

ISTANBUL TECHNICAL UNIVERSITY ★ GRADUATE SCHOOL

**EXPLORING INFLUENTIAL FACTORS IN CONSUMER ADOPTION OF
SHORT-TERM CAR RENTAL SERVICES**

M.Sc. THESIS

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Department of Management

Management Programme

JUNE 2025

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İSTANBUL TEKNİK ÜNİVERSİTESİ ★ LİSANSÜSTÜ EĞİTİM ENSTİTÜSÜ

**TÜKETİCİLERİN KISA SÜRELİ ARAÇ KİRALAMA HİZMETLERİNİ
BENİMSEMESİNDEKİ ETKİLİ FAKTÖRLERİN ARAŞTIRILMASI**

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To my biggest supporter: my mom,



FOREWORD

This thesis represents more than just an academic endeavor; it reflects the resilience and patience I have developed through life's challenges. This demanding yet enlightening journey has deepened my understanding of the responsibilities I carry toward both my past and my future.

Not everyone is born with equal opportunities. For many, education is less a privilege and more a form of resistance. Therefore, completing this study is not only a personal achievement but also a tribute to those who supported me quietly along the way.

I am deeply grateful to my mother, Şengül Narin, whose patience and love are woven throughout these pages. Her strength and independence have been a constant example, guiding me to understand the importance of standing on my own as a woman. Her endless and unconditional support and love have been my foundation throughout my life.

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In completing this work, I wrote not only for myself but also on behalf of those whose voices remain unheard, whose presence is marginalized, and who have often been left alone. I am aware that some have never been given the chance to walk their own path. I dedicate this thesis to all whose right to live has been denied, and to those who believe in a world where everyone is accepted as they are, rather than who they are expected to be.

July 2025

Şensu Helin KAÇAR



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EXPLORING INFLUENTIAL FACTORS IN CONSUMER ADOPTION OF SHORT-TERM CAR RENTAL SERVICES

SUMMARY

In today's world, transportation habits are changing quickly, and access-based transportation solutions are starting to replace the traditional ownership models. With the rise of the sharing economy, short-term car rental services started to provide a flexible and cost-effective transportation alternative without the need to own a car. These services, especially in major cities, offer a solution to problems such as traffic congestion, lack of parking spaces, and high costs of car ownership. Yet, the adoption of these services differs depending on the country or consumer segments. Even though the short-term car rental market in Turkey has grown significantly in recent years, it has still not matured compared to the developed markets. It has been thought that factors like perceived price value, trust, and the availability of these services play a very significant role in consumers' preference for these services. In this context, the main purpose of this study is to understand the factors affecting preference for short-term car rental services in Turkey.

In this study, by utilizing the Unified Theory of Acceptance and Use of Technology 2 factors such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit were examined in consumers' process of adoption of short-term car rental services. Within the scope of the study, data were collected from 413 participants who live in İstanbul, Ankara, or İzmir and have a valid driver's license. The online survey method is used to collect data from the participants. Participants' attitudes towards short-term car rental services were examined by utilizing methods such as Reliability Analysis, Explanatory Factor Analysis, Regression Analysis, and Cluster Analysis.

The main findings of this research indicate that consumers perceive short-term car rental services as a fast and practical transportation in general; yet, they still have concerns about price value and availability of these services. According to the regression analysis, performance expectancy ($\beta = 0.737$, $p < 0.001$), social influence ($\beta = 0.345$, $p < 0.001$), and hedonic motivation ($\beta = 0.177$, $p < 0.001$) are the most significant factors on usage intention. Price perception, on the other hand, is one of the factors that affect users' overall preferences but does not stand out as the primary determining factor.

Additionally, the study has identified three different consumer segments:

- 1) Efficiency Seekers, consumers who are focused on performance and benefit, are neutral in terms of price.
- 2) Early Adopters, consumers with the highest interest in short-term car rental services, with low price sensitivity.
- 3) Skeptics, consumers with low usage intention, and high price sensitivity.

This segmentation shows the need for specialized marketing and pricing strategies for different groups. Along with this, the study has revealed that usage intention does not always turn into actual usage. This finding shows that although consumers are willing to use these services, they are not able to due to barriers such as high price, security, and service accessibility.

This research provides important academic and practical contributions to the short-term car rental industry. The detailed analysis of consumer trends specific to the Turkish market and the application of the UTAUT 2 model in this context make this study unique. It is suggested for future research to focus on experimental research to evaluate the true price elasticity, as well as a longitudinal study to observe the changes in consumer behavior over time.

