation Modeling Results	81
3.4.5.1. Chi-square Statistics	81
3.4.5.2. Model Fit Indices	82
CONCLUSION	94
REFERENCES	98
APPENDICES	

ABBREVIATIONS

AGFI	Adjusted Goodness of Fit Index
ATU	Attitude toward usage
AVE	Average Variance Extracted
BIA	Behavior Intention to adoption
CBT	Consumer Behavior Theory
CFA	Confirmatory Factor Analysis
CFI	Comperative Fit Index
GFI	Goodness of Fit Index
MAT	Materialism
ML	Maximum Likelihood
P2P	Peer to Peer
PBC	Perceived behavioral control
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
REP	Reputation
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modelling
TAM	Technology Acceptance Model
TEPSIE	The Theoretical, Empirical And Policy Foundations For Building Social Innovation In Europe
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
VCN	Value Belief Norm Theory
CR	Critical Ratio
CR	Composite Reliability

LIST OF TABLES

Table 1: Definitions of Social Innovation	p. 6
Table 2: Social Innovation's Participants, Target Group, The Objectives and the Field of Interest	p. 7
Table 3: Summary of five broad uses of the term social innovation	p.16
Table 4: The difference between TAM and TPB	p. 43
Table 5: A Paradigm of Variables Determining the Rate of Adoption of Innovation	p. 47
Table 6: Some Fit Indices	p. 70
Table 7: Evaluation of Some Goodness of Fit Criteria	p. 72
Table 8: Reliability Analysis	p. 73
Table 9: Descriptive Statistics of Gender	p. 73
Table 10: Descriptive Statistics of Education	p. 74
Table 11: Descriptive Statistics of Age	p. 74
Table 12: Descriptive Statistics of Uber Usage	p. 75
Table 13: Descriptive Statistics	p. 76
Table 14: Confirmatory Factor Analysis Results	p. 78
Table 15: Correlations and Descriptive Statistics of Construct	p. 80
Table 16: Correlations between each factors on CFA	p. 80
Table 17: Chi-square statistics	p. 81
Table 18: Fit Indices	p. 82
Table 19: SEM Results for Research Model	p. 83
Table 20: Hypothesis -Testing Result (SEM)	p. 91
Table 21: Mediation test results using bootstrapping bias-corrected procedure	p. 92

LIST OF FIGURES

Figure 1: Common Features of Social Innovation	p. 12
Figure 2: The Key Dimensionsof Social Innovation	p. 13
Figure 3: The process of social innovation	p. 15
Figure 4: Tomtom Traffic Index	p. 27
Figure 5: Cost Comparisons for Rental Cars, Taxis and Car Sharing	p. 29
Figure 6: The Theory of Reasoned Action	p. 37
Figure 7: The Theory of Planned Behavior (TPB)	p. 40
Figure 8: Chronological Process of TAM	p. 42
Figure 9: Technology Acceptance Model	p. 44
Figure 10: Technology Acceptance Model 2	p. 45
Figure 11: Stages of the Adoption Process	p. 50
Figure 12: Consumer Purchase Behavior	p. 52
Figure 13: Research Model	p. 56
Figure 14: Structural Equation Modeling Steps	p. 66
Figure 15: Path Coefficients of Trust	p. 85
Figure 16: Path Coefficients of Perceived Ease of Usefulness	p. 85
Figure 17: Path Coefficients of Materialism	p. 86
Figure 18: Path Coefficients of Perceived Usefulness	p. 86
Figure 19: Path Coefficients of Attitude toward Usage	p. 87
Figure 20: Path Coefficients of Behavioural Intention to Adoption	p. 87
Figure 21: Path Coefficients of Perceived Risk	p. 88
Figure 22: Path Coefficients of Reputation	p. 88
Figure 23: Path Coefficients of Perceived Behavioural Control	p. 89
Figure 24: Structural Model Results	p. 90

LIST OF APPENDICES

Appendix 1: Survey in English	app p.1
Appendix 2: Survey in Turkish	app p.5
Appendix 3: Unified Model of SEM Model on AMOS software	app p. 9



INTRODUCTION

The concept of social innovation has been popular in recent times, however it actually preserves its existence throughout human history. The word innovation is called nova, or innovatus which come from Latin. Innovation refers to change, it expresses something completely new or adding a new feature to the old one. Luecke (2003:3) defines the innovation as, innovation evokes something new or new in an environment. It refers to the introduction of new methods in social, cultural and administrative settings. The fact that the new one is directly related to the social, that is to say the society, reveals the concept of social innovation. In the 18th century, Benjamin Franklin talked about minor changes in social organizations, Max Weber examines the concept of hierarchy and innovation, and in the 20th century, Schumpeter constituted the basis of the concept of social innovation by working on structural change in organizations. Schumpeter is the first scientist who mention the concept of innovation in economic sense and he stated that "entrepreneurship is everything that brings profit and technological progress is the resultant outcome" (Satı, 2013: 4).

For the sake of the technological growth, production of information has been accelerated. It also causes to change consumer needs and social problems. Consequently, more innovation has begun to emerge, and it has become necessary to adapt to these innovations more quickly.

Social innovation (SI), which does not have a clear definition agreed upon in the literature, can be defined in the simplest way as a combination of new and effective ideas, products, systems, processes and collaborations against the social problems and transformations that society confronts. Decreasing unemployment rate, accelerating sustainable regional developments, ensuring justice in income distribution, avoiding environmental pollution and depletion of natural resources are examples of benefits to all segments of society of social innovation practices.

Some examples of social innovation practices that have been successful in the recent years and have reached a wide audience include: charter schools, community-

based planning, fair trade, international labor standards, microcredit, social responsibility investments (Phills, Deiglmeier, & Miller, 2008).

The increase in world population and consumption brings with it many problems that have not been faced before. One of the main points that many international institutions and countries are currently considering is that the development policies so far have not been sustainable and a comprehensive reform is needed. The concept of social innovation seen as one of the most effective tools at this point is becoming more and more important.

In 21st century of technological advances, a rapid increase in the use of social media, and need for approval and personal image have become the major drivers behind overconsumption which causes great harm to the environment, economy and quality of life. Collaborative consumption has emerged as a concept that claims to overcome these problems and supports sustainable consumption. Instead of owning or buying; sharing or accessing the product or service has become possible thanks to the idea of collaborative consumption.

Collaborative consumption, contributing to sustainable consumption, may also serve for social innovations that aim to develop and implement new products, services or models to solve the social problems. Saving the environment, avoiding the waste, preserving natural resources are the common objectives of collaborative consumption and social innovation. Although social innovation and collaborative consumption has common goals, it doesn't mean that all types of collaborative consumptions can be determined as social innovation.

In this study, Uber which operates a well-known ride-sharing service (Benoit et al., 2017) that is a collaborative consumption platform has been analysed. The platform enables individuals to share their car with others which gives opportunity to fulfilling the idle capacity.

Jaeger-Erben et al. (2015) have categorized social innovation practices within five types. These are as follows; do-it-together, strategic consumption, sharing communities, do-it-yourself and utility-enhancing consumption. Brief explanation about each type will be presented in chapter one. According to this classification,

Uber can be examined as a sharing community. This type of social innovation, mainly consisting of swapping and sharing practices such as carsharing and food sharing, it has a medium level of innovativeness, formality, and communality (Atrek & Ilter, 2017).

The literature review shows that there are only a few number of empirical studies conducted on the behavior of social innovation adoption (Demirel & Payne, 2018). However, considering the humanity and the future of the society, it is very important to identify the factors which are expected to influence the adoption behavior on social innovation. In this respect, it is expected that this study will make contribution to the literature. On the other hand, the relation between collaborative consumption and social innovation are not emphasized enough. As a result, this study sheds light on the relations of these two concepts.

This study consists of three chapters. In the first chapter, the concept of social innovation with its process, features, key dimensions and the usage of areas will be presented. The second main concept is collaborative consumption which includes its types, benefits, principles and barriers. Afterwards, it examines the collaborative consumption platforms which are used both in Turkey and the World. Uber will be explained briefly which is the focus area of this study. The chapter finishes with the relation between collaborative consumption and sharing economy.

In chapter two, approaches for implementing collaborative consumption based social innovation, the theories of adoption will be discussed. The research model is constructed by theory of reasoned action, theory of planned behavior, theory of acceptance model, the diffusion innovation theory, consumer behavior theory, value belief norm theory and extension theory.

In chapter three, the methodology and the findings will be presented. Confirmatory factor analysis and structural equation modeling are applied for data analysis. Finally, the conclusion of the study will be introduced.

CHAPTER ONE

COLLABORATIVE CONSUMPTION BASED SOCIAL INNOVATION

1.1. SOCIAL INNOVATION

Innovation research, which has been the subject of many researches for many years and mostly dealt within the technological context, has gained a different dimension in the first half of the twentieth century. Joseph Schumpeter, an Austrian economist and political scientist who initially used the concept of innovation outside the technological context, stated that innovation should also include the social area (Schumpeter, 1934). According to some scientists, this thought exists in the works of other scientists like Emile Durkheim, Benjamin Franklin, Max Weber.

Particularly in 1990, the "social" side of the innovation, which firstly expressed innovation in the technological sense, has also been taken into account (Mumford, 2002; Murray, Mulgan, & Caulier-Grice, 2008; Zapf, 1989, 1991). Day by day, the idea of social innovation, which attracts many people, including policy makers, is promising to solve problems that cannot be overcome by classical methods (Murray et al., 2008). The concept of innovation, which constitutes one of the most important dynamics of social development as well as economic development, involves the systematic development and application of social innovation ideas that will provide social change for the purpose of establishing infrastructure that will lay the groundwork for technological innovation according to some researchers.

1.1.1. The Concept of Social Innovation

Social innovation is "a novel solution to a social problem that is more effective, efficient, sustainable, or just than present solutions and for which the value created accrues primarily to society as a whole rather than private individuals (Phills & Deiglmeier, 2008: 36).

Social innovation, which should be designed to solve the problem in the long run while the effects of the social problem are minimized, can be considered as an instrument of strategic management (Erbil, 2017:330).

The concept of social innovation was used to examine organization and management as a dimension of innovative business strategies. It refers to change in order to increase competitiveness of the organization (Eren, 2010:21).

Halaç et al., (2014:184) mentioned that social innovations are directly affecting technological development by providing many changes in the field, such as education, health, traffic and so on. It also has affects indirectly increasing productivity by developing the workforce potential and skills. For this reason, social innovations are seen as one of the complementary and strengthening influences of technological innovation. Social innovations also contribute to the creation and sustainability of technological innovation ground with new methods for the development of human resources and organizations. Especially in developing countries, support for social innovation, support for new structuring, exemplary practices and projects will contribute to the achievement of social development and social change.

Pot and Vaas (2008:468), see social innovation as completing technological newness. Because social innovation includes not only product innovation but also modernization of industrial relations and human resource management as part of process innovation. The importance of social innovation has three main reasons.

1. Due to the increase in the elderly population, the productivity of workers needs to be increased in the near future in order to protect less labor, social security and welfare. Productivity; Depends on a harmony between "hard work", "more hours work" and "intelligent work".
2. The use and development of the talent and competence of the workforce potential is necessary to redound value added, which is part of a competitive and information-based economy.
3. Only technological innovations can benefit from technological innovations if they involve social innovation (making the organization fit for technology use,

dynamic management, training to improve employee qualifications, employee involvement, etc.).

Social innovation has various definitions. These definitions justify the distinctions of social innovation: includes many sectors; different than technological innovation; has an item and process measurement; has specific stages; has particular setting; is supported by values; prompts particular results which are a quantifiable enhancements on current exercise; changes public relations related to administration; and engages recipients by expanding their socio-political capacities and access to assets. (TEPSIE, 2012:42)

Micheline (2012:10) in the book of 'Social Innovation and New Business Models' and Agostini et al. (2017:388) stated in their article about various definition of social innovation from different authors.

Table 1: Definitions of Social Innovation

The Concept of Social Innovation	
Taylor (1970)	It looks for answers to social desires through access of a social development, and find a new methods to recent social association.
Cloutier (2003)	It has risen as another response to a negative social circumstance that searches for the thriving of people and/or groups through activity and maintainable change.
Rodrigues (2006)	It may purposely rise or may occur from a procedure of social change without earlier arranging; and can rise at three stages: social characters, associations and organizations.
Little (2006)	It is the utilization of social, ecological or manageability drivers to make better approaches for working, new items, administrations and forms and new market field.
Christensen et al. (2006)	It is the subset of problematic advancements whose essential goal is societal change.
Mulgan (2006,2007)	It is new thoughts in reaching social aims. Creative exercises and administrations that are roused by the social need objective and that are comprehensively created and far reaching through organizations whose center targets are social.

Bisgaard (2009)	New items, administrations, plans of action, forms, dispersion channels, and so forth. Can take care of worldwide problems identified with natural issues and social issues.
CII-ITC CESD (2010)	Supportable and comprehensive innovation include developments that enhance the business group, the clients, to nature and the system.
OECD (2010)	It copes with for expanding the thriving of people and groups through work, utilization or investment. The point is to discover answers for individual and social issues.
Bignetti (2011)	It is the after effect of learning connected to social desires. Attendance and joint effort of all partners, making new and enduring answers for social gatherings, groups and society as a rule.
Social Innovation Europe (2012)	It is a new thought, establishment, or method for working that address social issues more efficiently (from existing methods)
Centre For Social Innovation (2014)	It means creation, improvement, embracement and unification of new ideas and practices which deals with social, financial and environmental issues, and they have for all time adjusted the observations, practices and structures that already offered adapt to present circumstances. Social developments originate from people, gatherings or associations, and can occur in the division's revenue driven philanthropic and open area.
Crises (2014)	It is a procedure started by social characters to look for a chance to react to a want, discover an answer or change social connections, change a structure or propose new social introductions to enhance quality.

Source: Adapted from Micheline, (2012:10) & Agostini et al. (2017: 388)

Kazançoğlu et al. (2016:138-139) specified the social innovation's participants, target group, the objectives and the field of interest as indicated in table 2.

Table 2: Social Innovation's Participants, Target Group, The Objectives and the Field of Interest

	Detail of the Area	The Author
The Participants	A co-created process that results in the participation of the society.	Crozier and Friedberg (1993)
The Target Group	Targeting individuals and societies facing social and economic challenges.	Goldenberg (2004:1)
	The creation of value for the whole society rather than individual.	Hubert (2010: 7)
The Field of Interest	Presenting new services in areas where social problems can be observed, implementing new revenue generating activities.	Haugh (2005: 5)
	The rebuilding of existing resources (social capital, recorded legacy, customary craftsmanship, open propelled innovation)	Mulgan (2006: 8)
	It can be applied in many different areas related to the services provided by the government (such as the new model to public health systems), commercial markets (organic foods), social movements (fair trade), academic field (educational models in child care) and social entrepreneurship (micro credit etc.)	Fujisawa et. al. (2015: 2)
The Objectives	Improving economic and social performance.	Heiskala and Hämäläinen (2007: 59)
	Innovative and the implementation of previously unapplied	Phills et. al.(2008)
	An activity, item, process or program that profoundly changes the convictions of the social framework.	Cahill (2010: 259)

Source: Kazançoğlu &Dirsehan, 2016: 138-139

1.1.2. Social Innovation as a Theoretical Category

Social innovation has become the focus of many disciplines and this has led to the emergence of different perspectives.

Practices in the field of social innovation, are mostly seen in North America and Europe. While studying the use of commercial concepts in the civil society sector, mostly through civil society in the US, the transfer of innovative approaches developed in Europe to the public service is mostly through financial institutions and social enterprises. It is important for social innovation activities to evolve through the subject matter perspective, reflecting important differences in European countries and American society. Because civil society in the United States is the main actor in addressing unmet environmental and social needs, and the sector is funded more strongly when compared to Europe (Volynets, 2015:11).

Choi & Majumdar (2015) analyzed social innovation from sociological, creativity and entrepreneurship perspectives.

1.1.2.1. Sociological perspective

The sociological perspective of social innovation involves social structure and practices and the result of social change and development. It is associated. "Social change" naturally does not mean a positive social change in terms of the sociological perspective. Social change implies inclusion in an unattainable process in society, which is more socially "desirable or undesirable" than prosperity and the development of people's standards of life (Choi & Majumdar, 2015:9).

Another writer from the perspective of sociology Heiskala, discussed social innovation in a broader framework. The author assumes that there are multiple levels of social structure that limit the activities of the individual in society, (2) demographic structure, (3) technological structure, (4) economic structure, (5) regulatory structure, (6) normative structure and (7) cultural structure. The classes in the last three structures (cultural, normative, and regulatory) are more closely associated with the field of social innovation. In this framework, social innovation is defined as "the development of social and economic performance of the community, changes in the normative, regulatory and cultural structure of the society that enrich its resources". (Heiskala, 2007:59).

1.1.2.2. Creativity perspective

Social innovation includes issues such as new processes and procedures for the construction of new collaborations from a systematic feature, the development of new business areas or the redefinition of social practices of a group. Social innovation in this framework is a form of creativity that leads to the formation of new social interactions, new policies, new industries and organizations (Choi & Majumdar, 2015:12; McLean, 2005:227). The author exemplifies the flexible reorganization of business hours and the creation of the International Monetary Fund (IMF). According to the perspective of creativity research, social innovation is explained by examples such as library membership, establishment of police forces and standardization of university entrance examination (Mumford, 2002:257).

1.1.2.3. Entrepreneurship Perspective

The concept of "social" and "entrepreneurship" reflects a new perspective on social needs and problems by removing the barriers between the private and the third (civil society) sectors (Dees & Anderson, 2006:39). Historically, as an example of social entrepreneurship: It is currently implemented in many schools around the world and brings an innovative approach to early childhood education. Maria Montessori; more than seven billion earths to low-income and landless people in India Vinoba Bhave, the founder and leader of the Sovereign Donor Movement, who distributed the land; Mahatma Gandhi, the political and spiritual leader of the Indian and Indian Independence Movement; People like Martin Luther King, leader of the American Citizens' Rights Movement, are referred to as social innovators who lead creative ideas in human history (Cinar, 2012:1).

1.1.3. Features of Social Innovation

According to Koç (2010:211), the main features of social innovation are;

- Social innovations are durable and long-lasting.
- Social innovations can bring together a wide variety of elements of society under one roof.
- Social innovations require social entrepreneurs and initiatives.

- Social innovations have the power to influence large social segments in terms of their results.
- Social innovations require a long-term analysis of social problems.
- Social innovations, social awareness and support are needed.
- Social innovations require support from a number of infrastructure factors such as technology and media.

Michellini (2012:12) also examined the main characteristics of social innovation which are similar to Koç (2010:211)'s investigation. According to Michellini, the features are;

1. It has to produce a favourable social effect (boost the quality of life).
2. It is guided by both social and financial motivations.
3. It has to be original (innovative).
4. Can be cooperated by a various actor (business, government, NGO, private sectors, etc.).
5. It has to be expandable (scalable). (Scaling up refers by UNDP (2008), to raise the scope or access of an activity, program, project or enterprise to serve more people or to provide more or superior benefit.
6. It has to be continuous.
7. It can take various models.
8. It has to advance and develop the lives of the destitute.

TEPSIE (2012:23-24) also listed the features of social innovation as depicted in figure 1.

Figure 1: Common Features of Social Innovation

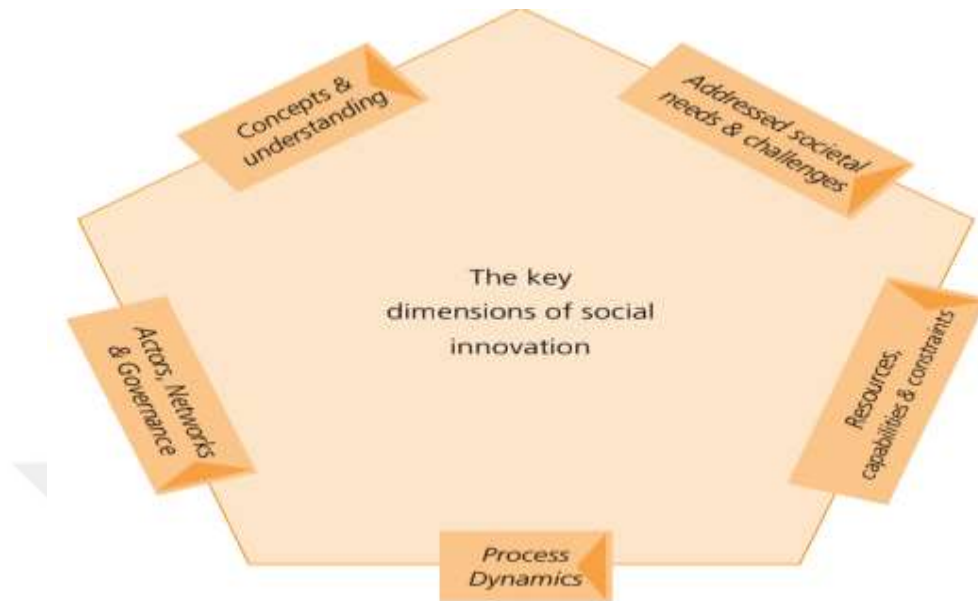
Common features	Description
a) Cross-sectoral	Occur at the interfaces between sectors and involve actors from across sectors
b) New social relationships and capabilities	Social innovations are developed 'with' and 'by' users and not delivered 'to' and 'for' them. They can be identified by the type of relationships they create with and between their beneficiaries
c) Open, collaborative and experimental	Production by the masses - large numbers of people working independently on collective projects without normal market structures and mechanisms
d) Prosumption and co-production	Blurred boundary between producers and consumers
e) Grass-roots, bottom-up	Distributed systems where innovation and initiative are dispersed to the periphery and connected by networks
f) Mutualism	Notion that individual and collective well-being is obtainable only by mutual dependence
g) Better use of assets and resources	Recognition, exploitation and coordination of latent social assets
h) Development of capabilities and assets	Participatory approach enabling beneficiaries to meet needs over the longer term

Source: TEPSIE, 2012:23-24

1.1.4. Key Dimensions of Social Innovation

Howaldt et al., (2014:32) stated the critical dimensions of social innovation which are listed in figure 2. These dimensions influence the potential of social innovation. Concept & understanding contains technology and innovation. Needs and changes, for social changes actors, NGOs and government, resources, regulations and empowerments and process dynamics are dimensions of social innovation.

Figure 2: The Key Dimensions of Social Innovation



Source: Howaldt, Butzin, Domanski and Kalepta (2014:32)

Correia, Oliveria & Gomez (2016:104) have investigated similar dimensions. According to them, social innovation represents five elements:

1. The direction to meet specific social requirements regionally experienced in a situation that is considered unacceptable or insufficient.
2. The existence of the social characters, establishments and associations in charge of social innovation performing cooperatively.
3. The steps of social innovation as actives of coordinated effort, partnership, and schooling for the characters.
4. Advantages or replies, which create social value, flexibility and social ability to fulfil the un-fulfilled necessities.
5. Inventive character for the unique circumstance, yet not restricted by it, which could as of now be utilized as a part of other social reality.

According to Erbil (2017: 311), social innovation contains five elements. These are as follows; a new idea, meet needs and solve problems, system conversion related to the problem, structuring social relationships and increase the quality of life.

1.1.5. The Process of Social Innovation

Murray, Caulier-Grice, & Mulgan (2010:12-13) have classified the six phases of social innovation.

- **Prompts, inspirations and diagnoses:** Firstly, which innovation is needed? To solve which problem or to enhance which issue? If it identifies the right question and the root of the problem, it will be the midway of the solution.
- **Proposals and ideas:** This stage is idea creation, brainstorming. It looks for which methods or design will be used.
- **Prototyping and pilots:** This step tests the idea that you generate at the second stage. Control is the primary purpose, in order to avoid possible mistakes.
- **Sustaining:** If the idea that is created needs practice every day, sustaining will be compulsory. It determines the revenue streams to ensure long-term monetary incessantness of the company.
- **Scaling and diffusion:** Simply, represent the growth, and this growth in this stage is faster than other stages. Thanks to the technology, more specifically, social media helps to diffuse the innovation quickly.

Communication is crucial at this step. Innovation that is created should have good name, identity, in order to attract attention by organizations, publics or government.