To sum up, in order to increase the adoption of short-term car rental services, both service providers and policy makers should provide strategies that focus on consumer motivation and above stated barriers. In this regard, adopting more inclusive and user-friendly service models can contribute to the growth of the sector.

TÜKETİCİLERİN KISA SÜRELİ ARAÇ KİRALAMA HİZMETLERİNİ BENİMSEMESİNDEKİ ETKİLİ FAKTÖRLERİN ARAŞTIRILMASI

ÖZET

Dünya çapında son yıllarda hızlı kentleşme, artan ulaşım maliyetleri ve değişen tüketici ihtiyaçları ulaşım alışkanlıklarını yeniden şekillendirmeye başlamıştır. Araç sahipliğinin özellikle de yoğun nüfuslu kentlerde yerini giderek erişim tabanlı dijital alternatiflere bırakmaya başlamıştır. Modern dünyada ulaşım ihtiyacı, küresel eğilimlerin tüketim kültürünü mülkiyetten alternatif çözümlere kaydırmasıyla daha geniş bir mobilite kavramına doğru kaymıştır. İnsanlar mobilite ihtiyaçlarını karşılamak için alternatif yollar aramaya başladıkça, araç sahibi olma, taksi hizmetleri veya toplu taşıma gibi geleneksel ulaşım modları, kısa süreli araç kiralama ve araç paylaşımı gibi yeni, daha esnek seçeneklerle desteklenmekte ve hatta bazen yerini almaktadır. Dijital platformlar aracılığıyla saatlik veya günlük araç kullanımı sunan kısa süreli araç kiralama hizmetleri, ulaşım sektöründeki en dinamik yeniliklerden birini temsil etmektedir. Modern dünyada ulaşım ihtiyacı, küresel eğilimlerin tüketim kültürünü mülkiyetten alternatif çözümlere kaydırmasıyla daha geniş bir mobilite kavramına doğru kaymıştır. İnsanlar mobilite ihtiyaçlarını karşılamak için alternatif yollar aramaya başladıkça, araç sahibi olma, taksi hizmetleri veya toplu taşıma gibi geleneksel ulaşım modları, kısa süreli araç kiralama ve araç paylaşımı gibi yeni, daha esnek seçeneklerle desteklenmekte ve hatta bazen yerini almaktadır. Esneklik, kolaylık ve maliyet tasarrufu vaat eden bu hizmetler paylaşım ekonomisinin daha geniş çerçevesi içinde konumlandırılmaktadır. Gelişmiş pazarlarda artan popülerliğine rağmen, Türkiye gibi gelişmekte olan ülkelerde bu tür hizmetlerin benimsenmesi sınırlı kalmıştır. Örneğin, İstanbul, hızla büyüyen nüfusu ve park yeri sıkıntısı nedeniyle alternatif mobilite seçenekleri için önemli bir pazar olarak ortaya çıkmıştır. Ancak, Türkiye'nin kısa süreli araç kiralama pazarı, daha gelişmiş pazarlara kıyasla hala erken aşamalarında. Bunun nedenleri arasında tüketici alışkanlıkları, algılanan maliyet ve hizmetlerin bulunabilirliği yer alabilir. Ayrıca, İstanbul ve Ankara ve İzmir gibi diğer büyük metropol alanlarında esnek mobilite çözümlerine artan bir ilgi görülmesine rağmen, sınırlı farkındalık, düzenleyici zorluklar ve geleneksel araç kiralama firmalarının baskınlığı yaygın benimsemeyi engelleyen faktörler olmaya devam etmektedir. Bu tez, Birleşik Teknoloji Kabul ve Kullanım Teorisi 2'yi teorik temeli olarak kullanarak, Türk tüketicilerin kısa süreli araç kiralama hizmetlerini benimsemesini etkileyen temel faktörleri araştırıyor.

Araştırma, kısa süreli araç kiralama hizmetlerine yönelik tüketici tutumlarını paylaşım ekonomisi bağlamında inceleyerek literatürdeki önemli bir boşluğu doldurmayı amaçlamaktadır. Türkiye'deki kısa süreli kiralama hizmetleri genellikle kurumsal şirketler tarafından mobil uygulamalar aracılığıyla sağlanmaktadır. Bu platformlar trafik sıkışıklığı ve park yeri sıkıntısı gibi zorlukları ele alma potansiyeline sahip olsa da Türk tüketicilerin bu hizmetleri nasıl algıladığı veya benimsediğine ilişkin araştırmaların eksikliği devam etmektedir. Bu çalışma, tüketici benimsemesini etkileyen davranışsal, sosyal ve bağlamsal itici güçleri ve engelleri belirleyerek bu ihtiyacı ele almaktadır.