- **Systemic change:** This is the last aim of social innovation. It takes long time, because changing the system has many difficulties. These changes involve regulation, law, new technology, etc.

Figure 3: The process of social innovation



Source: Murray, Caulier-Grice, & Mulgan, 2010:12-13

1.1.6. Areas of Usage

According to Halaç, Eren & Bulut (2014:170), the usage areas of social innovation can be summed up as follows:

- The development of new systems through new products and services developed to solve social problems and meet current or emerging needs,
- Focusing on the needs that cannot be met by the market, unlike economic innovations,
- The development of new methods to increase the productivity of labor potential and skills (social capital development),
- After the generation of technological innovations, the society is organized in accordance with these innovations.

TEPSIE (2012:8) summarized the uses of social innovation as can be seen in figure 3.

Table 3: Summary of five broad uses of the term social innovation

Examples of literature topics	Examples of literature topics
Processes of social change and societal transformation	• Role of civil society in social change • Role of social economy and social entrepreneurs • Role of business in social change
Business strategy and organisational management	• Human, institutional and social capital • Organizational efficiency, leadership and competitiveness • Sustainability and effectiveness of non-profits
Social entrepreneurship	• Role of individuals in creating social ventures • Behaviors and attitudes related to enterprise • Businesses focused on social objectives with any surpluses re-invested.
New products, services and programmes	• Public sector innovation • Public service provision by social enterprise and civil society organisations
Governance and capacity building	• Interrelationships between actors and their skills, competencies, assets and social capital in developing programmes and strategies

Source: TEPSIE, 2012:8

1.1.7. Types of Social Innovation within the Sustainable Consumption Framework

Jaeger-Erben et al. (2015) have identified a typology of social innovations within the sustainable consumption framework based on innovativeness (degree of change), formality (alternative practices), commonality (forming groups), and personal engagement (necessity of self-organization) dimensions. Five types of social innovation for sustainable consumption are stated.

Do-It-Together: It consists of organizing production and consumption by the consumer. Ecovillages, gardening projects are some examples. Usually, members are required to contribute to their competencies and resources beyond satisfying their own needs. For this kind of sustainable consumption, social innovations are qualified by high-level communities, innovation, self-reliance and formality.

Strategic consumption: It aims to change the role of the consumer in consumption and to keep the consumer on the front. This is done by involving consumers in joint actions and by encouraging them to participate in savings campaigns. Consumer participation requires personal participation, but less global and shorter duration where the basic principle constitutes a community. For strategic consumption, social innovations are qualified by high-level communities and innovation but low formality.

Sharing Communities: Such initiatives usually try to prevent the negative effects of mass consumption and the inefficient consumption of goods. The internet and social media have been established to share goods and services and simplifying the formation of consumer communities. Collaboration is required to actualize such alternative consumption activities.

The level of formalism is medium because the relationship between consumers is generally lightly formed. The level of innovation is also moderate because the idea of sharing or bartering is not new.

Most of collaborative consumption activities can be examined as sharing communities. Uber which is the focus area of this research can be also examined within this type.

Do-It-Yourself: Such initiatives protest the negative effects of mass consumption and consumption because of the loss of essential competency. Repair cafes and sewing cafes can be given as an examples. The level of innovativeness is moderate, the level of self-engagement is high, and formality and communality are low.

Utility enhancing consumption: This sort of innovation contains situations where new or different goods and service applications are set up. They are presented as an alternative to established applications where resources and goods are not used efficiently, such as the disposal of currently used or rarely used devices. It contains reuse and upcycling practices. The level of personal engagement, innovativeness and communality are low, while high level of formality is required.

1.2. COLLABORATIVE CONSUMPTION

There are umpteen forms to explain the terms of collaborative consumption or sharing economy which are commonly used in the literature interchangeably. While sharing economy has wider area and covers the collaborative consumption, there is no consensus about whether they use interchangeably used or sharing economy is an umbrella term (Hamari et al., 2015). But the certain thing is that they both point the same aim which is access is more significant than ownership. Beside these, it is possible to see them with a different name such as: “peer economy”, “access based consumption”, “asset-light lifestyle”, “and gift economy”.

Collaborative consumption first came to the fore in 1978 by Felson & Spaeth. They explained the concept as “those events in which one or more persons consume economic goods or services in the process of engaging in joint activities with one or more others.” and the term has become popular when Botsman&Rogers publish their book which is named as “What’s Mine is Yours” in 2010.

Although the term has become popular in 21 century, the idea of sharing was not a new idea. People were borrowing stairs from their neighbors or renting the room for many years. The only difference is technology boost the sharing concept more quickly and easier. (Botsman & Rogers, 2010:60-80) Technological innovations help to diffuse of sharing economy and collaborative consumption beside this, economic crisis in 2013 in Italy, let people think more consciously about consumption, and people became more inclined to use. (Mortara & Roberti,2017:9)

Tosuner (2012:1-12) has also mentioned the history of sharing and bartering of good and services which have a deep rooted history. Exchange of secondary hand goods markets were available before the emergence of the Internet. However, with the emergence of the Internet, this process of change that has not reached many users and exists at local scale has begun to develop. The public network allows the way of shopping, also called personality, to reach far more people and to be realized on a global scale.

Like Botsman and Tosuner, Gümüş & Gegez (2017:170) also stated the growth of collaborative consumption is mainly related to technological

developments. In 21st century in consequence of the rapid development and widespread use of technology, the attitudes and intentions of the individuals towards consumption have gained momentum. One of the crucial elements that change the conception of consumption is the increasing awareness of the environment and the concerns of the individuals. It has been found that the environmental benefit factor in the majority of participants aged 18 - 34 is the most critical factor influencing consumers' attitudes and intentions in choosing collaborative consumption.

Ownership, access and sharing terms have described by many researchers, these terms are critical to comprehending 'collaborative consumption'. Snare (1972:200-206) mentioned that the individual has the right to use the object fully in the property. The person who acquires full ownership of the object, besides having certain freedom on the object, it also has responsibility for it. Botsman & Rogers (2010:101) also emphasized that access or sharing are more valuable than ownership, and it makes human more freedom. To fulfil the needs, there is no need to buy and own it. After technological innovations, access became more popular than ownership via social media. Botsman and Rogers (2010:60-80) stated that: collaborative consumption includes "Swapping, time banks, bartering, clothing swaps, toy sharing, cohousing, coworking, Couchsurfing, car sharing, crowdfunding, home sharing bike sharing."

Buczynski (2013:19) added the most essential feature of collaborative consumption is to maximize access, reducing waste minimally, and when people do so, it enables them to create a new value definition based on how much something or someone enriches human life, not money, which enriches both ourselves and others.

Gümüş &Gegez (2017:157) mentioned in their study, collaborative consumption is a technological, economic change while in literature there are different definitions of collaborative consumption as a niche trend, a developing current as a response to the economy or a socioeconomic explosion.

Participation to Collaborative Consumption has two ways. People can play a "peer provider" by giving property to share or borrow. The second way, play as a "peer user" using up the accessible commodity and service. (Botsman &Rogers, 2010:59)

1.2.1. Types of Collaborative Consumption

Botsman & Rogers (2010:65) has categorized the sharing types as follow.

1. **Product service systems (PSS):** In an attempt to use a service or product, buying or owning is needless. PSS includes car sharing, peer-to-peer renting, repairing services (which is broaden the product lifecycle).
2. **Redistribution markets:** It is based on exchange or swapping. Instead of putting the items in garbage exchange them with a useful thing items. A good example would be eBay, Zumba, etc.
3. **Collaborative lifestyles:** Sharing is not only covered goods and services. People can share also an intangible thing such as time, skills, hobbies, etc. In this sharing humans directly interact with each other. Airbnb, Couchsurfing, Hub Culture, Neighborhood Fruit are some of the examples of collaborative lifestyles.

Buczynski (2013:56-63) has summarized the types of sharing in three categories. Explaining the types of sharing will be quite to understand collaborative consumption.

1. **Peer-to-peer Sharing (P2P):** P2P is often used interchangeably with collaborative consumption. With the aim of satisfying desires of human, people share goods and services with each other. The most of sharing styles are categorized under P2P sharing, and most of them take part in communities. For example, the group of people who work at the same firm and live in the same area. Going to work alone rather than going together would be more expensive and less enjoyable, each day if one of the group members rides the car and take the others to work will solve the problem. Another example, if a person has a vast garden, and want to grow a plant, but not able to use all the area, the person can share the garden with neighbours who willing to get a harvest.
2. **Online P2P:** Face to face interaction is not compulsory due to peer to peer sharing. Many people interact and share with each other even from another

country. Relay rides is a good example for online P2P. It allows individuals to obtain autos from their neighbours. People can lease autos for an hour or a day. If the vehicle is available, clients can automatically get the automobile via a mobile application.

- 3. Sharing Companies and Business to Business (B2B) Sharing:** The main objective of the company is to make a profit. Furthermore to fight with the competitor and keep all the strategies of the firm as a secret. However, the sharing economy emphasized that by changing this perspective, it is more important to meet the needs of individuals and to find solutions to their problems than making a profit. Businesses started to think that two head will be better than one, this idea encourages them to make collaborations to create more innovative ideas or products. Keeping excess stock covers too much space in the warehouse. Some companies exchange the stock with each other, in this way both sides get profit and avoid wasting.

1.2.2. Benefits of Collaborative Consumption

Parties get a better deal by cutting any overheads of a middleman, most commonly a retail dealer which is called peer to peer transactions. Instead of owning, renting or acquiring enables to keep money and diminish carbon emission. Sharing properties, abilities and time with others open a new doors and relationships.

Botsman & Rogers(2010:60) has also stated the benefits of users in two aspects. Buying the product or service is not compulsory for the sake of usage, which will automatically abolish the responsibility of paying assurance or overhaul. The other benefit is paying for other things such as entertainment, travel, education, family etc. will be naturally expanded.

According to Buczynski (2013:39-54) collaborative consumption has various benefits.

1. Sharing Bolsters the Local Economy

1. a. Encourages Community Involvement: New business ideas can be established thanks to sharing. When the community or a group of people exist, the more successful outcome will occur, because they will be following the same goal. Such as Airbnb, Uber, Zipcar these are all successful sharing platform.

1. b. Encourages Self-sufficient Behavior and Accountability: When people feel belonging to any community, they feel more responsible. They feel more at ease while they take action and risk.

1. c. Encourages Innovation and Entrepreneurship: Sharing can be in many different ways not only the goods are sharable, moreover space, money, time is also possible to be shared. Thus, it encourages to create new ideas and start-ups.

1. d. Grants Access to Underserved Populations: Especially for intangible thing, it ensures transferring the skills to the others. It may redound a new hobby, friendship, and new opportunity.

2. Sharing Protects the Environment

2. a. Reduced Waste: The main objective of collaborative consumption is to prevent overconsumption. When the primary goal achieved, automatically waste will be reduced.

2. b. Reduced Energy Consumption: Car sharing platform such as Bla-Bla Car, two people want to go to the same direction. Instead of going with two different vehicles, using one car will reduce the fuel consumption, and also prevent traffic jam.

2. c. Encourages Investment in Smart Design: Consumers are inured to buy a product which will be not used after 2 years. This creates in people minds that they need to buy a new one after one or two years. For the purpose of eliminating this idea, sharing economy firms create new access to the product or service. They try to find what the consumer needs and how to access the needs.

3. Sharing Saves Money

Decreased Cost and Risk: Sharing economy reduces the cost which is a crystal-clear fact. Simple solution, if people share their houses with someone, all the expenses will be shared, too.

1.2.3. Principles of Collaborative Consumption

Four principles of collaborative consumption are described by Botsman & Rogers (2010:90-100).

1. **Critical Mass:** Defined as, to self-sustaining, existence of enough momentum in a system. Critical mass is essential for sharing economy with some reasons. The first reason is choice which is critical for the consumers. To buy something consumer goes shop to shop and spend time. Collaborative consumption has to have some choices in order to satisfy need and expectation of the customer. The second reason is social proof: the more people consume collaboratively, the more motivated others become. It reduces the risk. Especially in a collectivist culture such as in Turkey, people decide what to do according to what others do.
2. **Idling Capacity:** House, car, bike, clothes, etc. those are never used everyday-24 hours. Collaborative consumption takes the opportunity of this excess capacity and redistribute it. Beside those physical products, less tangible assets such as skills, time, utility (electricity) are related to idling capacity.
3. **Belief in the commons:** as the name of term supports this principle, to be collaborative there is a need for the group of people, and the group creates the common. The example of phone props up the idea. If the phone is used by only one person, it is meaningless. Because the phone has been invented for communication by more than one person. In conclusion, when the number of people who participate collaborative in consumption activities increase will encourage the others to participate, too.

4. **Trust between strangers:** Trust issue has been discussed by numerous scientists in plentiful topics. The five value dimensions of national culture which was found by Hofstede and has been accepted by the universe. Group attachment is the one of this value and described as a human being is social and needs to belong to a group. Trust is the one characteristic of group attachment. People have more tendency to trust their group members instead of outside the group. Sharing is needed connection, communication with others, especially with the one who have never met before. This makes the situation more suspicious and tough. Consequently, trust is one of the primary necessity for sharing.

1.2.4. The Barriers of Collaborative Consumption (Buczynski, 2013:21-39)

1. **Time:** Using new things needs time to learn and adapt. People think that there is not enough time and a lot to do. Actually, these are all excuses, just because people do not use the time effectively.
2. **Safety:** People are taking all the precautions to be safe, and people want everything to be under their control. For this reason people do not feel comfortable while they are staying at someone else's home or in a hotel. Therefore, sharing seems less safe than what people have been doing.
3. **Money:** There are many benefits of sharing, and money is the most valuable effect. Regardless of income, everyone can benefit from collaborative consumption.
4. **People:** In order to make sharing possible there has to be more than one person. More people allow more sharing, especially the one who live closer. For example, biggest city in Turkey which is Istanbul has the highest population, and the houses are very close to each other. Less distance means more communication and the more people communicate, the more sharing would occur.
5. **Trust:** The most problematic issue is the trust. Everyone needs safety, to feel safe, people need to trust. If someone tends to share the house, there is a risk that the person who is going to use the house may not leave it clean or the person who will come, will not be trustworthy.

1.3. COLLABORATIVE CONSUMPTION PLATFORMS

Day by day growth of sharing platform have been increasing tremendously. In this section, some of the major collaborative consumption platforms are going to be explained. According to Jaeger-Erben et al. (2015) social innovation for sustainable consumption types; Zumbara, Airbnb, Couchsurfing and Uber can be classified within the sharing communities which support the sharing economy practices.

1.3.1. Zumbara

Zumbara is a community where talents and experiences are shared rather than money. Zumbara is an abbreviation of "Time Cubes" and is an alternative economic system platform for users to get services for the hours they serve. As a result of 2 hours of service person give today, the others can get 2 hours of service from one person or one hour from other people. People can also wait until they get a service that they want to take advantage of.

1.3.2. Airbnb

Airbnb is a web marketplace and hospitality business, empowering individuals to rent or lease short-term lodging counting excursion rentals, flat rentals, homestays, and inn beds or lodging rooms. The company does not claim any lodging; it is just a broker and gets rate benefit expenses from both visitors and hosts with each booking.

Airbnb defines itself as "a reliable community commercial center for listing, finding, and distinguishing special places around the globe" and it demonstrates peer to peer forum within the sharing economy. The hosts announce their available rooms or flats with their price and propose to visitors on their Airbnb account. Airbnb earns from both guests and hosts for this service: charge the service fee 9% to 12% of the guests and 3% from the host for each provision. Although the platform established in 2008, it shows enormous growth. By 2015, the platform has two million hosts and fifty million visitors who utilize the service (Airbnb, 2015).

Airbnb's works with minimum administrative control in most places, and in conclusion both hosts and visitors have motivating forces to use signaling instruments to construct confidence and maximize the probability of effective booking. To strengthen this behavior, Airbnb has made an internet reputation system that permits members to assess and pass on their completed remain. Visitors utilize star evaluations to survey accommodation (e.g., accuracy, area, communication, entrance conditions). In the expansion, both visitors and hosts are empowered to distribute open comments for each stay (Zervas et al., 2017:689).

1.3.3. Couchsurfing

Couchsurfing is an online platform of hospitality chain or a network especially for travelers who host each other for couple of days without paying anything. The platform established in 2003 by Casey Fenton who is an American web developer. The project took the attention very fast and had a 3.5 million participants in the world by 2012. It is the largest platform for the exchange of hospitality. The website contains basically of members' profiles including personal portrayals, photos, and joins to companions within the network, together with references from past hosts and visitors, all of which offer assistance to set up a person's reputation and reliability inside the community (Molz, 2013:210).

Couchsurfing.org, coordinating free neighborliness exchange among travelers. Couchsurfing as other elective tourism activities, the platform has a particular mission statement which is “*create a better world, one couch at a time*” by promoting ‘essential connections’ between its participants (Couchsurfing, 2012).

1.4. CAR SHARING

Population growth has brought overconsumption, and overconsumption means putting the environment and the future of humanity in danger. One of the best ways to avoid excessive consumption is to increase sharing. One way to do this is to share vehicles. One of the most significant benefits of vehicle sharing is to reduce traffic jam. The countries with the highest traffic intensity are mentioned as indicated figure 4. As it can be seen, Istanbul is the 6th city with the highest traffic density.

Figure 4: TomtomTrafficIndex

WORLD RANK		CITY	CONGESTION LEVEL
1		<u>Mexico City</u>	66%
2		<u>Bangkok</u>	61%
3		<u>Jakarta</u> 	58%
4		<u>Chongqing</u>	52%
5		<u>Bucharest</u>	50%
6		<u>Istanbul</u>	49%
7		<u>Chengdu</u>	47%
8		<u>Rio de Janeiro</u> 	47%
9		<u>Tainan</u> 	46%
10		<u>Beijing</u>	46%

Source: www.tomtom.com(Date Accessed: 24.05.218)

Carsharing has various definitions in the literature and it has many types and platforms. The definition consist of different perspectives depend on the countries. In UK, while carsharing covers carpooling, in North America it does not.

Carsharing which is used via application and enables individuals to use the car collectively. Members should pay the fee to be a member. This fee may be refundable in some cases. The cars reserved earlier and the cost of usage determines usage time and mileage (City of Toronto, 2000).

Carsharing is a benefit that enables a person to connect to cars on an hourly premise. Individuals get the car online and drive to the closest stopping region, open the entryways with the electronic key card. They are charged at the end of the month according to their usage time. (Millard-Ball, 2005:1)

Shaheen & Cohen (2015) have found the carsharing trends in the world in the year from 2006 to 2014. According to them, after 2012 carsharing showed colossal growth.

The 'shared-use car' covers both carsharing and station vehicle programs. The station vehicle program is designed to facilitate transit access for people who use public transportation. (<http://tsrc.berkeley.edu/carsharing>)

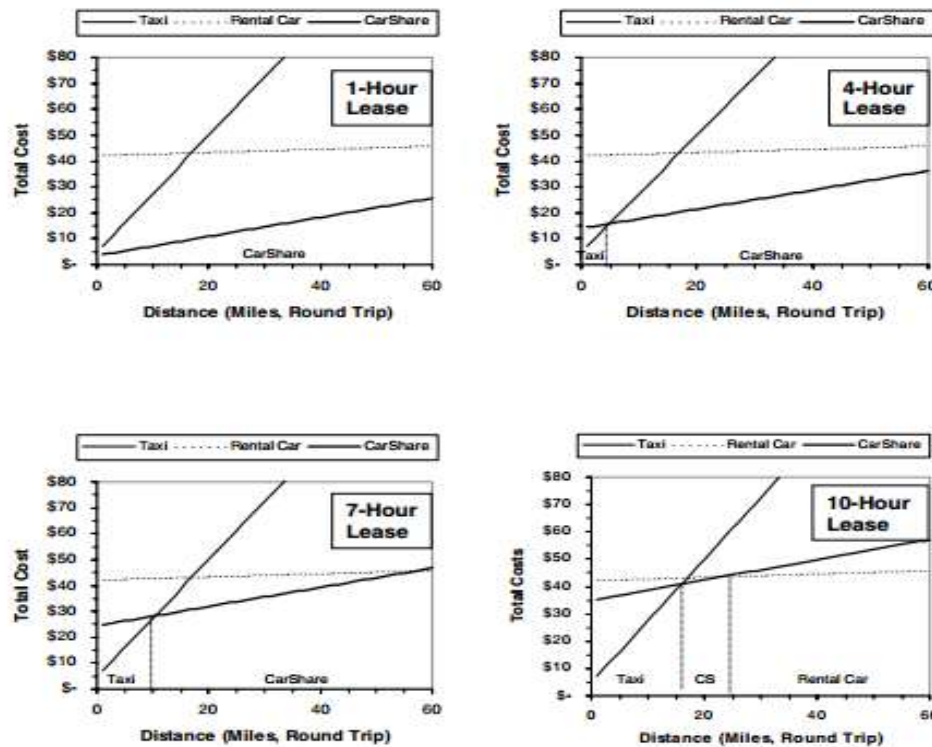
Shared-use vehicles liberalize individuals from the cost of ownership and offer private vehicle-use opportunities. Vehicle sharing platform members receive and leave vehicles from the stations. This process begins with the booking of the car and follows with having a personal card and key to enter the car. Members leave the car to the station after using. (<http://tsrc.berkeley.edu/carsharing>)

1.4.1. The Advantages of Carsharing

- The necessity of car trips, careful attention to the duration and distance will result in reduced vehicle use and ownership.
- More emphasis is placed on different modes, resulting in transit transport, cycling and walking.
- Less costly for both members and owners
- Less energy wasting and air pollution
- Less parking demand

Comparison to taxis, or rental cars, carsharing is more beneficial. This benefit includes the cost related to distance and time. When the usage hour and time increase, the cost of carsharing decreases in comparison to taxis and rentals. The details are indicated in figure 5.

Figure 5: Cost Comparisons for Rental Cars, Taxis and Carsharing



Source: Cervero & Tsai (2003)

Tosuner (2012:6) mentioned that carsharing examples like Zipcar, Streetcar, GoGet are available. The most popular among them is the Zipcar service called "Zipster", which has a card that can be booked at a certain time called "zip card". They can use the cards in various parts of the city and use them until the card is full. There are some examples like Mobilizm, Atlagit in Turkey.

Peer to peer Carsharing: Instead of a company, people rent their cars to each other. Whipcar, RelayRides, and Getaround are some examples.

Driving share: Provides vehicle sharing for people who are driving in the same direction or at the same time. It provides less consuming and saving money. Such as Blabla car.

1.4.2. Uber

About 170-180 years vehicles have been available in human life. Since 2009, software developed by Travis Kalanick and Garrett Camp to use human's travel

freedoms more comfortably, to save both time and money, allowing them to choose the people they want to travel with, choose their drivers, choose price and performance before they get a delivery service, and evaluate and rate the services they have already received from this service. UBER can create many service areas for itself in time; application, intelligent device, internet, transportation vehicle, driver and passengers (Yetim, 2015:623). Today, 60 countries and 330 cities are served through this application.

Having acted as an intermediary only in the passenger transport services in the first stage, Uber has expanded its service network to meet different needs in different brands when seen by people very soon. These are mainly transportation, cargo and logistics. Types of transportation from these services; "Uber", "UberTAXi", "UberX", "Uber XL", "Uber BLACK", "UberSUV", "UberLUX", "UberPOOL/ UberCOMMUTE". It is possible to count as "UberRUSH," "UberFRESH" and "UberEATS". With Uber applications, solutions have been produced according to the desired service type. Also, this software / application has the flexibility to produce solutions according to the new requirements and have the capability of serial motion.

Taxi drivers who want to work with this company and customers / passengers who want to get services are required to have some minimum standards. Above all, it is necessary to load Uber application on both sides of smart devices, to fill the age of 18, to share the minimum information required by the software with the company in the context of the company contract so that the system can work in a healthy way. This information is collected at the headquarters of the company and then analyzed in the system to compare the information of the customers who want to serve with the drivers, who want to serve in this sector and these information collected individually are put into valuable data and presented to the users together with feedback.