Bu çalışmada nicel bir araştırma metodolojisi benimsenmiştir. Veriler, kısa süreli araç kiralama hizmetlerinin bulunduğu Türkiye'nin en büyük üç metropol alanı olan İstanbul, Ankara ve İzmir'de ikamet eden kişilere dağıtılan çevrimiçi bir anket aracılığıyla toplanmıştır. Eleme kriterleri kontrol edildikten sonra 261 kişilik bir örnekleme analizlere devam edilmiştir. Model yapılarına ilişkin çeşitli ifadelerle uyumu ölçmek için beşli skalada bir Likert ölçeği kullanılmıştır.

Modeli doğrulamak ve test etmek amacıyla çeşitli analizler gerçekleştirilmiştir. Güvenilirlik analizi, 0.939 alpha değeri ile yüksek bir iç tutarlılık göstermiştir. Araştırmacı Faktör Analizi, toplam varyansın %66.02'sini açıklayan üç faktörlü bir yapı ortaya koymuştur:

- 1) Performans ve Çaba Beklentisi
- 2) Sosyal Etki ve Kolaylaştırıcı Koşullar
- 3) Hedonik Motivasyon ve Fiyat Algısı

Regresyon analizi, performans beklentisinin ($\beta = 0,250$, $p = 0,006$), sosyal etkinin ($\beta = 0,224$, $p = 0,012$) ve hedonik motivasyonun ($\beta = 0,180$, $p = 0,044$) kullanım niyetinin önemli öngörücüleri olduğunu doğrulamıştır. Ek olarak, gerçekleştirilen küme analizi üç farklı kullanıcı segmenti tanımlamıştır:

- 1) Verimlilik Arayanlar: Başlıca işlevsellik ve performans tarafından motive edilirler. Fiyat konusunda nötrdürler.
- 2) Erkenciler: Düşük fiyat duyarlılığına sahip bu hizmetleri kullanmaya motive kullanıcılar
- 3) Kuşkucular: Düşük davranışsal niyete sahip ve fiyat duyarlılığı olan tüketiciler

Bu segmentler pazarın heterojen yapısını ortaya koyar ve kullanıcılara özel stratejilerin önemini vurgulamaktadır. Kısa süreli araç kiralama hizmetlerine ilgi olsa da, kullanım algılanan maliyetler, güven eksikliği ve hizmetin sınırlılığı gibi çeşitli faktörler tarafından engellendiğini söylemek mümkündür. Katılımcılar "kısa süreli araç kiralama hizmetlerine alışkın olmama" ve "kaza riski"ni bu hizmetleri kullanmanın en büyük engelleri olarak algılamışlardır. Ayrıca, bu hizmetlerin yüksek fiyatları, yakınlarda araç bulamama endişesi ve karmaşık rezervasyon ve kiralama süreçleri de kısa süreli araç kiralama hizmetlerinin benimsenmesindeki en çok belirtilen engeller arasında yer almaktadır. Kullanıcıların araç kiralamadaki motivasyonları arasında en yaygın olanı "daha konforlu ve özel bir ulaşım sağlamak" (%66.4) olarak öne çıkmıştır. Ek olarak, "esneklik" (%52.1) ve "kampanyalar ve indirimler" (%61.0) de önemli motivasyonlar arasındadır. Çevre dostu olma ve trafik sıkışıklığını azaltma gibi faktörler ise kullanıcılar için daha az önemli motivasyonlar olarak ortaya çıkmıştır. Araştırma hem akademik hem de yönetsel katkılar sunmaktadır. Akademik olarak bu çalışma Birleşik Teknoloji Kabul ve Kullanım Teorisi 2'nin gelişmekte olan bir ülkedeki yeni bir hizmet kategorisine uygulanmasını genişletmiştir. Yönetimsel olarak ise çalışmanın bulguları aşağıdakilerle olan ihtiyacı vurgulamaktadır:

- Güven ve farklılığı artırmak için iyileştirilmiş iletişim
- Farklı kullanıcı profillerine göre uyarlanmış fiyat stratejileri