Customers can choose the brand and model of the vehicle they want to travel from their devices and determine the features of the car, the estimated arrival time, the price to pay, the driver's picture, the name, age, sex. Even if one of the parties wishes, the information of the traveling parties can be shared regarding security

simultaneously by directing the data of the service taken instantly, the information of the driver and the customer to another person whom the parties have previously determined automatically during the taking of this service. In such a service, there is no need to negotiate a separate bargaining between the parties, and it is even possible for the parties to address each other on behalf of the service, as they have information about each other on minimum terms.

Since the driver or customer can follow the route and the customer can request the map data of the GPS device used by the vehicle driver to be translated into his / her own language so that the users or tourists don't feel that they are foreigner. After the service has been completed, the driver and the customer evaluate each other, and they can score points about communication, coordination, cleaning of the vehicle, attitudes and behaviors of the parties, compliance to traffic rules. These scores are evaluated in the database for the drivers and customers, and these evaluations are then shared over the application to provide auto control in terms of transparency and quality. The results of these evaluations are automatically taken out of the system by the customer who falls below the standard determined by the company, and auto-control is provided to keep customer satisfaction at the highest level.

It has been seen that over the world it has grown in a concise time since the commercial development of Uber and similar companies has grown and this company is being used in 60 countries in 330 cities with the mobile application. With \$ 50 million, Uber has become the most significant electronic transportation company that serves and operates this area (Yetim, 2015:623-626).

1.4.2.1. Uber's Advantages

Through using this technology, online communication and interaction between the drivers and the customers has been provided; general conditions have been established to provide the safety, comfort, enhancement of the customer, removal of some economic concerns, taxi transportation services, and not only the city, country but also the world. In the service of passenger transport, the authority is given to the authorities in the organization, regulation, control and supervision of this

service, and when the legislative regulations on this subject are evaluated, it cannot be mentioned in familiar terms about a nationwide common regulation.

Besides, the customer is not left to the initiative of the driver, and both the company and the customer are able to control and monitor the service provided by the driver. It is possible for tourists to feel more confident because of the standards that this software brings to them, especially when it comes to travel in a country where tourists do not know the language and culture, high chances of being cheated, and demanding higher wages.

Since money exchanges do not take place between passengers in this system and the passengers and drivers will be less exposed to extortion. Again during this service, the restriction of the freedom of the people, the risk of exposure to sexual assault, will come to a minimum because the evidence of the crime is reached much sooner. It is much easier for passengers to reach the driver, and the customer, even if they forget their money or valuables in any vehicle, they travel.

Those who need flexible working hours will be able to work more than one job by arranging the time zone they want and will be able to provide additional income to their family. Using this system, the drivers will be able to provide services to their customers by responding to their requests without waiting for any downtime. Passengers at airports, railway stations and bus terminals will not have to leave large areas for taxi stops and will avoid traffic jam (Yetim, 2015:634-636).

1.5. COLLABORATIVE CONSUMPTION BASED SOCIAL INNOVATION

The primary aim of social innovation practices is innovatively solving the problems of societies. One of the aims of collaborative consumption or in other word sharing economy is the same. Collaborative consumption platforms aim to prevent excess consumption and support sustainable consumption. Excessive consumption consumes natural resources and causes serious damage to the environment. Environmental problems are society's problem and social innovation platforms' task is to give a solution. The solution that collaborative consumption platforms have suggested is sharing or using collaboratively. Although social innovation and

collaborative consumption has common goals, it does not mean that all types of collaborative consumptions can be determined as social innovation.

Atrek & Ilter (2017:38) have contributed that individuals are getting more aware of the importance of green, ecological and sustainable consumption. Sustainability is a model that combines ecological balance with economic growth, providing both efficient use of natural resources and emphasizing environmental quality as well as meeting today's needs without putting the needs of future generations at risk (Hayta, 2009). The green and organic food requirement are swelling. The process of social innovations supplies excellent advantages for sustainability. Sovacool & Hess (2017:725) have also added that sustainable development which includes the needs of future/present and precaution, governance and responsibility. It tries to answer the questions as indicated below.

- Does it harm habitat?
- Does it humiliate the regional association?
- Does it destruct the culture?
- Does it beneficial for the economy?
- Does it enable training or regional alignment?
- Does it boost benefit for a new generation?

Following through questions, environmental, cultural, economic, sociological, etc. are all the concern of social innovation and collaborative consumption. The platforms such as Uber, Airbnb, Zumbara, Zipcar, etc. aim to avoid wasting and through sharing it also enables people to socialize.

In the case of Uber which is the central research area of this study, reduces wasting and energy consumption, decreases cost and risk, help to avoid traffic jam. All these benefits are the interest of both collaborative consumption and social innovation practices. According to Jaeger-Erben et al. (2015)'s social innovation for sustainable consumption types, Uber is classified within sharing communities practices.

In the literature, there are numerous works related to these two concepts separately. But almost there is no study which covers two different concept together. Although existence of few studies, after explanation which has been discussed above paragraphs, it is right to conclude that these two concepts are directly related to each other.

1.6. STUDIES RELATED TO SOCIAL INNOVATION AND COLLABORATIVE CONSUMPTION ADOPTION

Collaborative consumption and social innovation adoption has been investigated by some researchers. Tussyadiah (2015) approached motivational factors for adoption of collaborative consumption in the travel and tourism industry. Demirel & Payne (2018) found out the factors which are perceived usefulness, perceived ease of use, need for approval and perceived enjoyment affecting adoption behavior of Zumbara. Dietrich et al. (2016) focused on a time-bank-based volunteer activity like Zumbara in their study. Hawapi et al. (2017) investigated the influence of perceived risk, reputation and Electronic Word-of Mouth on Milesians consumers' intention of collaborative consumption on Uber. Lang et al. (2018) identified the effects of personal characteristics on consumers' intention to connect collaborative consumption. Lorenzo-Romero et al. (2011) analysed extended TAM model to identify the factors which influence the adoption of social networking sites and found out perceived ease of use and perceived usefulness affect the adoption. Hamari et al. (2015) investigated the reasons behind the idea of participation in collaborative consumption. Satama (2014) revealed the drivers of consumer adoption on Airbnb, and found out effective performance, hedonic motivation and trust as an effective drivers. Efthymiou et al. (2013) revealed the factors affecting the adoption of vehicle sharing systems by young drivers. Ümarik et al. (2014) investigated social innovation adoption within a macro perspective and drivers (social gain, culture) of adoption of social innovation. Gümüş & Gegez (2017) found out attitude and intention of consumers about the collaborative consumption ownership, and they revealed that economical and psychological benefits are the effective drivers. Kiracı (2017) conducted a study based on drivers and motives of consumers' sharing behavior in his study. Similarly, Çabuk et al. (2015) conducted a study based on determining the

factors of sharing behaviors of consumers, benefit for sustainability, benefit of approval, age and gender are the effective factors.



CHAPTER TWO

THEORIES OF ADOPTION BEHAVIOR

This chapter will explain the main adoption behavior theories which are all collected from the literature. To create the research model theories are needed to describe briefly. The theory of reasoned action (TRA), the theory of planned behavior (TPB), the theory of acceptance model (TAM), innovation diffusion theory, extension theory, value belief norm theory and consumer behavior theory help to explain adoption behavior.

2.1. THE THEORY OF REASONED ACTION (TRA)

Researchers in social psychology, an interdisciplinary science focusing on the effects of social factors on behavior, have sought to establish a theoretical model that determines the relationship between attitudes and behavior. One of the most well-known models in this regard is the theory of reasoned action, developed by Fishbein & Ajzen (1975), which is a broad model in which social factors are involved as well as attitude-behavior relationship.

The theory of reasoned action, which follows driven ties from conviction, attitudes and intentions to real behavior (Ajzen, 1985:11).

TRA is planned to anticipate voluntary behaviors and assist individuals in getting it their psychological determinants. It depends on the presumption that human usually behaves in a sensible way; individuals consider existing information, and they take into account the implications of their actions directly or indirectly. Coherent with its focus on precautionary behavior, the theory states that the intention of an individual to act (or not to act) is the predictive factor of this action. Nonetheless, intentions are not constant, time can lead to changes in intentions. When the time interval increases, unpredictable events also increase the likelihood of changing intentions (Ajzen, 1985:12).

According to this theory, if an individual evaluates the behavior positively and if the social actors he / she attaches importance to, support his or her behavior,

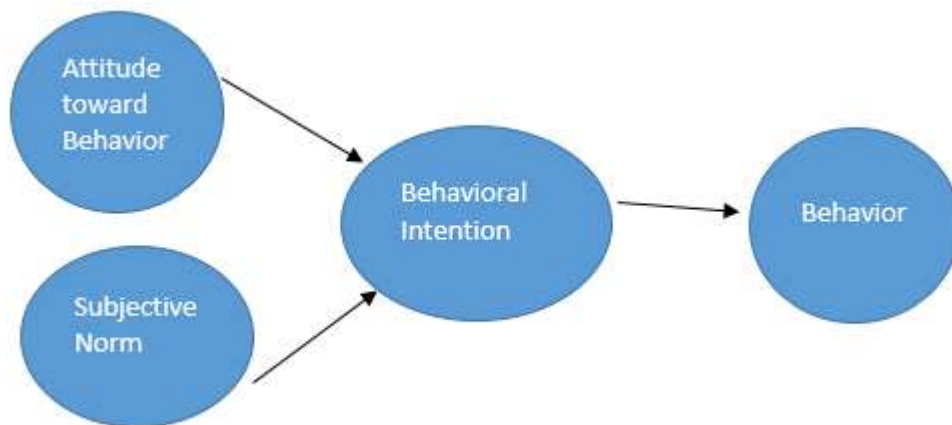
he / she will intend to achieve that behavior and intend to explain its behavior (Ajzen, 1985:12).

The TRA discloses the individual's behavior, not the individual's choice to adopt or deny a development. The intention to act in a specific way may be valuable as a portion of the individual variables of the decision making demonstrate to superior understanding and accept the adoption choice (Botha and Atkins, 2005:8).

2.1.1. Attitude toward behavior

Attitude towards behavior is defined as a personal factor and refers to positive or negative evaluations of individuals to perform any behavior. The attitude here is not the attitudes traditionally held for objects, people or institutions but the attitudes of the individual towards exhibiting a behavior. These attitudes are influenced by the beliefs about the outcome of the behavior. These beliefs are called behavioral beliefs (Ajzen, 1985:12).

Figure 6: The Theory of Reasoned Action



Source: Adapted from Fishbein & Ajzen, 1975

2.1.2. Subjective Norm

Subjective norms are defined as a social factor and express the social pressure or ease that the individual perceives to perform or not to perform any behavior.

Subjective norms are explained by normative expectations of personal references that is normative beliefs. Therefore, in this theory, behavior is explained mainly concerning beliefs of individuals. The beliefs that individuals possess in their own world provide information and behavior are ultimately shaped by this knowledge through various mechanisms. (Ajzen, 1985:12)

Subjective norms of a person are received from the social tension from bunches of individuals or other individuals that are vital in his/her life and wish him/her to behave in a particular way. (Ajzen, 1991:12)

Subjective norms reflect the seen idea of referent others. A "referent other" could be an individual or bunch whose convictions may be critical to the person. (Mathieson, 1991:176)

2.2. THE THEORY OF PLANNED BEHAVIOR (TPB)

TPB is the extended version of TRA. Although theory of reasoned action entirely was successful in considering idleness behavior, Ajzen added perceived behavior control variable to explain behavior and attitude and has developed the behavior area that the model can explain. It is a theory that attempts to explain the behaviors of an individuals who are not entirely under their own control.

Just as within the theory of reasoned action, a central factor within the TPB is the intention of the person to achieve a certain behavior. It is assumed that the aims have embraced the motivational factors that affect behavior; how much effort people are willing to show to achieve their behavior (Ajzen, 1991:181).

Human behavior is significantly affected by their confidence in their capacity to do them. (i.e., by perceived behavior control (PBC)). According to the TPB, perceived behavioral control, along with behavioral intention, can be utilized straightforwardly to foresee behavior (Ajzen, 1991:183).

2.2.1. Perceived behavioral control (PBC)

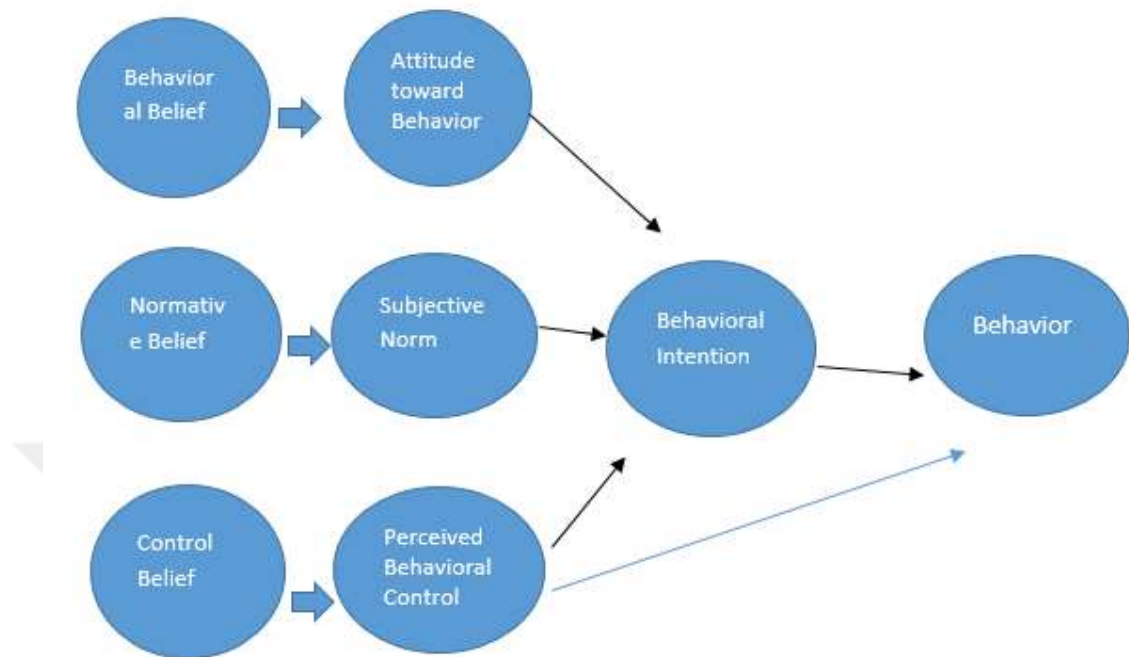
It refers to perceptions of an individual's ability to perform any behavior and whether or not the individual is in control.

In TPB, attitudes toward the behavior, subjective norms, and perceived control are often found to foresee behavioral intentions with a high accuracy rate. In contrast, these intentions, in integration with perceived behavioral control, can account for a significant change in behavior. (Ajzen, 1991:206)

The perceived behavioral control, which is added to the model later, represents the perception of the individual on the behavior, and is assumed to reflect the particular obstacles or facilities that the individual has in his past behavior. As seen in Figure 2, control beliefs, and factors in control beliefs can be explained by perceived behavioral control.

As can be seen in Figure 9, attitudes towards behavior, subjective norms, and perceived behavioral control are examined from the perspective of individuals. In this model, the intention is an intermediate variable between attitudes, subjective norms and perceived behavioral control and behavior. Perceived behavioral control both explains behavior through intention and behavior directly.

Figure 7: The Theory of Planned Behavior (TPB)



Source: Adapted from Ajzen, 1991:182

2.2.2. Subjective norms

Briefly reflect the socio-psychological assessment of individuals to achieve an attitude and refers to the social pressure that the individual feels about achieving or carrying out an action. In general, if an individual believes that he / she attaches importance and believes that the reference groups themselves are compatible with them, they feel a social pressure to perform this behavior (Fishbein & Ajzen, 1975; Ajzen 1985, 1991).

2.2.3. Intention

It is one of the most popular models of behavior mediated in attempting to explain behavior, the justified theory of action, and the planned behavior theory. In these theories, intention is considered as the closest predictor of behavior, and this agent has a link between behavior and other variables. As mentioned earlier, intention refers to the tendencies / plans of the individual to achieve or not to perform the related behavior. Ajzen (1991:181) defines intent as the level of desire that an

individual perceives to achieve an action and the intensity of the effort he intends to put forth.

Behavioral intention is a mediator between behaviour with attitude toward behaviour and subjective norms in the theory of reasoned action, whereas in planned behaviour theory is a mediating variable between behaviour with perceived behavioural control, subjective norms and attitude toward behaviour.

In the theory of planned behavior, personal as well as individual attitudes on intention are as influential as personal thoughts that others have on their individual expectations. That is, behavior also relates to the expectations of the people or groups that make up the social environment.

TPB is being used by many researchers in various study areas. Pavlou (2006:116) has stated that applying TPB based model in online consumer behavior is quite useful. Roos & Hahn (2017:6) has also mentioned that element of TPB cover the main principles to describe and forecast the behavior in collaborative consumption.

2.3. THE THEORY OF TECHNOLOGY ACCEPTANCE MODEL (TAM)

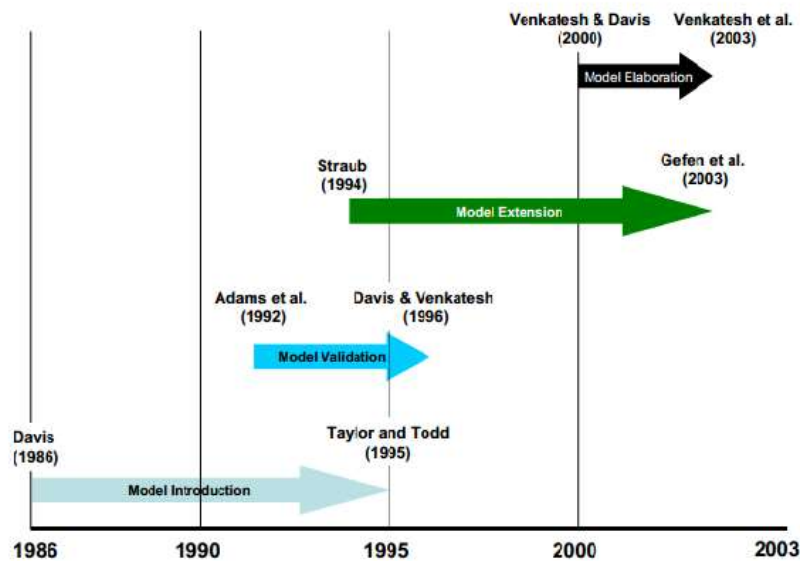
Technology Acceptance Model was developed by Fred D. Davis in 1986. TAM stands out as a compelling model. It has a robust theoretical infrastructure and the most widely used model with testability. The theoretical base of this model is based on the TRA (Fishbein & Ajzen, 1980) and TPB (Ajzen, 1985).

The purpose of TAM is to provide a broad explanation of the behavior of users and the theoretical factors for the determinants of computer acceptance explanation. TAM is widely used in technology studies (Davis et al., 1989:985-986).

A few considers based on the TAM have demonstrated that there is a straightforward and positive impact between attitude and intention to utilize and last use of a technology that a person chooses to embrace (Lorenzo-Romeo et al., 2011:172).

TAM has evolved through years and gone through several stages as depicted in figure 9. It was seen to be beneficial to classify the term of TAM within the four; introduction, validation, extension and elaboration period (Başgöze, 2010:24).

Figure 8: Chronological Process of TAM



Source: Lee, et al., 2003:755

2.3.1. Model Introduction

This period began with first modelling by Davis and others on 1989. According to TRA behavioral tendency is constituted by subjective norm and attitude. TAM added a new approach to TRA. Attitude is influenced by two beliefs (perceived usefulness and perceived ease of use). According to this model, the perceived usefulness and perceived ease of use affect the consumer's attitudes toward using a high-tech goods or service. These attitudes, behavioral tendencies and tendencies of consumers influence their real behavior (Davis, 1989:320).

Perceived usefulness is explained as *"the degree to which a person believes that using a particular system would enhance his or her job performance."* This takes

after from the explanation of the phrase “*useful*”: “*capable of being advantageously*” (Davis, 1989:320).

Perceived ease of use, on the contrary indicate to “*a degree to which a person believes that using a particular system would be free of effort.*” This takes after the explanation of “*ease*”: “*freedom from difficulty or effort*” (Davis, 1989:320).

Briefly, perceived usefulness is defined as the belief that one's business performance is enhanced by using information technology. On the other hand, perceived ease of use is defined as the belief that one is less likely to have difficulties to use information technology.

In addition to examining the initial creation of the model during the entry period, other models have been compared. Mathieson (1991:187) has stated the difference between TPB and TAM which is indicated in table 4. The comparison between TPB and TAM emphasize three different criteria. The first difference is predicted intention. Even though TAM clarified more variable than TPB, but there is no proof that one model is better than the other. Nonetheless, attitude towards using an information system can be described better by TAM. The second difference is while TBP carries more particular information, TAM delivers ubiquitous information about ‘ease of use’ and ‘usefulness’. While TAM is less costly, easy to apply and gets a quicker response. Because TAM has the standard instrument but TBP needs a pilot study to gather appropriate result (Mathieson, 1991:187). It is better to take into consideration that Mathieson found these result almost 20 years ago, and this comparison has done according to that period. For this reason, this analysis may not be valid for the current situation.

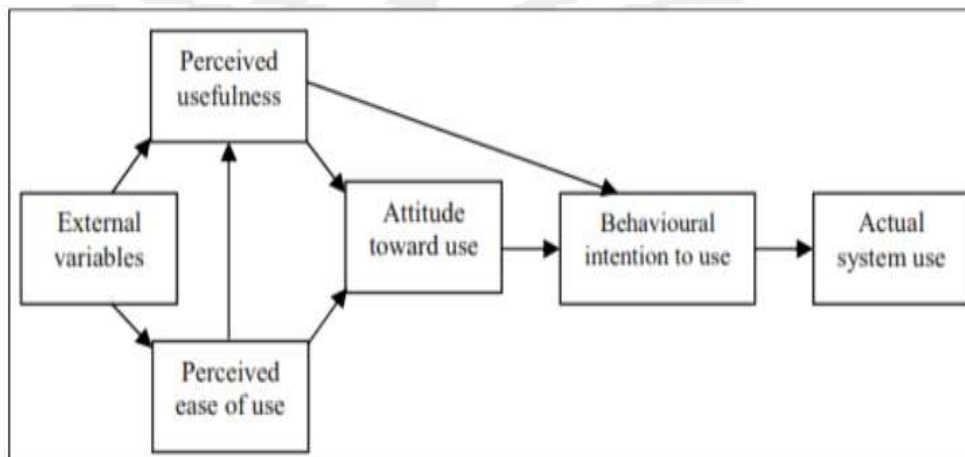
Table 4: The difference between TAM and TPB

Criteria	TAM	TPB
	Explain intention well	Explain intention well
	It uses more variance	It uses less variance

Predicting Intention	Explain “attitude towards using” much better	
Value of Information	Supplies general information and problem	Delivers more specific information and can focus on specific problem
The Cost of Using Model	Easier to use	More difficult
	Standard instrument	Needs pilot study to develop an instrument for each context

The Technology Acceptance Model has begun to be used in studies on different service areas where technology can be entered. Such as; education, e-commerce, health, social media (Basgoze, 2010:26-30).

Figure 9: Technology Acceptance Model



Source: Mathieson, 1991:175

2.3.2. Model Validation

This period includes the studies on the reliability and validity analysis of the TAM. Adams et al., (1992) first performed validity and reliability analyzes of the Technology Acceptance Model, which is introduced by Davis et al., (1989). As a result, the perceived usefulness and perceived ease of use scales are found valid and reliable. Besides these two variables, Davis (1989) proposes ‘effectiveness’ as a third variable.

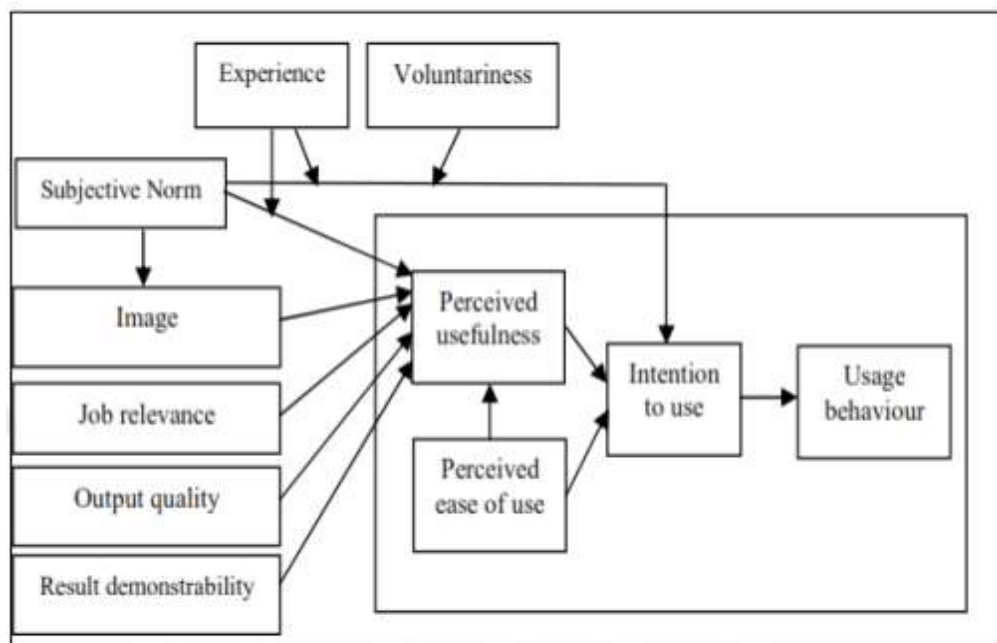
2.3.3. Model Extension

To diversify the structure of the model, different variables were added to the model, and the effects of these new variables on PU and PEOU were measured. Such as; knowledge, demographic, cultural and socioeconomic factors, psychology, experience. For example; an expanded TAM has been created, covering two sorts of inside structures (trust and perceived risk) to clarify factors that influence the consumer acceptance level of SNS. Their demonstrate shows that perceived ease of use and perceived usefulness of SNS have a coordinate effect on intention to utilize them and an unstraightforward effect the demeanour (Lorenzo-Romeo et al., 2011:182).

2.3.4. Model Elaboration

In this period, different versions of the model were created, the model was criticized, and studies were made to reduce the constraints. In this period, the model was developed with preserving its original state, and it was called Technology Acceptance Model 2 (TAM2).

Figure 10: Technology Acceptance Model 2



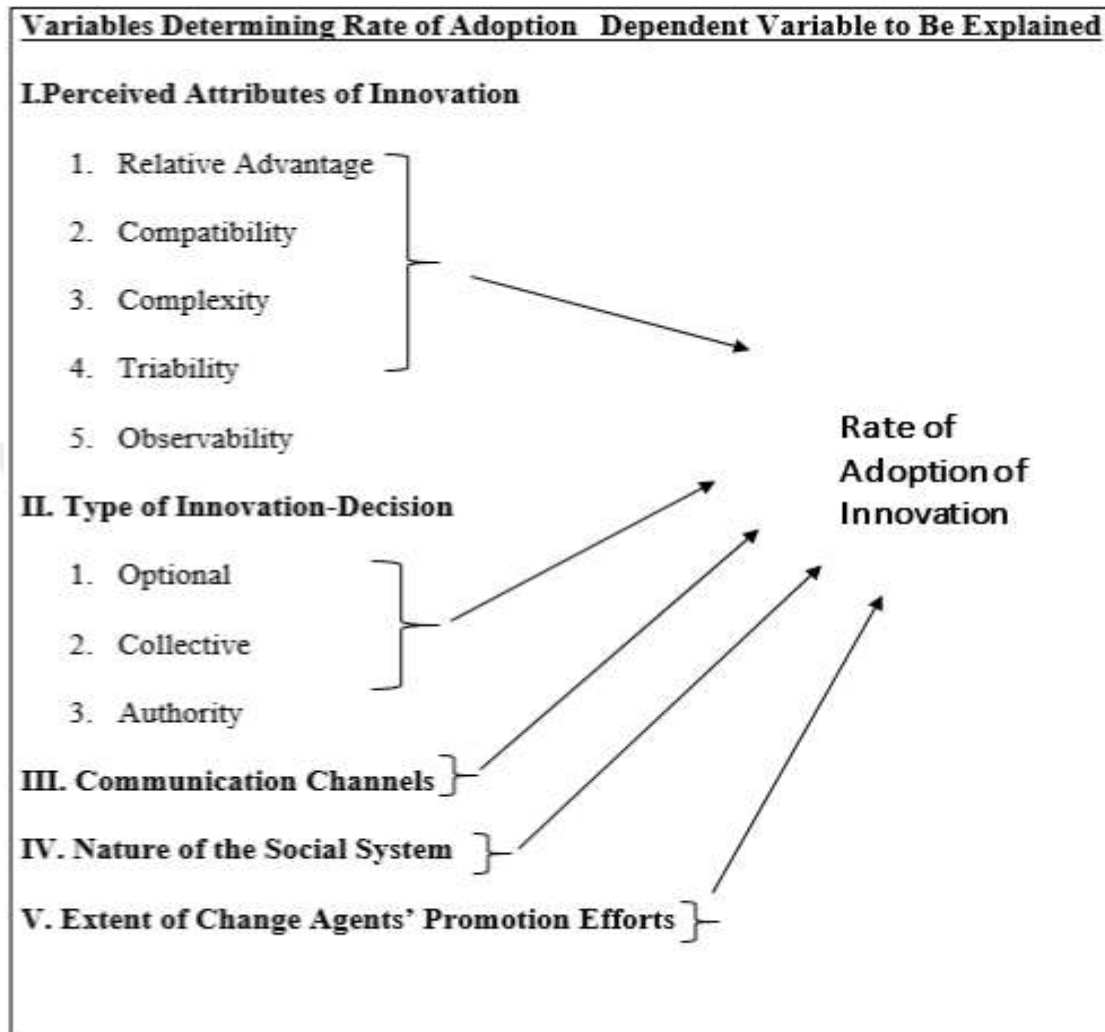
Source: Davis & Venkatesh, 2000:188

Image;is the level of perceiving an individual as increasing his or her status in social life by using an innovation (Moore & Benbasat, 1991:195). **Job relevance;** the degree to which the individual believes that the target system is appropriate for his job. **Output quality;** It is the degree to which an individual believes that he or she will do better with the system he uses (Venkatesh & Davis, 2000:191). **Results demonstrability;** It is the degree to which an individual believes that the consequences of using the system are hand-held and observable (Moore & Benbasat, 1991).

2.4. INNOVATION DIFFUSION THEORY

Rogers (1983:211) has studied characteristics of innovation and their rate of adoption. He stated that there are five different attributes of innovation. Each of them seems like they have similar meanings but at some point he or she is distinct, and these aspects are predictive of the degree of adoption. Those are the relative advantage, compatibility, complexity, trialability and observability.

Table 5: A Paradigm of Variables Determining the Rate of Adoption of Innovation



Source: Rogers, 1983:233

Relative Advantage is that it is perceived as better than the idea that innovation has taken its place. Relative advantage frequently considered with economic benefit and which has the most substantial effect on the degree of adoption (Rogers, 1983:213).

Compatibility: Existing values are perceived as an innovation that is coherent with experience and the desires of potential adopters. An innovation may be contradictory or compatible with socio-cultural values and beliefs (1) thoughts already set out, or (3) consumer needs for development (Rogers, 1983:223).

Complexity is the rate of innovation is seen as troublesome to understand and utilize. If the people in society see development as severe, the adoption rate of this development will be more gradually (Rogers, 1983:230).

Trialability is the rate of an innovation which may be tested with a restricted premise. An advancement that's testable gives the chance to diminish uncertainty to the person who is considering to grasp it by implies of learning and finding the innovation by utilizing it (Rogers, 1983:231).

Observability is the degree to which the consequence of development is apparent to others. Observability is one of the critical impacts for the people who have not yet confirmed to the advancement. For people, it is less demanding to see the outcome of the development of the ones who adjusted to the innovation before them. Mainly, it is craved to induce information related to the development from peers, relatives or companion who have already received it (Rogers, 1983:232).

To explain the adoption of an innovation, the characteristics of innovation should have explained precisely. After Meta-analysis of literature, Tornatzky & Klein (1982:30) have added five more characteristics of innovation to Rogers's findings.

- **Cost:** Cost has a negative impact on innovation adoption. When the cost of innovation is less, adoption will be more comfortable.
- **Communicability:** The extent to which perspectives of a development may be passed on to others (Rothman, 1974:441).
- **Divisibility:** The degree to which advancement can be attempted on a little scale earlier to adoption (Fliegel, Kivlin, and Sekhon, 1968:446).
- **Profitability:** It may not be appropriate for all innovation type such as some social innovation.
- **Social approval:** Mention to status attained in one's reference bunch, 'a non-money related perspective of reward'. (Fliegel, Kivlin, & Sekhon, 1968:445)

Arts et al., (2011:136) has also made a contribution to literature about attributes of innovation. He added three more attributes. These are; perceived uncertainty, adopter demographics and adopter psychographics.

Innovation attributes have a powerful but distinctive impact on adoption continuum steps: (Arts et al., 2011:135)

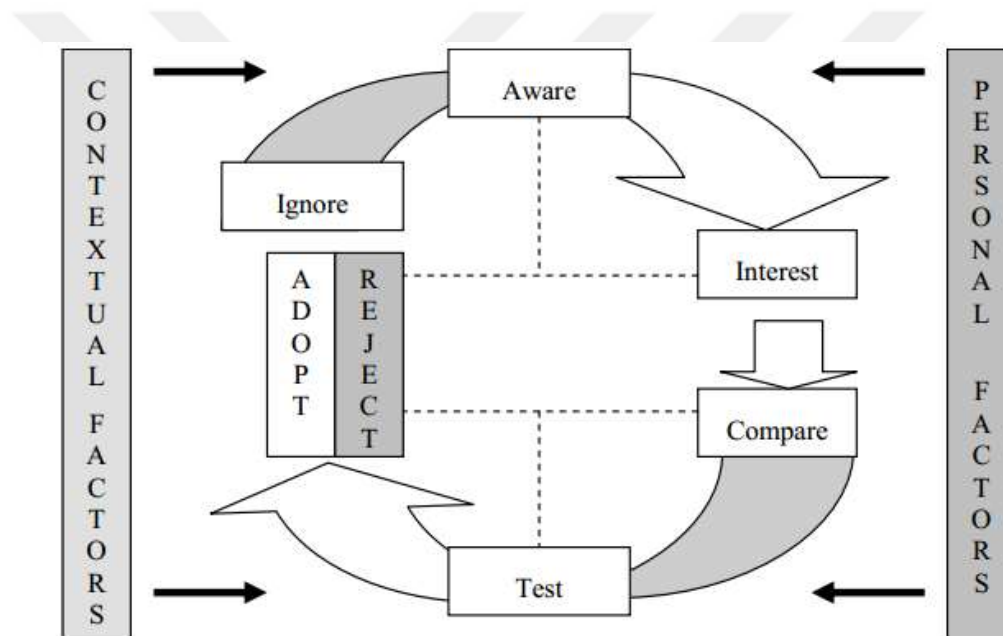
- With compatibility and relative advantage of behavior, both intention and behavior are influenced by benefits.
- Complexity impacts positively to intention, but negatively impacts adoption behavior.
- Perceived uncertainty extent to which the utilitarian, social, and/or budgetary results of obtaining and utilizing a development cannot be built up. Demonstrates more powerful impacts on intention compare to adoption behavior.
- Adopter demographics covers the factors of age, education and income and so on. Demonstrates inconsequential effect on innovation adoption.
- Adopter psychographics covers consumer's lifestyles, activities, opinions, etc. are discovered to be compelling factors of innovation adoption.

After reviewing the literature both the attribute of adopter and innovation have found main drivers of adoption. Arts et al., (2011:134-144) worked on adoption of consumer innovation in their study. The study summarized that while age factor had a negative effect on consumer innovation adoption, education, income, product involvement, innovativeness, opinion leadership, information seeking, media proneness had a positive effect.

2.5. EXTENSION THEORY

In every kind of work field, innovation is beneficial and need adoption process. The success of innovation related to the level of adoption (Botha & Atkins, 2005:2). Extension theory aims to understand how to bring information through innovation to a particular group of people thus group can adopt it. The difficulty is to set a proper channel for intercommunication (Röling, 1988 as cited in Botha & Atkins, 2005:2).

Figure 11: Stages of the Adoption Process



Source: Botha & Atkins, 2005:2

As it can be seen figure 14, extension theory provide new look and better understanding contextual elements of the process. Additionally affects decision – making of adoption through communication channel.

2.6. VALUE BELIEF NORM THEORY (VBN)

In the literature, value belief norm theory is not directly linked to collaborative consumption based social innovation adoption behavior theories; however, it aims to help environmentalist problems which is one of the goals of

social innovation. For this reason, it is better to mention about this theory additionally.

This theory is based on the Norm-Activation Theory (Schwartz, 1977) as a result of expanding to explain behaviors. According to the Value Belief Norm Theory, the emergence of environmentalist behavior depends on the activation of personal norms. Here, the elements explaining environmentalist behavior are organized into three groups as "values", "beliefs" and "norms".

The element at the top is "values". The VBN Theory Schwartz (1992, 1994) describes the values self-orientation, self-interest (towards other people) and biospheric (other biology and biosphere) value orientations from the value taxonomy. The values in the self-transcendence group are biospheric, and values in the self-expanding group are described as egoistic value orientations (Dervişoğlu et al., 2009: 51). In the dimension of beliefs, as mentioned earlier, is the New Environmental Paradigm. It is another essential dimension in personal norms. Besides all these elements, in theory, is summarized as follows.

Norm activation theory emphasizes that the awareness of events and consequences of behaviors is related to the "happiness of other people", which is the underlying object that is valued by subclasses. The value-belief-norm theory emphasizes the threats to whatever object is in the center of the values underlying the norms.

According to VBN Theory, values with fixed personality factors influence the perspective of the human-environment relation (new ecological paradigm). This affects the perception of the negative consequences of an environmental problem towards the valued object. The perception of perception of ability to reduce negative consequences, and the burden of responsibility in this respect, activate personal norms. Personal norms also reveal environmentalist behavior. In theory, it is accepted that each variable can directly affect the distant elements as well as the immediately following element (Dervişoğlu et al., 2009:51).

2.7. CONSUMER BEHAVIOR THEORY (CBT)

The consumer behavior theory addresses the wants of producers and users it as a beginning point to assess the pros and cons of an advancement.

CBT enables a system for deciding how developments can contribute to meet the wants of the adopter. The suspicion is that various decision forms have emerged to choose whether a development ought to be adopted. Besides, CBT gives criteria for characterizing the decision-making forms that emerge in certain situations and acknowledges that different people have embraced the same items for diverse needs (Botha & Atkins, 2005:9).

Figure 12: Consumer Purchase Behavior

	<i>High involvement purchase decision</i>	<i>Low involvement purchase decision</i>
<i>Decision making</i> More effort	Complex decision making (e.g. cars) • High motivation to search for information • High effort into learning and discovery • Evaluation both prior to and after purchase	Variety seeking (e.g. snack foods) • Low motivation to search for information • Some effort into learning and discovery • Evaluation after purchase
<i>Habit</i> Less effort	Brand loyalty (e.g. athletic shoes) • Less effort into learning and discovery as consumer already has a product they are satisfied with • Evaluation based on experience with the product	Inertia (e.g. laundry detergent) • No motivation to search for information • No effort put into learning and discovery • Evaluation after purchase

Source: Botha and Atkins, 2005:10

Involvement is related to risk. When individuals spend more time and money, the risk will be increased. It is clear to understand in figure 15 that when the product is expensive or has many options and each of them has distinct features it needs more attention and more time. Then it will be included in high involvement product category. It also means that decision-making process will be longer. On the other

hand, brand loyalty helps to spend less time to choose a product. Or fix product which has no distinct characteristics from another one. Such as salt, sugar.

The CBT has other valuable concepts for the selection decision-making demonstrate, i.e.

- There are various choice sorts and distinctive choice forms invoked in entirely different situations
- Different people buy the same item (receives the same advancement) to meet diverse needs.
- The concept of social and mental dangers and their impacts on selection to decide

In conclusion, all these theories support and explain the idea of collaborative consumption based social innovation concept. With the help of these theories, the model of the study has established, and the variables which will be analysed and showed in the last chapter have found through them. Although the variables have collected from all the theories which are explained above, most of the variables have taken from the theory of acceptance model, theory of planned behavior and innovation diffusion theory.

CHAPTER THREE

METHODOLOGY AND FINDING

The main goal of this study is to determine the factors which affect the adoption of Uber which is conceptualized as a collaborative consumption based social innovation.

3.1. DESIGN OF THE STUDY

3.1.1. Objective of the study

The literature review shows that there are only a few numbers of empirical studies conducted on the behavior of social innovation adoption (Demirel & Payne, 2018). However, considering the humanity and the future of the society, it is very important to identify the factors which are expected to influence the adoption behavior on social innovation. On the other hand, the relation between collaborative consumption and social innovation are not emphasized enough. As a result, this study also light up the relations of these two concepts.

There are also sub-objectives of this research;

- To investigate whether perceived usefulness, perceived ease of use, perceived trust, reputation and materialism affect the attitude toward usage.
- To determine whether perceived performance risk have any influence on perceived trust.
- To understand if attitude toward usage and perceived behaviour control have an influence on behavioral intention of adoption.
- To test whether attitude toward usage and perceived trust mediates the independent variables.
- To test the overall proposed model.

3.1.2. Type of the study

This thesis is designed as a quantitative study with a correlational survey research because dependent and independent variables are associated.

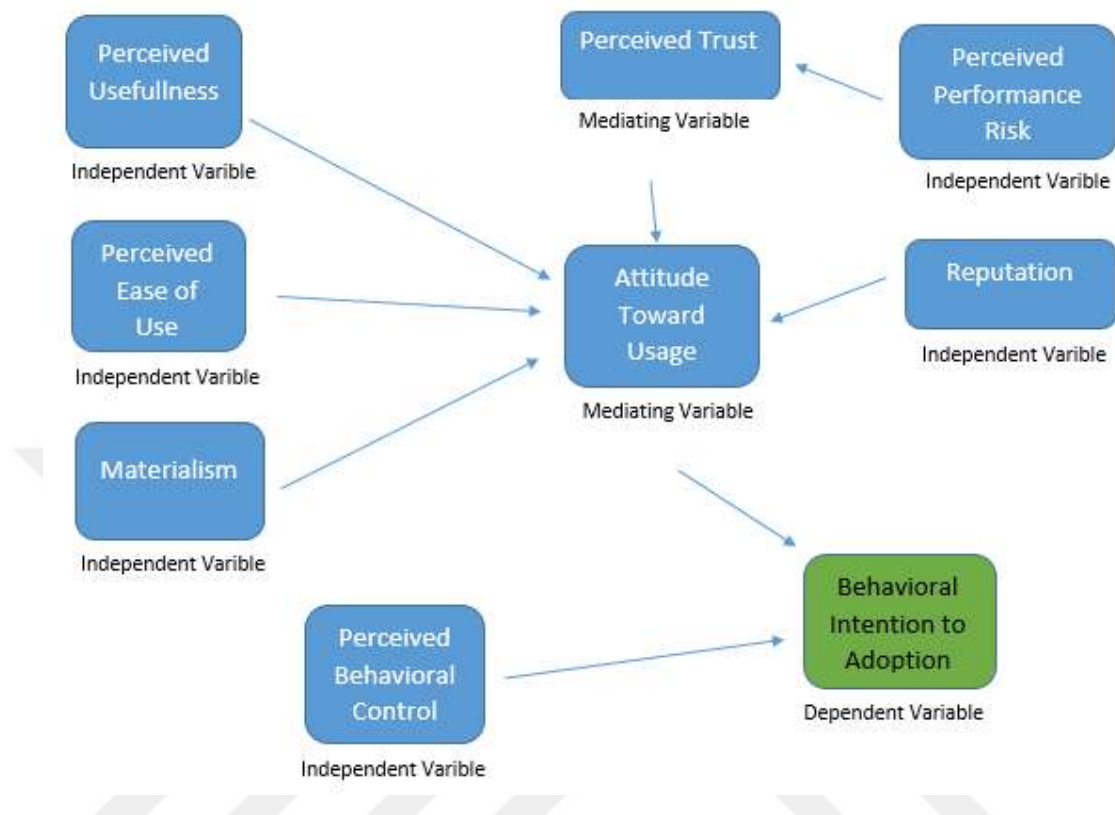
3.2. MODEL OF THE STUDY

The research model has been illustrated in figure 13. As the intention is an indicator of behavior, the dependent variable of the study is the behavioral intention to the adoption of Uber. Dependent variable is behavioral intention to adoption has been taken from the theory of reasoned action (Fisbein & Ajzen, 1975) and theory of planned behavior (Ajzen, 1991). Independent variables that are expected to affect intention of adoption behavior are explained as follows:

Perceived usefulness, perceived ease of use and attitude toward usage are taken from technology acceptance model which is constructed by Davis (1989). Perceived behavioral control is one of the independent variables in theory of planned behavior which is constructed by Ajzen (1991). Materialism (Richins, 2004), perceived trust (Hwang and Kim (2007), perceived performance risk and reputation (Hawapi et al., 2017) are other variables.

In addition, attitude toward usage is believed to mediate perceived usefulness, perceived ease of use, materialism, reputation and perceived trust via behavior intention to adoption, and perceived trust is believed to mediate the performance risk.

Figure 13: Research Model



Source: Adapted from Davis & Venkatesh (2000); Ajzen (1991); Venkatesh (2003); Taylor & Todd (1995); Hwang & Kim (2007); Richins (2004); Hawapi et al. (2017)

3.2.1. Variables of the Model

Independent Variables

Perceived Usefulness: This is one of the variables in technology acceptance model which is created by Davis (1989) and describe as people who believe using the system would increase their job or daily life performance. If using Uber, affect the person effectiveness, it would also affect their adoption to use the platform.

Perceived Ease of Use: Second variable of technology acceptance model which is created by Davis (1989), too and shows how easy to use the platform. Human being always prefers easiness and it is one of the main driver to affect their adoption.

Materialism: It shows the importance level of possession for people. People who chose collaborative consumption would prefer sharing instead of buying and owning. Materialism should affect adoption of Uber negatively. Because people who give importance to materialism are preferred to buy and own things.

Perceived Performance Risk: Human being would like to avoid risks. When the risk increase, adoption of Uber supposed to decrease. There is a negative relationship between them.

Reputation: It shows the popularity and how the things known well, it affects the perception of customer and their adoption.

Perceived Behavioural Control: It is one of the variables in theory of planned behaviour which is founded by Ajzen (1991). It refers to perceptions of an individual's ability to perform any behaviour and whether or not he or she is in control.

Mediating Variables

Attitude toward Usage: It is one of the variables in both theory of reasoned action which is founded by Fisbein & Ajzen (1975) and theory of planned behaviour which is constructed by Ajzen (1991). It is defined as a personal factor and refers to positive or negative evaluations of individuals to perform any behaviour. While it names in the theory as attitude toward behaviour, in this thesis it is modified as attitude toward usage. It is the most crucial factor which supposed to mediate five independent variables.

Perceived Trust: Trust has been using in many research which is one of the barriers to collaborative consumption and it has a positive relationship with adoption. Besides, it is mediating performance risk to attitude toward usage.

Dependent Variable

Behavioural Intention to Adoption: Intention is considered as the closest predictor of behaviour. It is the second variable in both theory of reasoned action which is founded by Fisbein & Ajzen (1975) and theory of planned behaviour which

is constructed by Ajzen (1991). It is also the variable in technology acceptance model and the scale which is used in this theory appropriate to this study.

3.2.2.Hypotheses

The hypotheses of the study which show the relations between variables are indicated as follows:

H₁: Perceived usefulness has a positive effect on attitude toward usage.

H_{1a}: Attitude toward usage mediates the positive relationship between perceived usefulness and behavior intention to adoption.

H₂: Perceived ease of use has a positive effect on attitude toward usage.

H_{2a}: Attitude toward usage mediates the positive relationship between perceived ease of use and behavior intention to adoption.

H₃: Materialism has a negative effect on attitude toward usage.

H_{3a}: Attitude toward usage mediates the negative relationship between materialism and behavior intention to adoption.

H₄: Perceived trust has a positive effect on attitude toward usage.