- Çaba beklentisini azaltmak için kullanıcı dostu mobil uygulamalar
- Algılanan erişilebilirliği iyileştirmek için daha geniş hizmet kapsamı

Sonuç olarak, bu tez Türk kısa dönemi araç kiralama pazarındaki tüketici davranışını anlamak için kapsamlı bir çerçeve sunmaktadır. Kentsel hareketlilik devam ettikçe, hizmet sağlayıcılar ve politikacıların yalnızca verimli ve sürdürülebilir değil aynı zamanda psikolojik ve sosyal olarak Kabul edilebilir çözümler sunarak tüketici beklentilerine uyum sağlamaları gerekmektedir. Fiyatlandırma, güven ve erişilebilirlikle ilgili engellerin üstesinden gelmenin benimseme oranlarını artırmak için kritik olduğunu öne sürer.

Gelecekteki araştırmalar, kullanıcı davranışındaki değişiklikleri zaman içinde değerlendirmek ve fiyat teşvikleri veya güven artırıcı özellikler gibi belirli müdahalelerin benimseme ve sadakat üzerindeki etkisini anlamak için uzunlamasına çalışmalar veya deneysel araştırmalar yürüterek bu çalışmayı genişletebilir.





1. INTRODUCTION

1.1. Background and Context

The need for transportation in the modern world has shifted towards a broader mobility concept, with the impact of global trends changing consumption culture from ownership to alternative solutions. As people are beginning to look for alternative ways to meet their mobility needs, traditional transportation modes such as owning a vehicle, using taxi service for public transportation are being supported and sometimes even replaced with new, more flexible options such as short-term car rental and car sharing as the rise of sharing economy continues to reshape various industries and create new ones by promoting access over ownership. One of the best examples of this change is the short-term car rental services, which provide customers with flexible alternatives to traditional car rental models. These services are mainly rendered by digital platforms that improve user experience and speed up the booking process, allowing consumers to rent cars for short time intervals. The ease of having access to a vehicle when needed, without any obligations associated with ownership, fits in with consumers' increasing desire for flexible and sustainable mobility solutions. It is critical to understand consumer motivation to use such services specific to the sharing economy, which can be defined as a system in which people share resources and is often facilitated by third-party platforms to make the most of already existing resources and to encourage cooperation between individuals.

Traditional car rental services are the subject of the majority of studies conducted in Turkey. According to Gryl (2017), service quality and marketing activities significantly affect long-term fleet rental services. ŐimŐek (2017) found that the comfort of the vehicle and technical competence significantly impact the customer perspective. OĖuz (2019) examined the impact of neuromarketing activities on car-rental decisions and discovered that most customers choose the rent-a-car company based on recommendations from friends, and also suggested that price is one of the main determinative factors on the renting decision. All of them, however, offer extremely helpful insights into short-term car rental services.

Transportation needs in Turkey have been significantly influenced by urbanization and increasing traffic congestion. For instance, Istanbul has come out as a major market for alternative mobility options due to its rapidly growing population and lack of parking spaces. Therefore, like numerous other countries, Turkey has started to recognize the rise of short-term car rental services as a substitute for traditional modes of transportation. Turkey's transportation needs are shaped by urbanization, increasing traffic congestion, and evolving consumer preferences, like in other developing markets. The emergence of short-term car rental services aligns with broader global trends. There are studies indicating that Turkey is among the fastest-growing countries in the sharing economy. (PWC,2018). Yet, Turkey's short-term car rental market is still in its early stages compared to more developed markets. Some of the reasons behind this may be consumer habits, perceived cost, and the availability of the services. Additionally, while Istanbul and other major metropolitan areas such as Ankara and Izmir have witnessed a growing interest in flexible mobility solutions, limited awareness, regulatory challenges, and the dominance of traditional car rental firms still pose barriers to widespread adoption. Understanding these barriers and motivators is crucial for developing strategies to enhance consumer acceptance of short-term car rentals in Turkey. Hence, the primary goal of this study is to identify the factors influencing Turkish consumers' adoption of these services and make a contribution to the body of knowledge in academia and industry.

1.2. Purpose of the Thesis

Traditional modes of transportation, such as owning a vehicle, using taxis, and public transportation, have undergone significant changes lately as consumers increasingly look for alternative ways to meet their transportation needs. Short-term car rental services appear to be one of these new alternatives, especially in big cities where cost-effectiveness, flexibility, and convenience are essential parts of people's daily lives' concerns. Yet, the adoption of these services in Turkey is still quite low, even though they are widely available in countries with developed mobility markets. This may be due to factors such as consumer habits, cost concerns, and regulatory uncertainties. This slow adoption alone shows that there are underlying consumer barriers or concerns that need to be understood and addressed. There may be a number of possible factors behind consumers' adoption of these services. For instance, consumers may be comparing prices with alternative options. Or consumers may have trust and security

concerns regarding both vehicles and payment security. Despite the fact that Turkey's short-term car rental market is expanding, consumers still appear to be hesitant to use these services due to worries about pricing, security, and availability. However, the obstacles to the adoption of these services have not been sufficiently explored. Despite the fact that worldwide studies have looked into car-sharing and traditional rentals, few empirical studies have looked at the short-term car rental drivers' specific behavior. The behavioral factors influencing short-term car rentals in developing countries, where price sensitivity and digital literacy differ greatly, are not well examined. For instance, Turkish consumers encounter obstacles such as limited legal clarity and increased economic concerns, whereas services in Western markets operate in trust-based, regulated contexts. There is a need for localized understanding because these markets differ greatly in terms of income levels, rules and regulations, and technological maturity. (Venkatesh, 2012). Therefore, the primary goal of this study is to identify the factors influencing Turkish consumers' adoption of these services and make a contribution to the body of knowledge in academia and industry by answering the question of what are the factors affecting consumers' adoption of short-term car rental services.

The sharing economy is growing quickly in Turkey; the ING study reveals that 9% of Turkish consumers already use the sharing economy, whereas 47% of Turkish consumers say they would like to join within the next year. In contrast to developed markets, short-term car rentals are still not very popular, despite this growing desire. (ING,2015). This study aims to explore and identify the key factors that influence the adoption of short-term car rental services. It is critical to understand the motivations, preferences, and barriers that shape consumer behavior, considering the rapid growth of the sharing economy. This study aims to contribute to the growing body of literature. In addition to its academic contributions, this study seeks to provide a general understanding of how Turkish consumers perceive short-term car rentals and provide insights that can help businesses operating in this industry by identifying these factors that facilitate or hinder the adoption of short-term car rental services in Turkey. The findings of this research can be beneficial for car rental service providers, regulatory bodies that are interested in sustainable and efficient mobility solutions, and technology developers looking to create a seamless experience. It is hoped that the findings of this research will create a good framework to understand the consumer

needs and expectations for firms that operate in short-term car rental services. It will form a scientific basis for pricing strategies, availability strategies, as well as improving user experience.

1.3. Structure of the Thesis

This study is structured into five main chapters. The introductory chapter establishes the foundation of the research by giving background information on the growing relevance of short-term car rental services within the broader context of the sharing economy. The research problem is clearly stated, explaining why consumer adoption is still a concern in spite of these services' increasing accessibility. Chapter 2 presents a comprehensive review of existing research on the sharing economy, mobility services, and technology adoption models. This chapter also highlights gaps in the literature in relation to short-term car rental adoption. In Chapter 3, the UTAUT 2 model is presented as the primary theoretical framework for analyzing consumer adoption of short-term car rental services. The research design, data collection methods, sample characteristics, and analytical approaches employed in this study are described in Chapter 4. Chapter 5 is divided into two main sections. The first section includes data analysis, which describes the statistical techniques applied to the dataset, including reliability and validity tests, factor analysis, and regression analysis. The second section presents the key findings of the study, which are discussed in the context of previous literature, providing empirical insights into factors influencing short-term car rental adoption in Turkey. The main findings are summarized in the last chapter, along with their theoretical and practical implications. The study's limitations are noted, and recommendations for further research are presented.

2. LITERATURE REVIEW

2.1. The Advent of Sharing Economy

The concept of the ‘sharing economy’ was first used by Lessig in 2008, and it refers to the collaborative consumption that occurs when resources are shared, exchanged, and rented without the ownership of items. (Hossain, 2020). Furthermore, ‘The Rise of Sharing Economy’ was the main theme of the cover in *The Economist* in March 2013, which was the first time that the media had started to take notice of this concept. (Arcidiacono, 2018). As the sharing economy continues to reshape various industries, it is critical to understand this phenomenon, even though there is no agreed-upon definition in the literature yet.