H_{4a}: Attitude toward usage mediates the positive relationship between perceived trust and behavior intention to adoption.

H₅: Reputation has a positive effect on attitude toward usage.

H_{5a}: Attitude toward usage mediates the positive relationship between reputation and behavior intention to adoption.

H₆: Perceived performance risk has a negative effect on perceived trust.

H_{6a}: Perceived trust mediates the positive relationship between attitude toward usage and perceived risk.

H₇: Attitude toward usage has a positive effect on behavioural intention of adoption.

H_8 : Perceived behavioural control has a positive effect on behavioural intention of adoption.

3.3. METHODOLOGY

3.3.1. Questionnaire Design

The questionnaire that is constructed for this study consists of three parts. The first part includes four demographics questions, such as, age, gender, university name, a university class, and the fifth question was designed to determine how many times the survey respondents used Uber.

In the second part, there is an explanation about Uber and how to use the application. Even though the announcement was made before the survey was distributed, the explanation has been added for those who cannot hear the announcement.

In the third part of the questionnaire is designed to test each variable. There are four statements which aim to discover perceived usefulness. The questions in this part adapted from technology acceptance model scale that is prepared by Davis (1989). In the survey, 4th, 5th, 6th, 7th questionnaires which are stated below, belongs to perceived usefulness. It is abbreviated as "PU".

- PU1: "Using Uber enables me to accomplish tasks more quickly".
- PU2: "Using Uber increases my daily performance".
- PU3: "I find it useful to use Uber".
- PU4: "Using UBER enables me to save time and use energy more efficiently".

There are three statements which aim to explore perceived ease of use. Questionnaires are adapted from technology acceptance model scale that is prepared by Davis (1989) and modified to Uber. In the survey, 1th, 2th, 3rd questionnaires which are stated below, belongs to perceived ease of use. It is abbreviated as "PEOU".

- PEOU1: “Application of Uber is clear and understandable”.
- PEOU2: “Using Uber application does not require a lot of mental effort.”
- PEOU3: “I find Uber easy to use”.

The scale for materialism is designed by Richins in 2004. In the survey, 24th, 25th, 26th questionnaires which are stated below, belongs to materialism. It is abbreviated as “MAT”.

- MAT1: “My life would be better if I owned certain things I don't have”.
- MAT2: “I'd be happier if I could afford to buy more things”.
- MAT3: “It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like”.

The questionnaires for perceived performance risk are constructed by Hawapi et al. (2017). In the survey, 19th, 20th, 21st questionnaires which are stated below, belongs to perceived performance risk. It is abbreviated as “PRISK”.

- PRISK1: “There is a high likelihood that the car I want will not be available when I want it”.
- PRISK2: “There is a high likelihood that the car I want will not arrive on time”.
- PRISK3: “I may have problems when riding in a stranger's car”.

The questionnaires for perceived trust are taken from Hwang and Kim (2007) and modified according to Uber. In the survey, 16th, 17th, 18th questionnaires which are stated below, belongs to the perceived trust. It is abbreviated as “TRUST”.

- TRUST1: “Uber probably knows how to provide excellent service”.
- TRUST2: “Promises made by Uber are likely to be reliable”.
- TRUST3: “I expect that Uber will keep promises it makes”.

The questionnaires for reputation are constructed by Hawapi et al. (2017) and modified to Uber. In the survey, 22th, 23rd questionnaires which are stated below, belongs to reputation. It is abbreviated as “REP”.

- REP1: “I have a better option than Uber”.
- REP2: “I have an experience where Uber rejected my request”.

The questionnaires for behavior intention of adoption are constructed by Venkatesh (2003) and adapted to Uber. In the survey, 10th, 11th, 12th questionnaires which are stated below, belongs to behavioural intention to adoption it is abbreviated as “BIA”.

- BIA1: “I intend to continue using Uber in the future”.
- BIA2: “I will always try to use Uber in my daily life”.
- BIA3: “I plan to continue to use Uber frequently”.

The questionnaires for perceived behavioral control are constructed by Taylor & Todd (1995) and modified to Uber. In the survey, 13th, 14th, 15th questionnaires which are stated below, belongs to perceived behavioural control. It is abbreviated as “PBC”.

- PBC1: “I have the knowledge to use Uber”.
- PBC2: “I have the ability to use Uber”.
- PBC3: “I would be able to use Uber”.

The questionnaires for attitude toward usage are constructed by Al-Jabri and Roztocki (2014) & Choi, Kim and Kim (2007) and modified to Uber. In the survey, 8th, 9th questionnaires which are stated below, belongs to attitude toward usage. It is abbreviated as “ATU”.

- ATU1: “I generally have a favourable attitude toward using the Uber”.
- ATU2: “I like the idea of using Uber”.

Except for first part, for all the question 5 point Likert scale anchored with 1= strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree.

In order to test the understandability of the questionnaires, a pilot study has applied for 10 people who are students and academicians. The final form of the questionnaire is prepared according to feedbacks which are collected from academicians and students.

3.3.2. Sampling

Convenience sampling technique which is a non-probabilistic method is used as a sampling technique. The target group is university students. The reason for choosing the students as a target is, new generation of the students are digital natives, internet is their part of life (Kennedy et al., 2008) and they expected to have more information about Uber which was launched in Istanbul only four years ago. As a state university, Istanbul University is chosen which has many students. In order to get a different perspectives Esenyurt University (private university) is chosen. 450 questionnaires in total were distributed to Istanbul University and Esenyurt University but 423 of them are used. The sample size for the study is 423. Although explanation about Uber exists on the first page of the questionnaire, brief explanations have been made orally to each respondent.

3.3.3. Data Analysis

The data collected from the respondents is analysed in statistical software program SPSS 17. Reliability test, sampling adequacy test and descriptive statistics are conducted on this program.

To test convergent and discriminant validity average variance extracted (AVE) and composite reliability (CR) are evaluated through confirmatory factor analysis (CFA). In order to see the relationship between the variables and to test the proposed model, structural equation modelling (SEM) is used via AMOS 21 software program. The following section gives a brief explanation about SEM model, its assumptions and steps.

3.3.3.1. Structural Equation Modelling (SEM)

Jöreskog and Sörbom (1982) stated that the concept of the structural equation model is used to specify the phenomenon in studies to investigate uncertain cause and effect relationships and various causal influences. Researchers tried to define SEM with the following statements (Demiralay, 2014:4).

SEM is a statistical method used by scientists working in social sciences, behavioural sciences and educational sciences as well as biologists, economists, marketing and medical researchers (Raykov and Marcoulides, 2006: 1).

SEM; can be defined as a class of seeking methods that represent hypotheses about the means, variances, and covariance's of the variables observed in terms of a small fraction of the structural parameters defined by the basic model of a hypothesis (Kaplan, 2000: 1).

Structural equation modeling is an efficient model testing and development method that can define the causal relationship of variables in integrated hypotheses related to statistical dependence models and enables the theoretical models to be analyzed as a whole. Researchers are able to determine the direct and indirect effects between variables in the model. SEM which is a multivariate statistical approach that models the interactions between theoretical constructs, errors and the relationships between measurement errors. The SEM is also defined as equality models or multivariate regression models (Schumacker & Lomax, 2004:186; Kline, 2011:6).

The aim of the SEM is to explain the system of dependent relationships simultaneously related to each other between hidden (latent, unobservable) structures measured by one or more manifest-observed variables. At the same time, determining the theoretical model to the extent that it corresponds to the sampling data, which is, estimating the relationships between the underlying models. If the theoretical model is appropriate, more complex theoretical models can be established and tested. If the theoretical model of the sample is not suitable, either the original model may be modified or other theoretical models may need to be developed. As a result, to better explain the complex relationships between SEM structures, it uses the hypothesis tests to test theoretical models using scientific methods. A number of fit indices have been developed since there is no single acceptable criterion for evaluating the appropriateness of the theoretical model obtained in the SEM (Schumacker & Lomax, 2004:195).

Structural equation modeling in complex analysis processes may be preferred over traditional statistical methods. SEM is different from some other widely known analyses with some aspects. While most of the multivariate analyses do not have the ability to find the value of the measurement error correctly, the SEM provides accurate estimates of these parameters. In the same way, while other methods used in data analysis are based solely on observed variables, it is possible to include both observed and latent variables in the analysis by using SEM (Byrne, 2010:9).

Many researchers consider the modeling of applied statistical discrete observations. Residual analyses show the difference (discrepancy) between the values observed for each element of the sample and the fitted values. For example, in multiple regression or ANOVA, estimates of the regression coefficient or error variance are obtained by minimizing the sum of the squares of the difference between the predicted and observed values for each observation of the dependent variable. In the same way, instead of minimizing the function of observed and estimated values in the structural equation model, the difference between the sample covariance and the covariance obtained from the theoretical model is reduced. Residues are obtained by subtracting the covariance matrix estimated from the sample covariance matrix. The basic hypothesis of structural equation modeling in this case is; "The observed covariance matrix of variables is a function of the set of parameters". Formulation of this basic hypothesis;

Regression analysis, simultaneous equality systems, confirmatory factor analysis, canonical correlation, panel data analysis, ANOVA, ANCOVA are special cases of this hypothesis (Bollen, 1989a:77). Both structural equation modeling and multiple regression analysis are used to test similar structural models, but structural equation modeling uses the measurement model to determine measurement errors. There is also an important difference between factor analysis models and structural equation modeling. While variables observed in factor analysis can be loaded on any factor or all factors, observed variables using SEM model, confirmatory factor analysis are loaded on hidden variables (Cangur, 2012 as cited in Doğan, 2015:10).

3.3.3.1.1. Assumptions of Structural Equation Modeling

SEM is a statistical approach used to measure models in which causal relationships between observed-observed, observed-hidden, and hidden-hidden variables coexist. SEM is a sequence of statistical methods that introduces a hypothesis testing approach to the multivariate analysis of structural theory related to a subject. This structural theory shows the causal processes observed on many variables (Raykov & Marcoulides, 2006:147).

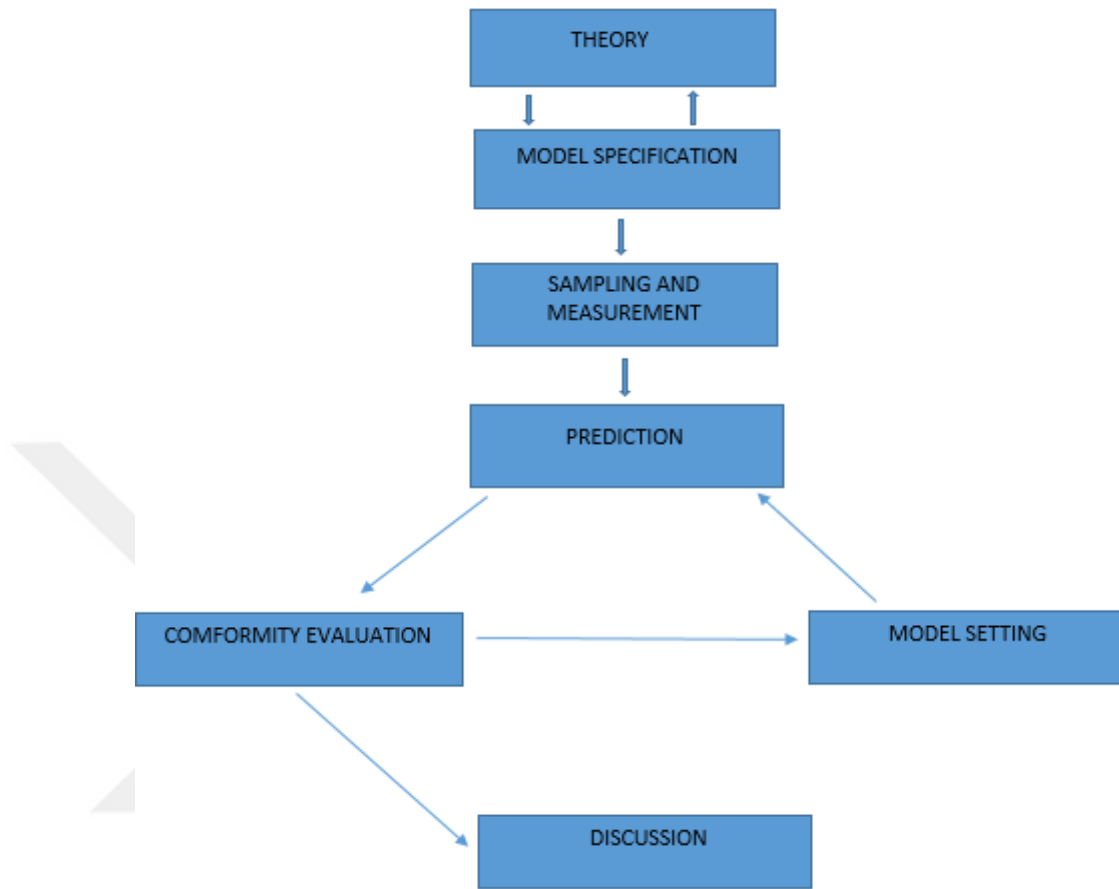
Bayram (2010:49) has stated the various assumption of structural equation modeling. But only one assumption, explained as follows, fits to the model of the study.

Observed variables have multivariate normal distribution: Violation of this hypothesis causes the value of the chi-square to increase and the result to be significant. This assumption is needed by the most likelihood (ML) estimator, which is used extensively in the structural equation modeling. In the case of violation of this hypothesis, instead of Pearson correlation, it is proposed to use tetracholic, polycholic correlations and as an estimation technique independent of distribution or weighted methods (Doğan, 2015:11).

3.3.3.1.2. Structural Equation Modeling Steps

The generalized approach of structural equation model is shown in figure 14. The process contains five steps. After identifying the theory, “model specified”, then sampling and measurement stage comes which is called as “model identification”. Third step is prediction which is named as “model estimation”. Fourth stage is “model testing” which evaluates conformity. The last stage is model setting and named as “model modification”.

Figure 14: Structural Equation Modeling Steps



Source: Kaplan, 2000:8)

3.3.3.1.2.1. Model Specification

This phase has a centralized importance on SEM approach. In order to make a prediction, the model needs to be specified. The modeling specification stages generally includes appropriate theoretical research, information and developed theoretical models (Arslan, 2011:19). Model specification is the process by which the verbal hypothesis to be studied is first defined by experimental diagrams or path diagrams according to previous experience and theoretical bases (Çerezci, 2010:21; Doğan, 2015:12). To use appropriate information, it is necessary to know which variables the theoretical model contains, which variables should not be included in

the model, and which variables are related. In modeling, the investigator deals with all the relations and parameters within the model (Arslan, 2011:19). The researcher should make logical explanations and model by taking into account previous work and theoretical knowledge (Schumacker & Lomax, 2004:62).

Structural Model Specification Steps

- Observed structural variables are added to the model (if any).
- Directional and non-directional relations between hidden and observed structural variables are determined.
- Structural errors are determined for endogenous variables.

3.3.3.1.2.2. Model Identification

Model description includes checking that model parameters cannot be derived from the sample covariance matrix (Çerezci, 2010:21). The purpose of the model description is to determine whether the sample covariance matrix and the applied theoretical model are unique in the parameter estimation of the social covariance matrix (Σ) (Schumacker & Lomax, 2004:64). That is, model identification is the stage in determining whether a single set of parameter estimates can be found.

Model Identification Steps (Brown, 2006: 71-72)

- Regardless of the complexity of the model (model factor, multi-factor, such as the size of the indicator set), scaling must be done by specifying indicator signs or by fixing factor variances (fixation should usually be for 1.0 value).
- Without considering of the complexity of the model, the number of information particles in the input matrix (variance covariance indices) has to be equal or greater than the estimated number of independent model parameters (factor loadings, factor variances / covariance, display error variances / covariance).
- In the case of one-factor models, the minimum of three is required.

When three indicators are used, the one-factor solution is just- identified and no goodness of fit assessment can be used. Nevertheless, the model can still be evaluated in terms of interpretable terms and parameter estimation power.

- In cases where two or more factors require two indicators for model and latent structure, the solution will be over- identified.

Each latent variable is associated with at least one other variable, and provides the relationship of the errors between the indicators. However, such solutions are empirically sensitive for over-identification, for each latent variable with a minimum of three indicators are being recommended.

3.3.3.1.2.3. Model Estimation

It is expected that the basic hypothesis in the SEM is that the observed variables are equal to the covariance matrix ($\Sigma(\theta)$) including the population covariance matrix (Σ) and the model parameters (Bollen, 1989a:104).

The goal in the estimation process is to find the difference (fit) function that minimizes the difference between the sample covariance matrix and the covariance matrix ($\Sigma(\theta)$) obtained from the model (Bollen, 1989a:105). There are different estimation methods and different functions according to the different distributional assumptions of the variables in the model (Raykov & Marcoulides, 2006:29).

The general process of Parameter estimation and model fit assessment (Grace, 2006:122);

- 1) Hypothesis model describe general expectations for the observed covariance matrix.
- 2) When obtained parameter is combined with the model structure, estimates the observed matrix.
- 3) Implicit model covariance determined by parameter estimates in the combination matrix.
- 4) For the comparative model of the determined and observed matrix, allows the evaluation of compliance.

The most commonly used parameter estimation techniques in the structural equation model are given below (Bollen, 1989a:107-113; Raykov & Marcoulides, 2006:30, Mulaik, 2009:156).

Maximum Likelihood (ML)

Maximum likelihood method is the most widely used method in SEM. This method was developed by the famous British statistician Fisher in the 1920s. The ML method is based on maximizing the "L" likelihood function for the θ parameter vector (Bollen, 1989a:107 & Şen, 2013:16).

ML estimates can be biased at small sample sizes. But in general, ML estimates are asymptotically unbiased, consistent, and least variant. In addition, if the standard error of the predicted parameter is known, the ML estimates approximate the standard normal distribution for the excess sample sizes, the ratio of the standard error to the estimated parameter (Bollen, 1989a:108).

Since the ML estimation method is developed under the assumption of multivariate normality, violation of this hypothesis in practice may cause ML method to be insufficient. Deviation from normality can affect chi-square statistics of the maximum likelihood test, parameter standard errors and parameter estimates (Cangur, 2012 as cited in Doğan, 2015:16).

3.3.3.1.3. Model Testing

At this stage, the model's fit to the proposed model is determined. In other words, at this stage, the answer is searched for the question "how compatible is the theoretical (suggested, established) model sample data" (Schumacker & Lomax, 2004:69). In order to understand model compatibility, the value of fit indices have been evaluated.

Fit Indices Used in Evaluating Model Fit in SEM (Hu & Bentler, 1995:83-85);

- **Absolute:** Evaluates how good the tested model regenerates the sample data again.

- **Incremental:** It is used to compare the basic model briefly with the tested one.
- **Parsimonious:** Models with fewer free parameters (or more degrees of freedom) are selected in the compared models.

Table 6: Some Fit Indices

Fit Indices		
Absolute	Incremental	Parsimonious
Chi-square test statistic	Comparative Fit Index (CFI)	Root mean square error of approximation (RMSEA)
Goodness of Fit Index (GFI)		

Some fit indices which fit this study and which are highly preferred will be explained. These are; chi-square test statistic, goodness of fit index (GFI), comparative fit index (CFI), root mean square error of approximation (RMSEA).

3.3.3.1.3.1. Chi-square test statistic

Although there is no consensus on an index to assess the goodness of fit of a model for general compliance, the chi-square test statistic is the most basic fit index which is used to calculate statistical baselines and most fit indices from the test of goodness of fit which analyse the model fit. Conceptually, this fit index is a function of the difference between the observed covariance matrix and the model covariance matrix and the function of sample size (Doğan, 2015:21).

The chi-square test statistic is influenced by the sample size and it increases as the sample size increases (Kline, 2011:200). Because chi-square test statistic is sensitive to the sample size, it leads to the development of various fit indices (Weng & Cheng, 1997:121).

3.3.3.1.3.2. Goodness of Fit Index (GFI)

GFI is the fit index developed by Jöreskog and Sörbom (1984) as an alternative to the chi-square test statistics. GFI is an index of the amount of variance

and covariance that is explained by the proposed model. For this reason, it can be thought of as a R^2 in regression (Raykov & Marcoulides, 2006:43).

The GFI value ranges from 0 to 1, and the closer the GFI value is to 1, the better the fit. Values above 0.90 indicate acceptable fit and values above 0.95 indicate good fit (Raykov & Marcoulides, 2006:43; Byrne, 2010:96; Erkorkmaz et al., 2013:214). As the sample size increases, GFI value also increases. This may prevent accurate results (Byrne, 2010:96).

3.3.3.1.3.3. Comparative Fit Index (CFI)

The index developed by Bentler (1990) is based on comparing the proposed model with the basic model, assuming there is no relationship between variables (Raykov & Marcoulides, 2006:97).

CFI takes values between 0 and 1. Higher the CFI values, better the fit. If this index is greater than 0.97, it is a good fit. If it is greater than 0.95, it is acceptable (Schumacker & Lomax, 2004:160; Kaplan, 2000:43; Raykov & Marcoulides, 2006:97; Kline, 2011:304).

3.3.3.1.3.4. Root mean square error of approximation (RMSEA)

It has been developed by Steiger and Lind (1980) to find fit level from the covariance matrices obtained from the model in the SEM and to the covariance matrix obtained from the sample (Şen, 2013:25; Erkorkmaz et al., 2013:216).

If the values of RMSEA equal to or less than 0.05 are ideal fit, between 0.05 and 0.10 is an acceptable fit, and when it is greater than 0.10, it is not an acceptable. (Kaplan, 2000:46; Kline, 2011:319; Erkorkmaz et al., 2013:216).

Table 7: Evaluation of Some Goodness of Fit Criteria

Criteria	Ideal Fit	Acceptable Fit	Unacceptable Fit
Discrepancy	Minimum	Close to Minimum	Maximum
χ^2	$p > 0.10$	$0.05 \leq p \leq 0.10$	$p < 0.05$
χ^2/sd	$\chi^2/sd \leq 2$	$2 < \chi^2/sd \leq 5$	$\chi^2/sd > 5$
GFI	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI < 0.95$	$GFI < 0.9$
RMSEA	$0 < RMSEA < 0.05$	$0.05 \leq RMSEA \leq 0.10$	$RMSEA > 0.10$
CFI	$0.97 \leq CFI \leq 1.00$	$0.95 \leq CFI < 0.97$	$CFI < 0.90$
RMR	$0 \leq RMR < 0.05$	$0.05 \leq RMR \leq 0.10$	$RMR > 0.10$

Source: Doğan, 2015:29)

3.3.4. Limitation of the Study

The most crucial limitation of this research is the sampling method that is applied. Convenience sampling limits the generalizability of the findings. The other issue is the time and financial limitations, the surveys are applied only to the students in two universities with only 450 of them.

Uber which is a new service in Istanbul is not known by many people. More than 60% of respondents didn't have any experience with Uber before. As this study aimed to measure intentions, not only Uber participants but also those who did not or did not know Uber have participated in the survey. Those who did not know Uber were not very willing to answer the questions. This is another limitation of this study.

The other limitation is considering the specific type of social innovation is limited to collaborative consumption application and is not covering social innovation practices as a whole. In addition, limited research about adoption behavior on collaborative consumption based social innovation makes comparison difficult. On the other hand, existing model such as TAM, TPB, innovation diffusion theory, etc. are used to test mostly technological innovations, to the best of author's knowledge, there is no conceptual model for social innovation adoption behavior in the literature.

3.4. FINDING

3.4.1. Reliability of the Scales

Cronbach's alpha value is the most frequently used reliability scale in studies. When using Likert-type scales, it is very important to report Cronbach's alpha value for the reliability of the scales used in the study. Over 0,70 of the alpha value indicates that the analysis is reliable. In this study, which is indicated in table 8 demonstrates all the values are above 0,70. As a result, scales are reliable.

Table 8: Reliability Analysis

Constructs	Cronbach's Alpha
Overall	0,918
Perceived Ease of Use	0,821
Perceived Usefulness	0,885
Attitude Toward Usage	0,862
Behavior Intention to Adoption	0,868
Perceived Behavior Control	0,806
Perceived Trust	0,879
Perceived Risk	0,707
Reputation	0,700
Materialism	0,780

3.4.2. Demographics of the Sample

The frequency distribution of age, gender, education, class of student and their frequency of Uber usage are indicated in the following tables:

Table 9: Descriptive Statistics of Gender

Gender	Frequency	Percentage
Male	185	43,7
Female	238	56,3
Total	423	100,0

Table 9 demonstrate that 238 people who respond to the questionnaire are female and 185 people are male. The majority of respondents are female with 56%.

Table 10: Descriptive Statistics of Education

University Name	Frequency	Percentage
Istanbul University	203	48,0
Esenyurt University	220	52,0
Total	423	100,0

Table 10 shows that 203 students who respond to the questionnaire are studying at Istanbul University and 220 respondents are studying in Esenyurt University. The rates of respondent's from two universities are close to each other, while 52% are studying in Esenyurt University.

Table 11: Descriptive Statistics of Age

Age	Frequency	Percentage
18-21	158	37,4
21-25	244	57,7
25-30	21	4,9
Total	423	100,0

According to table 11, the majority of the respondents are between the ages of 25-30 with 57%. At the beginning of the study, the university students are determined as the target group, that's why there is not a big difference between age groups. They are all young generation.

Table 12: Descriptive Statistics of Uber Usage

Uber Usage	Frequency	Percent
Never	278	65,7
Once	43	10,2
2-5 times	65	15,4
5 and more	37	8,7
Total	423	100,0

As can be seen from table 12, 65% of the respondents which represent 278 people have never used Uber, since 145 people have used Uber at least once.

3.4.3. Descriptive Statistics and Frequencies

In this section descriptive statistics of each factor and related items in the questionnaire is depicted in table 13. Each item is discussed briefly.

Table 13: Descriptive Statistics

Dimensions N=423	Std. Deviation	Mean
PERCEIVED EASE OF USE (PEOU)	1,28	4,97
PEOU1	1,353	4,93
PEOU2	1,131	5,04
PEOU3	1,373	4,95
PERCEIVED USEFULNESS (PU)	1,34	4,66
PU1	1,390	4,74
PU2	1,327	4,64
PU3	1,284	4,76
PU4	1,380	4,50
ATTITUDE TOWARD USAGE (ATU)	1,294	4,79
Dimensions N=423	Std. Deviation	Mean
ATU1	1,283	4,80
ATU2	1,305	4,79
BEHAVIOR INTENTION TO ADOPTION (BIA)	1,38	4,17
BIA1	1,346	4,66
BIA2	1,376	3,94
BIA3	1,420	3,91
PERCEIVED BEHAVIORAL CONTROL (PBC)	1,24	4,9
PBC1	1,312	4,79
PBC2	1,216	4,99
PBC3	1,200	4,92
PERCEIVED TRUST	1,36	4,46
TRUST1	1,361	4,41
TRUST2	1,379	4,44
TRUST3	1,369	4,55
PERCEIVED RISK	1,38	3,60
PRISK1	1,478	3,48
PRISK2	1,405	3,35

Table 13: Descriptive Statistics (Continued)

PRISK3	1,274	3,98
REPUTATION	1,247	3,31
REP1	1,310	3,60
REP2	1,184	3,03
MATERIALISM	1,212	4,65
MAT1	1,144	4,91
MAT2	1,235	4,51
MAT3	1,257	4,53

The average mean value of perceived ease of use is 4,97 which is the highest score. Standard deviations range is between 1,131- 1,373. Results indicate that Uber application does not require a lot of mental work and easy to use. The average mean value of perceived usefulness is 4,66 and standard deviations range is between 1,284- 1,390. Most of the respondents find Uber useful and Uber enables them to accomplish their task more quickly. Attitude toward usage is the most crucial factor. It affects the other factors and is affected by other factors which consider as mediating factor. Most of the respondents agree that using Uber is a good idea. The average of mean of BIA is 4,17. BIA1 is one of the questions that tests the behavior intention to adoption. Respondents intend to use Uber in the future. The values of BIA2 and BIA3 are very close to each other and respondents moderately agree to plan to use Uber in their daily life. Perceived behavioral control results demonstrate that respondents have knowledge and ability to use Uber. Most of the respondents trust Uber. They agree that Uber keep its promises and provide good service. Uber carries risk moderately. There are many respondents who never experienced Uber before, affect the overall results and perceived risk. The values of Materialism are expected to be low, but the results show that respondents would like to have more purchasing power and have more goods. Reputation has lowest value and this result has been expected. According to the answers Uber did not reject the respondents requests.

3.4.4. Confirmatory Factor Analysis

When CFA is applied, the regression coefficients between the factor load estimates and the constructions that primarily represent the observed variables should be interpreted. Then the connectivity between the observed variables should be tested. Finally, it is possible to analyze the correlations between each factor. (Bıçakcıoğlu, 2015) Moreover, by using confirmatory factor analysis, validity can be interpreted.

Confirmatory Factor Analysis (CFA) in AMOS is used to investigate measurement model fit. CFA is more appropriate than Exploratory Factor Analysis (EFA) (Bagozzi & Phillips, 1982; Duman & Özgen, 2018).

Table 14: Confirmatory Factor Analysis Results

Parameters			Standardized Estimates	t value (critical ratio)	P (significance level)
PEOU1	<---	PEOU	,695		
PEOU3	<---	PEOU	,874	14,786	0,000
PU1	<---	PU	,837		
PU2	<---	PU	,749	20,218	0,000
PU3	<---	PU	,803	16,611	0,000
PEOU2	<---	PEOU	,699	14,999	0,000
MAT1	<---	MAT	,728		
MAT2	<---	MAT	,691	11,354	0,000
MAT3	<---	MAT	,795	11,684	0,000
ATU1	<---	ATU	,877		
ATU2	<---	ATU	,864	23,192	0,000
TRUST1	<---	TRUST	,776		
TRUST2	<---	TRUST	,883	19,232	0,000
TRUST3	<---	TRUST	,872	18,972	0,000
BIA1	<---	BIA	,726		
BIA2	<---	BIA	,892	17,337	0,000
BIA3	<---	BIA	,887	17,264	0,000
PRISK1	<---	PRISK	,849		
PRISK2	<---	PRISK	,795	10,034	0,000
PRISK3	<---	PRISK	,245	4,363	0,000
REP1	<---	REP	,639		

Parameters			Standardized Estimates	t value (critical ratio)	P (significance level)
REP2	<---	REP	,657	10,389	0,000
PBC1	<---	PBC	,825		
PBC2	<---	PBC	,761	14,654	0,000
PBC3	<---	PBC	,846	14,109	0,000
PU4	<---	PU	,811	18,899	0,000

All of the factor variables generated according to the results of the confirmatory factor analysis can be well represented by the question expressions. All associations were significant at the 0.05 significance level (<0.05). 't' values which also test the significance level of the link between observed and latent variables is the critical ratio which should be higher than 1.96. (>1.96). In this respect, it is revealed that how accurately a model created from the theoretical perspective is established. It is very important to interpret CFA before SEM (Table 14).

Two-way covariance relations are tested in CFA when one-way interrelationships between hidden variables are tested in SEM. In addition, when relations are tested according to hypothesis established in SEM, bi-directional verification analysis is performed between all variables in CFA.

The CFA model path coefficients are shown in table 14. The values which are greater than 70% demonstrate strong relationships. For those in the 50-70% range, represent moderate relationships (for example PEOU1 expression represents 69.5% of PEOU).

Values for PRISK3 and REP2 are low. However, p-value is less than 0,05 which shows the level is significant. For this reason, they do not have to be removed from the model. They do not make any change on overall analysis.

According to the CFA results, standardized regression coefficients estimate between latent and observed variables range from 0.245 to 0.892. There are just two observed items (PRISK3, REP2) which are less than 0.50, but it doesn't mean that these items are rejected from the study because their p-value is significant ($p \leq 0.05$). As a result, convergent validity of this study is constructed reasonably (Table 14). In order to test convergent and discriminant validity precisely average variance

extracted and critical ratio values are calculated which are indicated in table 15. All items loaded onto respective constructs ($p < 0.001$) with values ranging from 0.51 to 0.71, and the average variance extracted (AVE) results for each construct were all above 0.5, supporting convergent validity (Bagozzi & Yi, 1988; Duman & Özgen, 2018).

For discriminant validity, AVE of each construct was compared to squared correlation of any pair of constructs. In all cases, the AVE was larger, so discriminant validity of the study was proved (Fornell & Larcker, 1981; Duman & Özgen, 2018).

Table 15: Correlations and Descriptive Statistics of Construct

Construct	1	2	3	4	5	6	7	8	9	M (SD)	n of item	AVE	CR
1 PEOU	1									4,97 (1,28)	3	0,57	0,8
2 PU	0,77	1								4,66 (1,34)	4	0,59	0,88
3 MAT	0,24	0,18	1							4,65 (1,21)	3	0,54	0,77
4 ATU	0,78	0,88	0,2	1						4,79 (1,29)	2	0,53	0,69
5 TRUST	0,63	0,694	0,27	0,77	1					4,46 (1,36)	3	0,71	0,88
6 PRISK	0,36	0,351	0,19	0,28	0,4	1				3,6 (1,38)	3	0,53	0,77
7 REP	0,22	-0,01	0,05	-0,1	0	0,42	1			3,31 (1,24)	2	0,53	0,69
8 PBC	0,78	0,634	0,22	0,72	0,7	0,35	0,029	1		4,9 (1,24)	3	0,64	0,84
9 BIA	0,54	0,705	0,26	0,75	0,7	0,32	-0,04	0,58	1	4,17 (1,38)	3	0,51	0,75

M: Mean; SD: Standard Deviation; AVE: Average Variance Extracted; CR: Composite Reliability; PEOU: Perceived ease of use; PU: Perceived usefulness; MAT: Materialism; ATU: Attitude toward usage; PRISK: Perceived risk; REP: Reputation; PBC: Perceived behavioral control; BIA: Behavior intention to adoption

Table 16: Correlations between each factors on CFA

Factors	Correlation values on CFA
PU- ATU	0,884
PEOU-ATU	0,781
MAT- ATU	0,209
TRUST- ATU	0,771
PRISK-TRUST	0,383
REP-ATU	-0,104
PBC-ATU	0,728
ATU-BIA	0,750

* All the t values are statistically significant at 0.05 level ($p < 0.05$)
 * $\chi^2 = 635$; $p = 0.00$; RMSEA= 0,059
 * GFI= 0,897; CFI= 0,940; CMIN= 2,463

Table 16 shows the percentage of the relationship between factors. The highest correlation can be seen between perceived usefulness and attitude toward usage with a value of 0,884. The correlation value between perceived ease of usefulness and attitude toward usage is 0,781; the value of perceived trust and attitude toward usage is 0,771; the value of perceived behavioral control and attitude toward usage is 0,728; the value of attitude toward usage and behavioral intention to adoption is 0,750. All these values show the strong relationship between factors. While there is a very weak and negative relationship between reputation and attitude toward usage, the relationship between materialism- attitude toward usage and perceived risk- perceived trust has a positive but weak relationship.

3.4.5. Structural Equation Modeling Results

3.4.5.1. Chi-square Statistics

In order to decide whether the SEM model used in the study will be used in interpretations, chi-square test statistic other than the fit indices needs to be calculated.

Table 17: Chi-square statistics

Chi-square	910,240
Degrees of freedom	271
Probability level	0,000

The null hypothesis that the model is not meaningful is tested. The hypotheses for testing the model are as follows:

$H_0 =$ The model is not significant.

$H_1 =$ The model is significant.

The probability level (p-value) of the model with 271 degrees of freedom square distribution is 0,000. The H_0 hypothesis is rejected if this value is lower than the significance level of 0.05. In other words, the model statistic established and tested is significant from the perspective.

3.4.5.2. Model Fit Indices

Table 18: Fit Indices

Model Fit Indices	Structural Equation Model	Criteria
Model Chi Square	899,081	
Degrees of Freedom	271	
P value	0,000	
GFI	0,901	Acceptable fit
RMSEA	0,074	Acceptable fit
CFI (Baseline Comparison)	0,900	Acceptable fit
CMIN	3,359	Acceptable fit
RMR	0,235	Ideal Fit

The CMIN / df value obtained by dividing X^2 test statistic by the degree of freedom is 3,359. An ideal fit should be under 3 for a good value. If it is between 3 and 5, it is considered acceptable. The goodness of Fit Index (GFI) is 0,901. It is desirable that this value is above 0.90. The model established according to this index is acceptable. The most preferred index among the five compliance indices in the Baseline Comparisons table is CFI which is 0,90. This value should be above 0,90. So it can be said that the model is compatible. Root mean square error of approximation (RMSEA) value is 0,074. It is very good if it is below 0,08. As a result, this value is also acceptable. Root Mean Square Residual (RMR) value is 0,235. It is an ideal fit, in order to be an ideal fit, the value should be under 0,05.

Table 19: SEM Results for Research Model

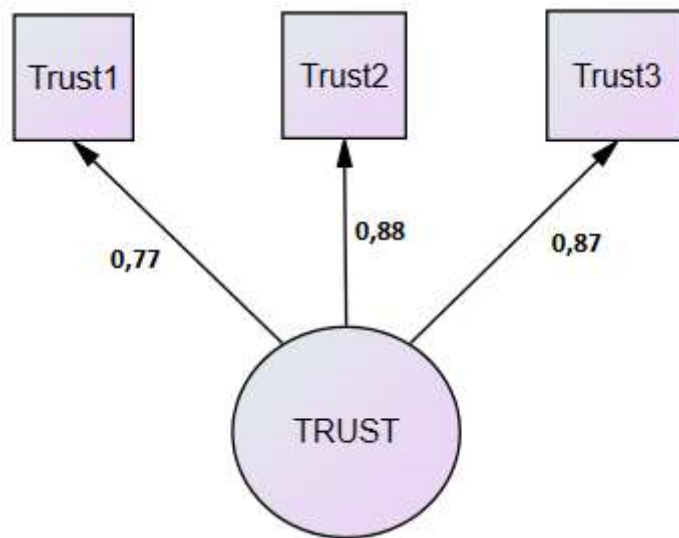
Parameters			Standardized Regression Coefficients β	Regression Coefficients	P
TRUST	<---	PRISK	,053	,049*	,00
ATU	<---	PU	,556	,476	,00
ATU	<---	PEOU	,271	,285	,00
ATU	<---	MAT	-,014	-,017*	,723
ATU	<---	TRUST	,373	,355	,00
ATU	<---	REP	-,120	-,171*	,097
BIA	<---	ATU	,702	,641	,00
BIA	<---	PBC	,049	,041*	,466
PEOU1	<---	PEOU	,701	1,000	
PEOU3	<---	PEOU	,860	1,245	,00
PU1	<---	PU	,839	1,000	
PU2	<---	PU	,748	,852	,00
PU3	<---	PU	,803	,886	,00
PEOU2	<---	PEOU	,697	,832	,00
MAT1	<---	MAT	,723	1,000	
MAT2	<---	MAT	,689	1,029	,00
MAT3	<---	MAT	,801	1,218	,00
ATU1	<---	ATU	,846	1,000	
ATU2	<---	ATU	,826	,996	,00
TRUST1	<---	TRUST	,768	1,000	
TRUST2	<---	TRUST	,888	1,171	,00
TRUST3	<---	TRUST	,874	1,144	,00
BIA1	<---	BIA	,700	1,000	
BIA2	<---	BIA	,885	1,269	,00
BIA3	<---	BIA	,871	1,291	,00
PRISK1	<---	PRISK	,831	1,000	
PRISK2	<---	PRISK	,787	,900	,00
PRISK3	<---	PRISK	,237	,245	,00
REP1	<---	REP	,531	1,000	
REP2	<---	REP	,385	,656	,00
PBC1	<---	PBC	,833	1,000	
PBC2	<---	PBC	,772	,859	,00
PBC3	<---	PBC	,811	,890	,00
PU4	<---	PU	,811	,961	,05

It is better to start interpreting regression coefficients values first. It can be seen from table 18, 22 of the 25 associations are meaningful. The estimates of these relationships are lower than 0,05 significance level (p value <0.05). It is seen that relations that have a p value greater than 5% in the test results claim that there is no relationship. These variables that are not related to each other; MAT-ATU, REP-ATU and PBC-BIA. Among the hidden variables, the variable that affects the maximum per unit is the ATU. One unit increase in ATU will result in an increase of 0.64 on BIA. Then comes PU. One unit increase in PU will increase ATU by 0.476.

Standardized regression coefficients are Path coefficients at the same time. In the created model, each one-way arrow shows the value. Since they are standardized coefficients, they can be compared.

When looking at standardized regression coefficients, the strongest relationship is between “attitude toward usage” and “behaviour intention to adoption”. The impact of ATU on BIA is 0,70. Then the impact of “perceived usefulness” on “attitude toward usage” comes. The power of this effect is 0,56. The effect of “perceived risk” on “trust” is about 0,45. When looking at the relationship between the variables observed in the hidden variables and the relationship between them, the strongest effect is between "TRUST-2" and TRUST which means promises made by Uber is reliable for the participants. In this case, the effect on TRUST is about 88%. Then the effect of "BIA-2" is 88.5% on BIA which says that participants are willing to use Uber in their daily life.

Figure 15: Path Coefficients of Trust



When hidden variables are examined individually;

On the PEUO, the "PEOU-2" expression appears to be more effective than "PEOU-1" and "PEOU-3" (87%, 70% and 70% which can be seen on figure 16). The three expressions are also significant. This result shows that Uber application is understandable, doesn't need a lot of mental effort and easy to use.

Figure 16: Path Coefficients of Perceived Ease of Usefulness

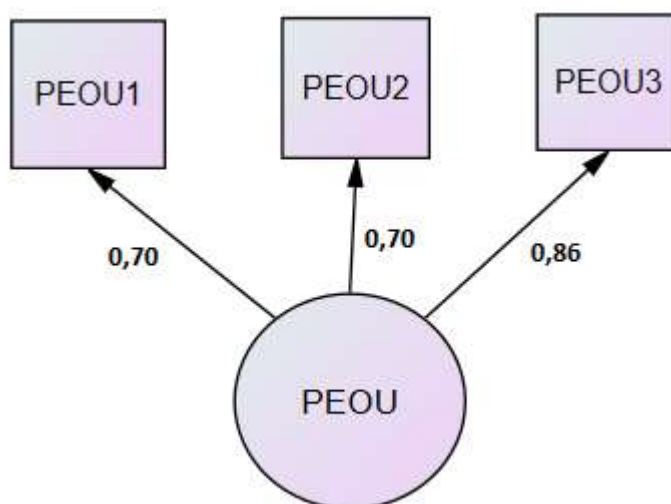


Figure 21 represents the effective expressions on MAT are "MAT3", "MAT1" and "MAT2" (80%, 72.3% and 69%) respectively.

Figure 17: Path Coefficients of Materialism

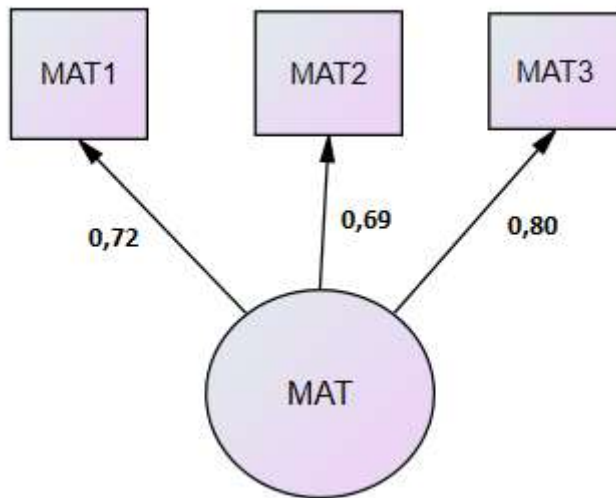
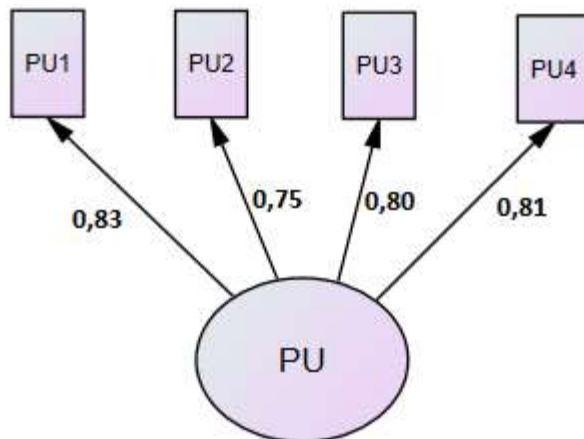


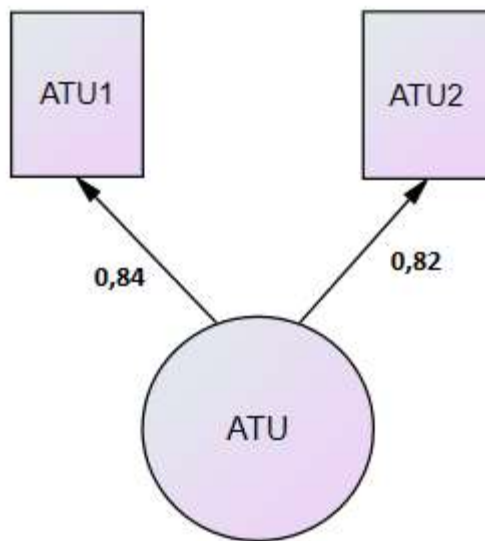
Figure 22, the expressions on “PU” are "PU1", "PU4", “PU3”and “PU2” (84%, 81%, 80% and 75%), respectively. All expressions are significantly effective on PU.

Figure 18: Path Coefficients of Perceived Usefulness



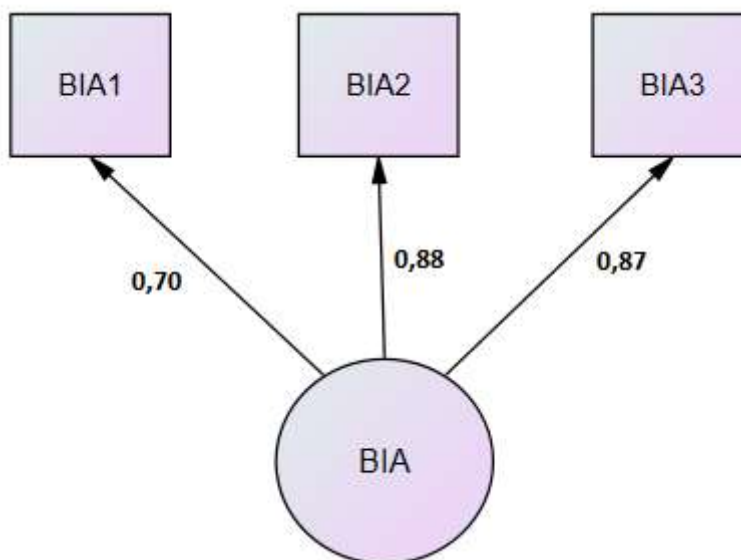
According to figure 23, there are no major differences between effective variables on ATU. "ATU1" with 84% and "ATU2" with 83% are effective.

Figure 19: Path Coefficients of Attitude toward Usage



Each item that is effective and explains behavior intention to adoption well. These expressions are "BIA2" with 88.5%, "BIA3" with 87% and BIA1 with "70%".

Figure 20: Path Coefficients of Behavioural Intention to Adoption



While the effect of the two words on the PRISK is strong, these are "PRISK1" and "PRISK2" which means there is no risk that if a customer call the Uber and they don't send a taxi or it doesn't arrive on time. The third one (PRISK3) almost has no relation which says participants don't have a fear to ride by

strangers. As a result, according to figure 21, Risk1 and Risk2 explain Perceived risk well while Risk3 doesn't.

Figure 21: Path Coefficients of Perceived Risk

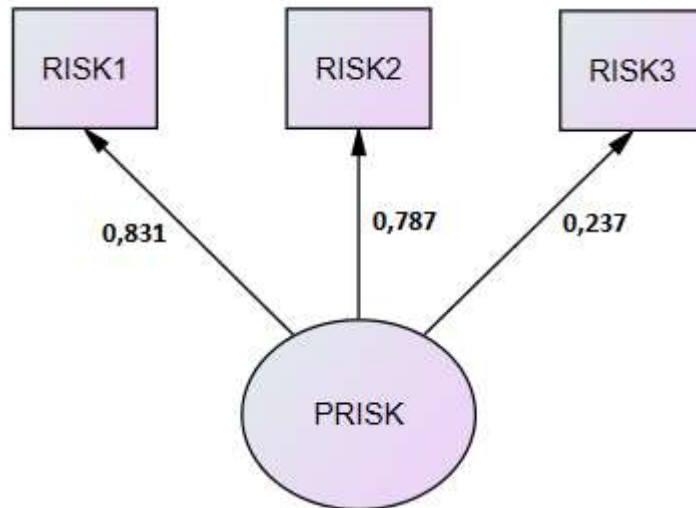
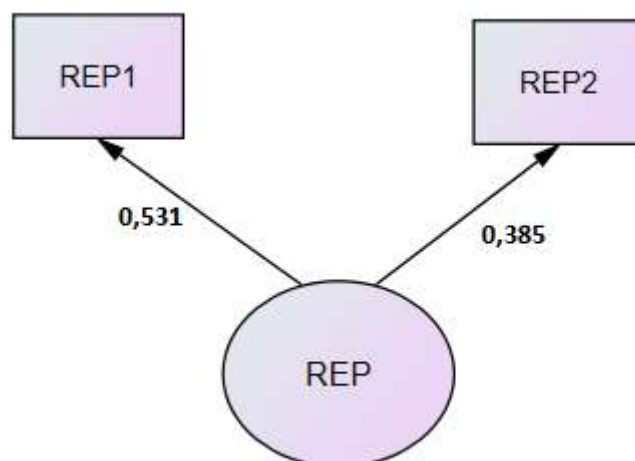


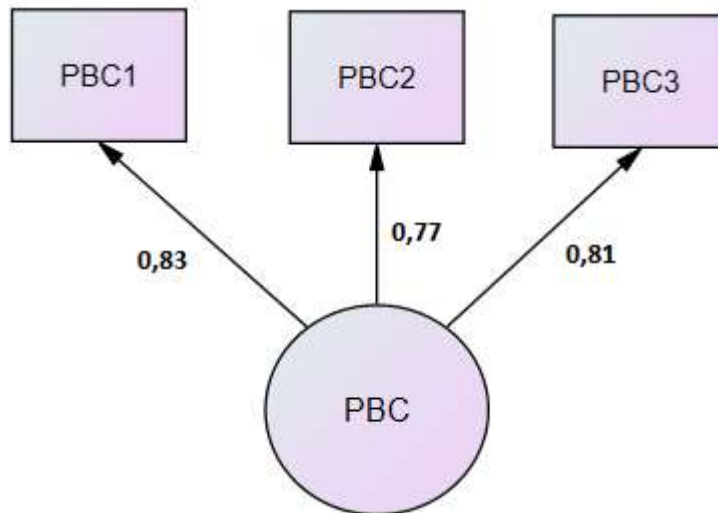
Figure 26 shows that the effects on the REP are twofold. "REP1" is 56,5% which says more than half percent of people have an alternative than Uber. And "REP2" is 40% which says most of the people didn't have a bad experience with Uber. REP2 explain reputation better than REP2.

Figure 22: Path Coefficients of Reputation



"PBC1" and "PBC3" expressions on PBC are highly effective (83% in two). Then the "PBC2" is effective with 76%. All three expressions are significantly effective on PBC.

Figure 23: Path Coefficients of Perceived Behavioural Control



The basic analysis results are interpreted above. In addition to standardized and non-standardized coefficients results, interpreting the additional results which are also taken from Amos software will make a good contribution. One of this results are indicated in squared multiple correlation tables which shows the deterministic coefficients, demonstrate how much the variance in the model describes the model. According to this, when the variables are compared, it is seen that ATU is the highest variable of model explanation power. It has a high explanation power of about 85%. Then it follows with "BIA2" which states participants will use the Uber and "TRUST2" expresses that Uber is reliable.

The other results are indicated in standardized indirect effects table. One of the most important aspects of the SEM analysis is the analysis of both direct and indirect effects rather than direct effects. Indirect effects are the effect that the relationship between variables on a path is another variable on the same path. In other words, the variable is the effect of the variables on the path when they are invisible. When looking at indirect effects between latent variables, it is seen that the most important effect is the indirect effect of PU on BIA (over ATU). The power of

this effect is 0,472. The rate of the influence of the PU on the positive view expression is 0.536 and the positive rate is 0.528. The impact of ATU on the daily use expression is 0.672, while the multiple use expression is 0.648. Since there are indirect effects, the two highest impacts are above ATU. Also, the indirect impact of TRUST on BIA (over ATU) is 0.234.

Figure 24: Structural Model Results

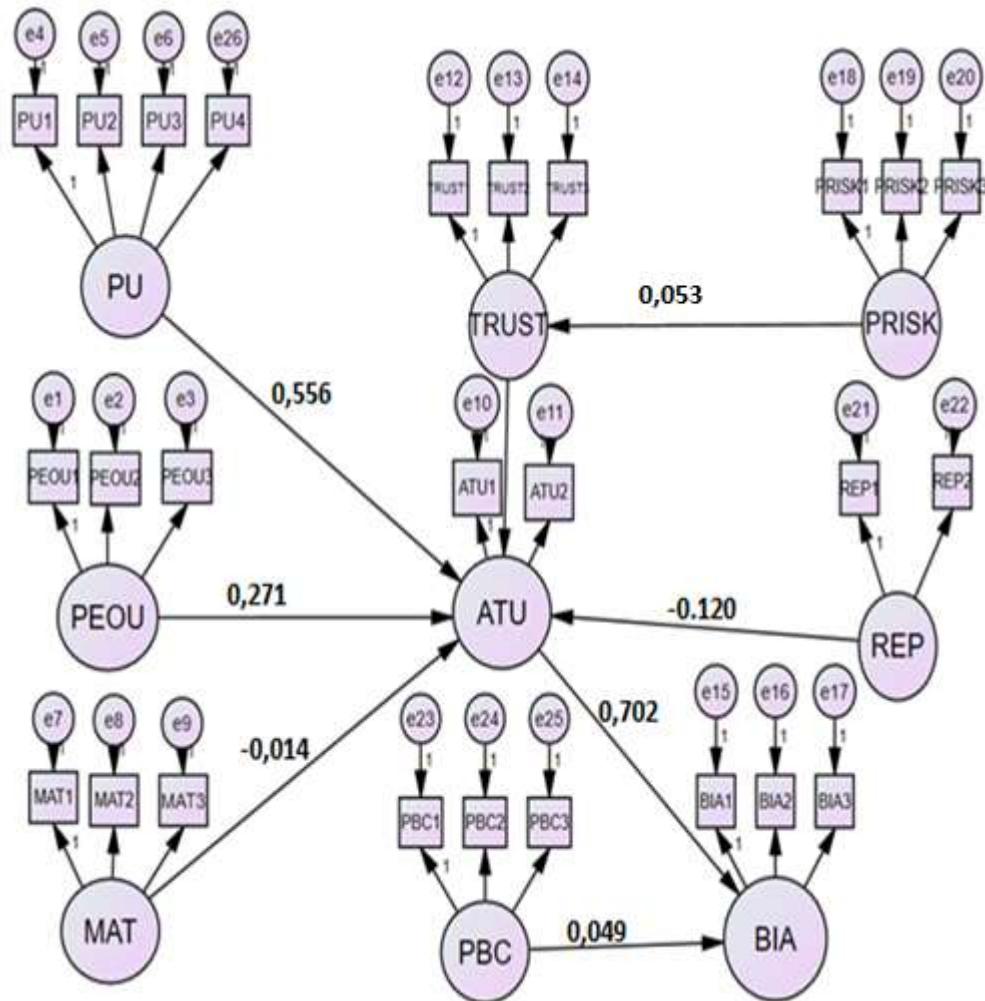


Figure 24 demonstrates the path coefficients between each factor on Amos software. The circles represent each factor. The squares show each question and from e1 to e26 demonstrate error terms. The explanation about path coefficients will be well represented in table 20.

Table 20: Hypothesis -Testing Result (SEM)

Hypothesis	Path Estimates	t values	Test Results
H_1 : PU – ATU	,556	5,846	accepted
H_2 : PEOU - ATU	,271	2,788	accepted
H_3 : MAT – ATU	-,014	-,355	<i>rejected</i>
H_4 : TRUST – ATU	,373	7,585	accepted
H_5 : REP – ATU	-,120	-1,660	<i>rejected</i>
H_6 : PRISK – TRUST	,053	,892	<i>rejected</i>
H_7 : ATU – BIA	,702	10,021	accepted
H_8 : PBC - BIA	,049	,729	<i>rejected</i>

T values have to be higher than 1,96. The decision of the hypotheses is decided according to t values. Comparing with all path estimates values, ATU-BIA has the highest path estimates and t values. It means the strongest relationship has occurred between these factors. The effect of attitude toward usage on behavioral intention to adoption is 0,70 and attitude toward usage has a positive effect on behavior intention to adoption.

The effect of perceived usefulness on attitude toward usage is 0,556. It supports the theoretical hypothesis which was constructed at the beginning of the study. Perceived usefulness of service has a positive effect on respondents' attitude toward usage.

The effect of perceived ease of use on attitude toward usage is 0,271. Because, the t value is greater than 1,96, it is accepted. Perceived ease of use has a positive effect on attitude toward usage.

According to the hypothesis which is created at the beginning of the study, materialism is expected to affect attitude toward usage negatively. However, results show that there is no relationship between these factors, neither positive nor negative.

Trust is the one of the barrier to adopting collaborative consumption. It has been tested by many researchers. Perceived trust has a positive effect on attitude toward usage. Although the path estimate is 0,373, it should be accepted because of t value.

Reputation is expected to have a positive effect on attitude toward usage. However, there is no relationship between reputation and attitude toward usage.

The effect of perceived risk on perceived trust is expected to be negative. The path estimates value is 0,053 and t value is lower than 1,96. According to this values, hypothesis is not supported.

The effect of perceived behavioral control on behavior intention to adoption is 0,49 and t value is less than 1,96. It means there is no relationship between these two factors. The hypothesis is rejected.

Table 21: Mediation test results using bootstrapping bias-corrected procedure

Hypotheses		Mediating Effects	Unstandardized Effects	SE	Lower	Upper	p-Value
h1a	Supported	PU on BIA via ATU	0,453	0,061	0,35	0,55	0,001
h2a	Supported	PEOU on BIA via ATU	0,177	0,075	0,05	0,3	0,001
h3a	Not supported	MAT on BIA via ATU	0,013	0,046	-0,06	0,08	0,61
h4a	Supported	TRUST on BIA via ATU	0,261	0,039	0,19	0,32	0,001
h5a	Not supported	REP on BIA via ATU	-0,053	0,083	-0,18	0,07	0,309
h6a	Supported	PRISK on ATU via TRUST	0,197	0,051	0,11	0,28	0,001

Conceptual model was analysed through SEM and to investigate mediation effects proposed in the conceptual model, the bootstrapping bias-corrected confidence interval procedure, which is acknowledged as a better technic for testing mediation (Preacher & Hayes, 2008; Duman & Özgen, 2018) was used.

To test the mediating effect, bootstrapping bias-corrected confidence interval procedure in SEM (Preacher & Hayes, 2008; Duman & Özgen, 2018), with 95% confidence intervals and 1000 samples was employed. As indicated in Table 20, a significant indirect effect of; perceived usefulness to behavior intention to adoption via attitude toward usage (H1a), perceived ease of use to behavior intention to adoption via attitude toward usage (H2a), perceived trust to behavior intention to adoption via attitude toward usage (H3a), perceived risk to attitude toward usage via perceived trust was observed with a 95% confidence

interval. As a result, H1a, H2a, H4a, H6a are supported. On the other hand, materialism to behavior intention to adoption via attitude toward usage (H3a), reputation to behavior intention to adoption via attitude toward usage (H5a) are not supported.

Results shows that attitude toward usage is a crucial mediator for perceived usefulness, perceived ease of use and behavior intention to adoption which are the variables of technology acceptance model. Additionally, trust is an important barrier for collaborative consumption and which has been testing by many researchers, has also tested in this study and attitude toward usage is found to be a good mediator for trust factor, too.



CONCLUSION

Sharing is not a new concept. Particularly in the polished Stone Age (8000-5500 BC), after the resurrection had passed, the products began to be exchanged and shared. Sharing and swapping have become a behaviour that exists in the gene of the individual and is transmitted from generation to generation. However, when it came to the 21st century, the increase in purchasing power and the increase in popularity with social media led to an increase in consumption craze and continued to be purchased when the individual did not need it. This situation initially caused terrible damage to the environment in the revitalization of the economy.

By preventing this damage, the concept of collaborative consumption has emerged which aims to prevent excessive consumption to avoid further harm to the environment. This concept not only aims to prevent the damage to the environment but also triggers the enhancement of social bonds by motivating people to share.

On the other hand, the concept of social innovation has gained momentum, seeking effective solutions to social problems. Just as it is in the concept of collaborative consumption, this term has always been an existing concept, albeit new in the literature. Collaborative consumption, contributing to sustainable consumption, may also serve as social innovations that aim to develop and implement new products, services or models to solve the social problems. Saving the environment, avoiding the waste, preserving natural resources are the common objectives of collaborative consumption and social innovation. Considering the welfare of the humanity and the future of the planet, it is very important to identify the factors that influence the adoption behavior of social innovation.

Although social innovation and collaborative consumption have common goals, it may not mean that all types of collaborative consumptions can be determined as social innovation. Social innovation practices work for innovative solutions which should be sustainable, long-lasting and continuous, it should boost the quality of life, it contains many actors such as NGOs, businesses, government, etc. All these features of social innovations don't have to be valid for collaborative

consumption platforms. This is the reason why all types of collaborative consumptions cannot be classified as social innovation.

In this study, Uber -a well-known ride-sharing service (Benoit et al., 2017)- which is a collaborative consumption platform has been analysed. According to Jaeger-Erben et al. (2015) social innovation for sustainable consumption framework, Uber is classified within the sharing community category.

In order to construct the research model, the theory of reasoned action (TRA), the theory of planned behavior (TPB), the theory of acceptance model (TAM), innovation diffusion theory, extension theory, value belief norm theory and consumer behavior theory were used and the variables of the model were determined. The survey was conducted with 423 students from 2 universities in Istanbul. SPSS 21 software was used firstly to analyse the reliability of the scales and to apply descriptive statistics. Then, validity test on CFA and structural equation model were applied with AMOS 21 software.

In this study the factors that are considered to have an impact of carsharing, by making an analysis on Uber in particular were identified.

Firstly, the reliability and validity of the scales which is adapted in this study were tested. According to the findings, the scales were found to be reliable and valid. Most of the sample is “female” (56%), are at the age of 21-25 (57,7%) and has never used Uber (65,7%).

Eight hypotheses to test the relationship between dependent and independent variables and six hypotheses were constructed to analyse mediating effects. The theoretical framework drawn from the literature was analysed with SEM via path analysis in this study, to test the mediating effect, bootstrapping bias-corrected confidence interval procedure in SEM was employed.

According to the model results obtained from direct relationships, it is found that perceived usefulness and perceived ease of use have a positive effect on attitude toward usage which was expected at the beginning of the study. It means, the easiness and usefulness of Uber application, the mental effort which the respondents need to put affect their attitude.

The factor of trust has been found an effective variable in many studies, also in this study trust has a positive effect on attitude toward usage. The results indicate that for the respondents, Uber keep its promises and provide good service when the trustworthiness of Uber increases, the respondents' attitude toward usage also increases.

Attitude toward usage has a positive effect on behavior intention to adoption as expected at the beginning of the study. This hypothesis was also supported in many studies in the literature (Mathieson, 1991). This finding indicates that the more positive attitudes people have, the more they intend to adopt Uber.

Materialism was expected to have a negative relationship on attitude toward usage. Since, materialism compromises owning, having more goods instead of sharing or renting. While the aim of collaborative consumption is to share and rent more. However, results indicate materialism has no effect on attitude toward usage. The reason of this fact is even the respondents are like to share and rent, it is also possible to have more goods, they can buy and rent at the same time. Having or buying more stuff became kind of popular especially after an increase of show-off in this digital world.

Hawapi (2017) has stated that reputation has a significant effect on collaborative consumption of Uber. In this study, reputation is expected to have a positive effect on attitude toward usage while results indicate that reputation has no effect on attitude toward usage. The existence of alternative services to Uber or having a bad experience with Uber doesn't change the respondents' attitude toward Uber.

Perceived performance risk is supposed to have a negative impact on perceived trust (Kim et al., 2008). However, in this study, the related hypothesis was not supported as the respondents who have actually used Uber is small in number (34,3%).

Perceived behavioral control is found to have no impact on behavioral intention to adoption while it is expected to have a positive impact on behavioral intention to adoption. The respondents don't relate their knowledge or ability about

Uber service with their intention to use the service. The reason for this fact is, it is so easy and fast to reach all the information. The respondents even if don't have any idea about Uber can easily get the knowledge.

Attitude toward usage is the most crucial factor which is supposed to mediate perceived usefulness, perceived ease of use, materialism, reputation and perceived trust. The mediation testing results demonstrate that it mediates perceived usefulness, perceived ease of use and perceived trust while it doesn't mediate materialism and reputation. Perceived trust is another mediating variable on perceived performance risk via attitude toward usage, and the result supports this claim.

This study make contribution to the literature about collaborative consumption based social innovation practices and adoption behavior on carsharing. The analysis have been applied on Uber application which has not been investigated enough in Turkey. This study can be valuable for businesses, too. Especially for Uber or similar services such as BiTaksi service in Turkey.

Finally, there are various recommendation for future researches on the basis of the findings of this study. First, it will be a great direction to apply this study to different territories or diverse nations to approve the results obtained. A second direction may involve a longitudinal research to wipe out the limitation of the temporal stability of the findings. Third, a future study may consider including more estimation indicators for each construct. For example; specifically factors which directly affect attitude toward usage can be analysed again by including new factors such as perceived enjoyment, need for approval. A third suggestion, the participants to the questionnaire can be only Uber users so that the actual behavior will be included in the analysis. The final recommendation is Uber is just one of the collaborative consumption platform, the analysis may give different findings if the study is applied to different platforms such as Airbnb, Couchsurfing, etc.

This study has revealed some insight on the factors associated with collaborative consumption based social innovation on adoption to car sharing, particularly on Uber. It is hoped that the theoretical framework proposed and approved in this study set the ground for future scholarly work.

REFERENCES

Agostini, M. & Vieira, L. & Tondolo, R., & Toldolo, V.(2017). An Overview on Social Innovation Research: Guiding Future Studies. *Brazilian Business Review*. 14(4): 385-402.

Airbnb, (<https://craft.co/airbnb>) (22.11.2017)

Airbnb (2015). Airbnb Summer Travel Report. <http://blog.atairbnb.com/wp-content/uploads/2015/09/Airbnb-Summer-TravelReport-1.pdf> (02.02.2018)

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. *Action Control, From Cognition to Behavior*. 2(11-39). Heidelberg: Springer.

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*. 50: 179-211.

Arslan, M. S. T. (2011). *Ordinal Değişkenli Yapısal Eşitlik Modellerinde Kullanılan Parametre Tahmin Yöntemlerinin Karşılaştırılması*. (Yüksek Lisans Tezi). Eskişehir: Osmangazi Üniversitesi Fen Bilimleri Enstitüsü.

Arts, J.W.C. & Frambach, R.T. & Bijmolt, T.H.A. (2011). Generalizations on Consumer Innovation Adoption: A Meta-Analysis on Drivers of Intention and Behavior. *International Journal Research Marketing*. 28(2): 134–144.

Atrek, B. & İlter, B. (2017). Social Innovation Practices in Services for Sustainable Consumption: The Case of Turkey. *Promotional Strategies and New Service Opportunities in Emerging Economies* (pp.32-65). Pennsylvania: IGI Global Disseminator of Knowledge.

Ay, U. (2012). *Yeşil Ürün Alma Davranışlarının Değer-Inanç Norm Kuramı Temelinde İncelenmesi*, (Yüksek Lisans Tezi). Eskişehir: Eskişehir Osmangazi Üniversitesi.

Ayyıldız, H. & Ekrem C. (2006). Pazarlama Modellerinin Testinde Kullanılabilecek Yapısal Eşitlik Modeli (YEM) Üzerine Kavramsal Bir İnceleme. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*. 11(1): 63-84.

Bagozzi, R. P.& Phillips, L. W. (1982). Representing and testing organizational theories:A holistic construal. *Administrative Science Quarterly*. 27(3): 459–489.

Başgöze, P. (2010). *Teknoloji Kabul Modelinin Teknolojik Yatkinlık Ve Marka Kredibilitesi Değişkenleri Eklenecek Genişletilmesi: Satın Alma Eğilimine Uyarlanması*. (Published Doctoral Dissertation). Ankara: Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü.

Bayram, N. (2013). *Yapısal Eşitlik Modellemesine Giriş AMOS Uygulamaları*. İstanbul: Ezgi Kitabevi.

Benoit, S. & Baker, T. L. & Bolton, R. N. & Gruber, T. & Kandampully, J. (2017). A Triadic Framework for Collaborative Consumption (CC): Motives, Activities and Resources & Capabilities of Actors. Elsevier- *Journal of Business Research*. 79: 219-227.

Bıçakcıoğlu, N. (2014). *The Interrelation between Internal and External Factors, Adaptation Strategies and Export Performance in International Marketing: an Application on Clothing Industry*, (Master Thesis). İzmir: Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü.

Bisgaard, T. (2009),”Corporate Social Innovation. Companies’ Participation in Solving Global Challenges”,

https://erhvervsstyrelsen.dk/sites/default/files/CSI_Report.pdf, (05.03.2018)

Bollen, K. A. (1989). *Structural Equations with Latent Variables*. New York: John Wiley & Sons, Inc.

Botha, N. & Atkins, K. (2005). An Assessment of Five Different Theoretical Frameworks to Study the Uptake of Innovations. Tahuna Conference Centre-Nelson, New Zealand. New Zealand Agricultural and Resource Economics Society (Inc.)

Botsman, R. & Rogers, R. (2010). *What's Mine Is Yours: The Rise of Collaborative Consumption*. New York:Harper Collins Publishers.

Bowen, N. K. & Guo, S. *Structural Equation Modeling*, Oxford: Oxford University Press.

Brown, T. A. (2006). *Confirmatory Factor Analysis for Applied Research*. New York-London: The Guilford Press.

Buczynski, B. (2013). *Sharing is good: How to Save Money, Time and Resources through Collaborative Consumption*. Gabriola Island: New Society.

Byrne, B. M. (2016). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. New York –London: Taylor & Francis Group.

Caulier-Grice, J., Davies, A., Patrick, R. & Norman, W. (2012). Defining Social Innovation. A Deliverable of the Project: “*The Theoretical, Empirical and Policy Foundations for Building Social Innovation in Europe*” (TEPSIE), European Commission – 7th Framework Programme, Brussels: European Commission, DG Research.

Cervero, R. & Tsai, Y-H. (2003), “San Francisco City CarShare: Travel Demand Trends and Second-Year Impacts”, University of California at Berkeley, Institute of Urban and Regional Development. Working Paper, <https://iurd.berkeley.edu/wp/2006-07.pdf>, (26.12.2018)

CII-ITC CESD. (2010), ”Sustainable and Inclusive Innovation Strategies for Tomorrow’s World, Crossmedia Solutions”, https://issuu.com/sachinjoshi/docs/sustainable_inclusive_innovation (10.03.2018)

City of Toronto (2000). Planning and Transportation Committee, Staff Report. <https://www.toronto.ca/legdocs/2000/minutes/committees/pl/pl000321.pdf> (22.03.2018)

Choi, N., & Majumdar, S. (2015). Social Innovation: Towards a Conceptualization. *Technology and Innovation for Social Change* (pp. 7–34). New Delhi: Springer India.

Christensen, C. M. & Baumann, H. & Ruggles, R. & Sadtler, T. M. (2006). Disruptive Innovation for Social Change. *Harvard Business Review*. 84(12): 94–101.

Correia, S. E. N. & Oliveria, V. M. & Gomez, C.R.P. (2016). Dimension of Social Innovation and the Roles of Organizational Actor: The Proposition of a Framework. *Mackenzie Management Review*. 17(6): 102-133.

Couchsurfing, www.couchsurfing.org (25.05.2018)

Çabuk, S. & Süda, H. D. & Zeren, D. (2015). Sahip Olmak Yerine Paylaşmak: Tüketicilerin Paylaşma Davranışlarının Unsurlarını Belirlemeye Yönelik Bir Çalışma. *Cankiri Karatekin Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*. 6(1): 151-168.

Çerezci, T. E. (2010). *Yapısal Eşitlik Modelleri ve Kullanılan Uyum İyiliği İndekslerinin Karşılaştırılması*. (Published Doctoral Dissertation). Ankara: Gazi Üniversitesi Fen Bilimleri Enstitüsü.

Çınar, B. (2012). *Büyüyen Kapsayıcı Piyasalar: Türkiye’de Sosyal Girişimcilik Vakaları*. İstanbul: İstanbul Bilgi Üniversitesi Yayınları

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease Of Use, And User Acceptance Of Information Technology. *MIS Quarterly*. 13(3): 319–340.

Dees, J. G. & Anderson, B. B. (2006). Framing a Theory of Social Entrepreneurship: Building on Two Schools of Practice and Thought. *Research on Social Entrepreneurship: Understanding and Contributing To an Emerging Field*. 1(3), 39–66. Washington: ARNOVA Occasional Paper Series.

Demiralay, T. (2014). *Hekimlerde Örgütler Sessizliğin YEM ile İncelenmesi*, (Published Doctoral Dissertation). Edirne: Trakya Üniversitesi Sosyal Bilimler Enstitüsü.

Demirel, B. A. & Payne, A. K. H. (2018). Social Innovation Adoption Behavior: The Case of Zumbara. *International Journal of Innovation and Technology Management*. 15(2): 1850016-1 - 1850016-19.

Dervişoğlu, S. & Menzel, S. & Soran, H. & Bögeholz, S. (2009). Değerler, İnançlar Ve Problem Algısının Biyolojik Çeşitliliği Korumaya Yönelik Kişisel Normlara Etkisi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*. 37: 50- 59.

Diamantopoulos, A. (1994). Modelling with LISREL: A Guide for the Uninitiated. *Journal of Marketing Management*. 10: 105-136.

Dietrich, M. & Znotka, M. & Guthor, H. & Hilfinger, F. (2016). Instrumental and Non-instrumental Factors of Social Innovation Adoption. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*. 27:1950-1978.

Doğan, İ. (2015). *Farklı Veri Yapısı Ve Örneklem Büyüklüklerinde Yapısal Eşitlik Modellerinin Geçerliği Ve Güvenirliğinin Değerlendirilmesi*. (Published Doctoral Dissertation). Eskişehir: Eskişehir Osmangazi Üniversitesi Sağlık Bilimleri Enstitüsü.

Duman, S. & Özgen, Ö. (2018). Willingness to punish and reward brands associated to a political ideology (BAPI). *Elsevier- Journal of Business Research*. 86: 468-478.

Efthymiou, D. & Antoniou, C. & Waddell, P. (2013). Factors Affecting the Adoption of Vehicle Sharing Systems by Young Drivers. *Elsevier-Transport Policy*. 29: 64-73.

Erbil, C. (2017). Realizing Bottom of Pyramid Strategy with Social Innovation: A Case Study. *Journal of Business Research Turk*. 9(1): 307-338.

Eren, H. (2010). *Üniversite Öğrencilerinin Sosyal Yenilik Kapasitelerinin Teknolojik Yenilikçilik Eğilimlerine Etkisini Ölçmeye Yönelik Bir Model Önerisi*. (Published Doctoral Dissertation). Ankara: Turkish Military Academy.

Fornell, C. & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*. 18(3): 382–388.

Grace, J. B. (2006). *Structural Equation Modeling and Natural Systems*. Cambridge: Cambridge University Press.

Gümüş, B. & Gegez, E. (2017). Değişen Tüketici Kültüründe Yeni Trend: Ortak Tüketim. *Pazarlama ve Pazarlama Araştırmaları Dergisi*. 20:155-177.

Halaç, D. & Eren, H. & Bulut, Ç. (2014). Sosyal Yenilikçilik: Bir Ölçek Geliştirme Çalışması. *Hacettepe Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergisi*. 32(1): 165-190.

- Hamari, J., Sjöklint, M., & Ukkonen, A. (2015). The sharing economy: Why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology*. 67 (9): 2047-2059.
- Hayta, A. B. (2009). Sürdürülebilir Tüketim Davranışının Kazanılmasında Tüketici Eğitiminin Rolü. *Ahi Evran Üniversitesi Eğitim Fakültesi Dergisi*. 10(3): 143-151.
- Hawapi et al. (2017). Effects of Perceived Risks, Reputation and Electronic Word of Mouth (E-WOM) on Collaborative Consumption of Uber Car Sharing Service. *IOP Conference Series. Materials Science and Engineering*. 215: 12019
- Heiskala, R. (2007). *Social Innovations: Structural and Power Perspectives. Social Innovations, Institutional Change and Economic Performance. Making Sense of Structural Adjustment Processes in Industrial Sectors, Regions and Societies* (52–79). Cornwall: Edward Elgar Publishing.
- Hofstede, G. Five Value Dimensions, <https://www.hofstede-insights.com/>, (22.04.2018).
- Howaldt, J. & Domanski, D. & Kaletka, C. (2014). Social Innovation: Towards a New Innovation Paradigm. *Mackenzie Management Review*. 17(6): 20-44.
- Hwang, Y. & Kim, D. J. (2007). Customer Self-Service Systems: The Effects of Perceived Web Quality with Service Contents on Enjoyment, Anxiety, and E-Trust. *Elsevier-Decision Support System*. 43: 746-760.
- Jaeger-Erben, M. & Rückert-John, J. & Schafer, M. (2015). Sustainable consumption through social innovation: a typology of innovations for sustainable consumption practices. *Elsevier-Journal of Cleaner Production*. 108: 784-798.
- Kaplan, D. (2000). *Structural Equation Modeling: Foundations and Extensions*. USA: SAGE Publications.
- Kazançoğlu, İ. & Dirsehan, T. (2016). Sosyal İnovasyon ile Sakin Şehirler Arasındaki İlişkinin Sosyal Girişimciler Açısından İncelenmesi: Seferihisar Örneği. *Ege Stratejik Araştırmalar Dergisi*. 7: 135-161.

- Kennedy, G. E. & Judd, T. S. & Churcward, A. & Gray, K. & Krause, K. L. (2008). First year students' experiences with technology: Are they really digital natives?. *Australasian Journal of Educational Technology*. 24(1): 108-122.
- Kim, D. J. & Ferrin, D. L. & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Elsevier-Decision Support System*. 44(2): 544-565.
- Kıracı, H. (2017). Tatlıyı Yemek mi Yoksa Paylaşmak mı Tatlı? Paylaşım ve Ortak Tüketim Davranışı Üzerine Kuramsal Bir İnceleme. *Journal of Business Research Turk*. 9(1): 194-220.
- Kline, B. R. (2011). *Principles and Practice of Structural Modeling*. New York-London: The Guilford Press.
- Koç, O. (2010). Toplumsal Sorunlarla Mücadelede Bir Kaldıraç Olarak Sosyal Inovasyon Ve Sosyal Girişimcilik Açısından Önemi. *Girişimcilik ve Kalkınma Dergisi*. 5(2): 205-212.
- Lang, C. & Armstrong, C. M. J. (2018). Collaborative Consumption: The Influence of Fashion Leadership, Need for Uniqueness, and Materialism on Female Consumers' Adoption of Clothing Renting and Swapping. *Elsevier- Sustainable Production and Consumption*. 13: 37-47.
- Lee, Y. & Kozar, K. A. & Larsen, K. R. T. (2003). The Technology Acceptance Model: Past, Present and Future. *Communication of the Association Information Systems*. 12(1): 752- 780.
- Little, A. D. (2006). The Innovation High Ground: Winning tomorrow's Customers Using Sustainability-Driven Innovation. *Emerald Group Publishing Limited*. 22(1): 35-37
- Lorenzo-Romeo, C. & Constantinides, E. & Alarcon-Del-Amo, M. (2011). Consumer Adoption of Social Networking Sites: Implications of Theory and Practice. *Journal of Research in Interactive Marketing*. 5 (2/3): 170-188.
- Luecke, R., & Katz, R. (2003). Harvard Business Essentials: *Managing Creativity and Innovation*. Harvard Business School Press.

- Mathieson, K. (1991). Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior. *Information Systems Research*. 2(3): 173-191.
- McLean, L. D. (2005). Organizational Culture's Influence on Creativity and Innovation: A Review of The Literature and Implications for Human Resource Development. *Sage Journal*. 7(2): 226–246.
- Michellini, L. (2012). *Social Innovation and New Business Models Creating Shared Value In Low-Income Markets*. Heidelberg, New York, Dordrecht, London: Springer
- Molz, J. G. (2013). Social Networking Technologies and the Moral Economy of Alternative Tourism: The Case of Couchsurfing.org. *Elsevier*. Vol. 43, pp. 210–230.
- Moore, G. C. & Benbasat, I. (1991). Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Information Systems Research*. 2(3): 192–222.
- Mortara, A. & Roberti, G. (2017), “Use And Diffusion Of Sharing Economy Practices Among University Students: An Explorative Research. SISEC Conference”, http://www.sisec.it/wp-content/uploads/2017/02/Mortara_Roberti_draft.pdf, (20.02.2018)
- Mulaik, S. A. (2009). *Linear Casual Modeling with Structural Equation*. Boca Raton-London-New York: Taylor & Francis Group.
- Mulgan, G. (2006). The Process of Social Innovation. *Innovations: Technology, Governance, Globalization*. 1(2):145-162.
- Mumford, M. D. (2002). Social Innovation: Ten Cases from Benjamin Franklin. *Creativity Research Journal*. 14(2): 253–266.
- Murray, R. & Caulier-Grice, J. & Mulgan, G. (2010). *The Open Book of Social Innovation*. London: The Young Foundation and the National Endowment for Science, Technology and the Arts.
- Organization for Economic Co-operation and Development (OECD) (2010), “SMEs, Entrepreneurship and Innovation”,

[http://rosted.nu/attachments/File/2010/SMEs Entrepreneurship and Innovation 2010.pdf](http://rosted.nu/attachments/File/2010/SMEs_Entrepreneurship_and_Innovation_2010.pdf), (23.01.2018)

Pavlou, P.A. & Fygenson, M. (2006). Understanding and Predicting Electronic Commerce Adoption: An Extension of the Theory of Planned Behavior. *MIS Quarterly*. 30(1): 115–143.

Phills, J. A. & Deiglmeier, J. K. & Miller, D. T. (2008). Rediscovering Social Innovation. *Stanford Social Innovation Review*. 6(4): 34-43.

Pitt, B. (2015). The Sharing Economy. *Computer Shopper*. 333: 104-111.

Pot. F. & Vaas, F. (2008). Social Innovation, the New Challenge for Europe. *International Journal of Productivity and Performance Management*. 57(6): 468-473.

Preacher, K. J. & Hayes, A. F. (2008). Contemporary approaches to assessing mediation in communication research. *Advanced data analysis methods for communication research* (pp. 13–54). Thousand Oaks, CA, US: Sage Publications, Inc.

Raykov, T. & Marcoulides, G. A. (2006). *A First Course in Structural Equation Modeling*. Mahlah, New Jersey, London: Lawrence Erlbaum Associates.

Richins, M.L. (2004). The Material Values Scale: Measurement Properties and Development of the Short Form. *Journal Consumer Research*. 31(1): 209-219.

Rogers, E. M. (1983). *Diffusion of Innovations*: Third Edition, New York: Free Press.

Roos, D. & Hahn, R. (2017). Understanding Collaborative Consumption: An Extension of the Theory of Planned Behavior with Value-Based Personal Norms. *Journal of Business Ethics, Springer*. Pp.1-19.

Röling, N. (1988). *Extension Science: Information Systems in Agricultural Development*. Cambridge: Cambridge University Press.

Satama, S. (2014). *Consumer Adoption of Access-Based Consumption Services - Case AirBnB*. (Master Thesis). Finland. Aalto University School of Business.

- Satı, Z. E. (2013). *İnovasyonu Yönetmede Kesitler*. Nobel Yayıncılık. Türkiye.
- Schumacker, R. E. & Lomax, R. G. (2004). *A Beginner's Guide to Structural Equation Modeling*. Mahlah, New Jersey, London: Lawrence Erlbaum Associates.
- Snare, F. (1972). The Concept of Property. *American Philosophical Quarterly*. 9(2): 200-206.
- Social Innovation Europe. (2012), "Financing Social Impact", <https://youngfoundation.org/wp-content/uploads/2012/10/Financing-Social-Impact.pdf>, (19.02.2018)
- Sovacool, B. & Hess, D. (2017). Ordering Theories: Typologies and Conceptual Frameworks for Sociotechnical Change. *Social Studies of Science*. 47(5): 703-750.
- Şen, R. (2013). *Model Belirlemesi, Örneklem Hacmi ve Tahmin Yönteminin Yapısal Eşitlik Modelleri Uyum Ölçütlerine Etkisi*, (Yüksek Lisans Tezi). Eskişehir: Eskişehir Osmangazi Üniversitesi Fen Bilimleri Enstitüsü.
- Taylor, J. B. (1970). Introducing Social Innovation. *The Journal of Applied Behavioral Science*. 6(1): p.69–77.
- Taylor, S. & Todd, P. A. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information Systems Research*. 6(2):144–176.
- TCRP (2005), "Car sharing: Where and How It Succeeds", Report 108, <http://www.ccdcboise.com/wp-content/uploads/2016/02/Document-D1-TCRP-Car-sharing-Where-and-How-It-Succeeds.pdf> (28.04.2018)
- Tomtom Traffic Index, https://www.tomtom.com/en_gb/trafficindex/ (17.03.2018)
- Tornatzky, L.G. & Klein, K.J. (1982). Innovation Characteristics and Innovation Adoption-Implementation: A Meta-Analysis of Findings. *IEEE Transactions on Engineering Management*. 29(1): 28-45.
- Tosuner, A. (2012). Tüketim Davranışının Azaltılması İçin İnternetin Kullanılması: Ortak Kullanım Ağları", XVII. Türkiye'de İnternet Konferansı, Anadolu Üniversitesi, <http://inet-tr.org.tr/inetconf17/bildiri/35.pdf>, (20.04.2016)

Transportation Sustainability Research Center, (<http://tsrc.berkeley.edu/carsharing>) (15.04.2018)

Tussyadiah, I. (2015). An exploratory on drivers and deterrents of collaborative consumption in travel. *Information & Communication Technologies in Tourism (2015)* (pp. 817-829). Switzerland: Springer International Publishing.

UBER, (<https://www.uber.com/tr/cities/>) (25.11.2018)

United Nations Development Program (UNDP). (2008), “Creating Value for All: Strategies for Doing Business with the Poor”, <http://www.undp.org/gimlaunch>, (16.04.2018)

Ümarik, M. & Loogma, K., and Tafel-Viia, K. (2014). Restructuring Vocational Schools as Social Innovation? *J Educ Admin*, 52(1): 97-115.

Venkatesh, V. & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*. 46(2): 186–204.

Volynets, I. (2015), “Social Innovation and Aboriginal Communities”, *UAKN (Urban Aboriginal Knowledge Network)* <http://uakn.org/wp-content/uploads/2015/11/UAKN-Paper-Social-Innovation-and-Aboriginal-Communities-March-20151.pdf>, (30.01.2018)

Weng, L. J. & Cheng C. P. (1997). Why Might Relative Fit Indices Differ Between Estimators? *Structural Equation Modeling. A Multidisciplinary Journal*. 4(2): 121-128.

Yetim, S. (2015). Uber, Hukuki Sorunlar ve Çözüm Önerileri. *Uyuşmazlık Mahkemesi Dergisi*. 6: 621-666.

Zervas, G. & Proserpio, D. & Byers, J.W. (2017). The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry. *Journal of Marketing Research*. 54(5): 687–705.

Zumbara, (<http://www.zumbara.com>) (10.01.2018)



APPENDICES

Appendix 1: Survey in English

Dear Respondents,

The following questionnaire is being applied at the Dokuz Eylül University within the scope of a master thesis research entitled 'Adoption Behavior of Collaborative Consumption Based on Social Innovation'. Your answers will not be judged as true or false and will be evaluated collectively. Please answer all the questions.

Thanks for your participation.

Res. Asst. Yasemin Ülker

İstanbul Esenyurt Üniversitesi

1. Gender?

☐ Female ☐ Male

2. In which university are you studying? -----

3. Which grade?

☐ 1 ☐ 2 ☐ 3 ☐ 4

4. How old are you? -----

5. Have you ever used Uber?

☐ Never ☐ Once ☐ 2-5 times ☐ 5+

Think about a sharing platform, how much time you need until you reach the taxi, you don't have to have a car, you can choose the economic, luxury vehicle you need, you do not have to describe your address, you don't have to wait for a taxi and you don't have to pay cash, all the information about your travel; the car's brand, the payment, the profile of the driver will be known before your order.

How UBER works?

- After you have installed the UBER application on your mobile device, tap on the desired vehicle option to see the duration, vehicle capacity and travel cost. And press the tool button. The car will arrive within minutes.
- You'll see contact information of your drivers and information about the car on application.
- When you arrive at your destination, your payment will be automatically withdrawn from your registered credit card.

Please answer the following questions accordingly.

	Strongly Disagree	Disagree	Neither agree Nor disagree	Agree	Strongly Agree
1. Application of Uber is clear and understandable.					
2.Using Uber application does not require a lot of mental effort.					
3.I find Uber easy to use.					
4. Using Uber enables me to accomplish tasks more quickly.					
5. Using Uber increase my daily performance.					
6.I find it useful to use UBER.					
7.Using UBER saves time and makes energy use more efficiently in other jobs.					
8.I generally have a favourable attitude toward using the UBER.					
9.I like the idea of using the Uber.					
10.I intend to continue using Uber.					
11.I will always try to use Uber in my daily life.					

	Strongly Disagree	Disagree	Neither agree Nor disagree	Agree	Strongly Agree
12.I plan to continue to use Uber frequently.					
13. I have enough knowledge to use Uber.					
14.I have the ability to use Uber application.					
15. I would be able to use Uber.					
16.Uber probably knows how to provide excellent service.					
17. Promises made by Uber are likely to be reliable.					
18. I expect that Uber will keep promises it makes.					
19.There is high likelihood that the car I want will not be available when I want it.					
20.There is high likelihood that the car I want will not arrive on time.					
21. I may have problems when riding in a stranger's car.					
22.I have a better option than Uber.					
23.I have experience where Uber rejected my request.					

Please answer the following 3 questions regardless of the above explanation.

	Strongly Disagree	Disagree	Neither agree Nor disagree	Agree	Strongly Agree
1.My life would be better if I owned certain things I don't have.					
2.It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.					
3.I'd be happier if I could afford to buy more things.					

Appendix 1: Survey in Turkish

Değerli Katılımcı,

Aşağıda yer alan anket Dokuz Eylül Üniversitesinde 'Ortaklaşa Tüketim Davranışını Benimseme' konulu yüksek lisans tez araştırması kapsamında uygulanmaktadır. Cevaplar toplu olarak değerlendirilecek olup, veriler yalnızca bilimsel araştırma amacıyla kullanılacaktır. Lütfen tüm soruları cevaplandırınız.

Katkınız için teşekkür ederim.

Araş. Gör. Yasemin Ülker

İstanbul Esenyurt Üniversitesi

6. Cinsiyetiniz?

☐ Kadın ☐ Erkek

7. Hangi üniversitede eğitim görmektesiniz? -----

8. Kaçınıcı sınıfınız?

☐ 1 ☐ 2 ☐ 3 ☐ 4

9. Kaç yaşındasınız? -----

10. Daha önce Uber kullandınız mı?

☐ Hiç ☐ 1 defa ☐ 2-5 defa ☐ 5+

Bir paylaşım platformu düşünün, sahip olmak zorunda olmadığınız ya da taksiyi beklemek ve nakit para vermek zorunda kalmadığınız, uygulamanızdan size en yakın taksinin kaç dakika sonra sizi alabileceğini ve şoförün profilini görebildiğiniz, arabanın markasının ve plakasının yer aldığı tüm bilgileri içeren, taksi daha ulaşmadan ne kadar ödeyeceğinizi bildiğiniz, ekonomik, lüks araç tercihi yapabileceğiniz, bulunduğunuz adresi tarif etmek zorunda kalmadığınız talep ettiğinizde yanınızda biten bu araç paylaşım uygulamasına UBER diyoruz.

Peki, UBER nasıl çalışır?

- UBER uygulamasını mobil cihazınıza yükledikten sonra, istediğiniz araç seçeneğine dokunarak bekleme süresine, araç kapasitesine ve yolculuk ücretine göz atın. Ve araç düğmesine basın. Dakikalar içerisinde seçtiğiniz araç bulunduğunuz yere ulaşacaktır.
- Sürücünüzün iletişim bilgilerini ve araçla ilgili bilgileri uygulamada göreceksiniz.
- Varış noktanıza ulaştığınızda, ücretiniz sistemde kayıtlı kredi kartından otomatik olarak çekilecektir.

Lütfen aşağıdaki soruları yukarıda belirtilen UBER tanımlamalarından hareketle cevaplandırınız.

	Kesinlikle Katılmıyorum	Katılmıyorum	Ne Katılıyorum Ne Katılmıyorum	Katılıyorum	Kesinlikle Katılıyorum
1.UBER uygulaması açık ve anlaşılabilir.					
2.UBER uygulamasını kullanmak çok fazla zihinsel caba gerektirmez.					
3.UBER'i kullanmak kolaydır.					
4.UBER sayesinde işlerimi daha hızlı yapabilirim.					
5.UBER kullanmak zamandan tasarruf etmemi sağlayarak günlük performansımın artmasını sağlar.					
6.UBER kullanmayı yararlı buluyorum.					
7.UBER kullanmak zamandan tasarruf etmemi sağlayarak enerjimi diğer işlerde daha verimli kullanmamı sağlar.					
8.UBER ile ilgili genel olarak olumlu bir görüşe sahibim.					
9.UBER kullanmak oldukça iyi bir fikirdir.					
10.UBER'i kullanma niyetim var.					

11.UBER'i günlük hayatımda her zaman kullanmaya çalışacağım.					
	Kesinlikle Katılmıyorum	Katılmıyorum	Ne Katılıyorum Ne Katılmıyorum	Katılıyorum	Kesinlikle Katılıyorum
12.UBER'i mümkün olduğu kadar çok kullanacağım.					
13.UBER kullanmak için yeterli bilgiye sahibim.					
14.UBER uygulamasını kullanmak için yeterli yetkinliğe sahibim.					
15.UBER'i kullanabilirim.					
16.Muhtemelen UBER, mükemmel hizmetin nasıl verileceğini biliyordur.					
17. UBER'in taahhüt ettiği hizmeti, güvenilir bir biçimde yerine getireceğine inanıyorum.					
18.UBER'in in taahhüt ettiği hizmeti yerine getirmesi konusunda beklentim yüksektir.					
19.Uber'den araç çağırdığımda müsait araç bulunmama ihtimali oldukça fazladır.					
20.Uber'den araba talep ettiğimde arabanın zamanında gelmeme ihtimali yüksektir.					
21.Bir yabancınn arabasına binmeye çekinirim.					
22.Uber'i kullanmak yerine başka alternatifleri tercih ederim.					
23.Uber ile kötü bir deneyim yaşadım.					

Aşağıdaki 3 soruyu yukarıdaki açıklamadan bağımsız olarak cevaplayınız.

	Kesinlikle Katılmıyorum	Katılmıyorum	Ne Katılıyorum Ne Katılmıyorum	Katılıyorum	Kesinlikle Katılıyorum
1.Daha fazla satın alma gücüm olsa daha mutlu olurdum.					
2.İstediğim her şeyi almak için yeterli paramın olmaması bazen beni rahatsız eder.					
3.Su anda sahip olmadığım bazı şeyler benim olsaydı hayatım daha güzel olurdu.					

Appendix 2: Unified Research Model on AMOS software