“Sharing is a phenomenon as old as humankind, while collaborative consumption and the sharing economy are phenomena born of the Internet age. The old wisdom that we are what we own, may need modifying to consider forms of possession and uses that do not involve ownership.” (Belk, 2013).

Although sharing might be an ancient phenomenon, it is crucial to distinguish between the traditional meaning of sharing and the ‘sharing’ that is the foundation of the ‘sharing economy’. In the literature, it is typical to divide the activity of sharing based on several criteria. Belk (2013) conceptualizes the sharing economy as a new consumption model. Simply, it can be said that he differentiates sharing from marketplace exchanges. Belk (2010) does not regard activities that are shared for financial gain as sharing. According to him, it is not possible to talk about a real sharing activity if there is a financial gain as sharing. He refers to these kinds of sharing activities where there is a financial motivation as collaborative consumption. In this regard, he compares and contrasts sharing, gift-giving, and commodity exchange. Table 1 depicts Belk’s framework on “Prototypes and Characteristics,” which shows the similarities and distinctions between sharing, commodity exchange, and gift giving.

Table 2.1: Comparison of Sharing, Gift-Giving, and Commodity Exchange.

	Sharing	Gift giving	Commodity exchange
Prototype	Mothering Pooling and allocation of household resources	The perfect gift (Della and Jim in 'The Gift of the Magi')	Buying bread at a store for money
Characteristics	Nonreciprocal	Nonreciprocal in appearance; reciprocal exchange in practice	Reciprocal
	Social links to others	Nonobligatory in appearance; obligatory in practice	Balanced exchange
	De facto or de jure shared ownership or usufruct rights	Transfer of ownership	No lingering obligations
	Money irrelevant	Thought that counts	Transfer of ownership
	Singular objects	Sacrifice; luxury	Monetary
	Networked inclusion	To please the recipient	Non-singular
	Inalienable	Nonfungible	Partible commodities
	Personal	Singularizes objects	Calculation
	Dependent	Wrappings; ceremony	Inspection
	Sharing context	Lingering imbalance	Alienable
	Social reproduction	Networked inclusion	Impersonal
	Nonceremonial	Inalienable	Independent
	Love, caring	Personal; dependent	Trade/barter context
	Counterindications	Reciprocal expectations	Gift giving / alliance-formation context
Formal monetary debt		Qualitative relations between people	
Forced compliance		Thank yous	
Exchange		Appearance of reciprocity concern	
Exceptions	Thank yous	Too quick a return gift	Love, caring
	Borrowing and lending	Too generous a gift	
	Some paid caregiving	Gift scrutiny; inspection	
	Voluntary anonymous charity	Gift requests	
		Age and wealth exceptions to reciprocity	Second-hand goods
		Money gifts, gift certificates	Relationship marketing
		Mandated charity (e.g., Zakat)	Usury prohibitions; Shariah banking

Belk (2010) presents two categories in terms of the context in which the sharing action takes place. The first is 'sharing in', which refers to sharing with people within a common sphere of ownership, like family, where the property is regarded as shared and others are included in the collective extended self-sphere. The other category, 'sharing out', is rather similar to gift-giving and commodity exchange.

It is clear that the concept of sharing as defined by Belk differs significantly from the 'sharing economy'. As such, Belk's definition of 'sharing' is a more unique concept that offers different approaches to the allocation of resources. According to Belk's concept of sharing, sharing is based on social ties and occurs between people who know and trust one another, while the participants of the sharing economy are strangers. In contrast, hedonic motivation – mostly financial gain – predominates the sharing economy, which is made possible by digital platforms. Therefore, these platforms in the sharing economy serve as an intermediary to build trust instead of pre-existing social ties.

Although there is no agreement on the description of the sharing economy in the literature, various scholars have attempted to describe the concept. Some scholars defined the sharing economy narrowly, while others took a broader view. These studies on the notion of the sharing economy illustrate that this notion has been studied from different perspectives by different authors. Belk (2014) considers the sharing economy as a model realized through digital platforms that allow people to share goods and services with each other. However, it is crucial to consider the social and environmental dimensions of the notion instead of just evaluating the sharing economy solely focused on financial gain. For instance, Botsman and Rogers defined the sharing economy as part of a movement towards 'collaborative consumption'. (Botsman & Rogers, 2010). They included not only the sharing of goods, but also the gig economy, second-hand marketplaces, etc. Bardhi and Eckhardt (2012) criticized the term 'sharing economy' and suggested that 'access-based consumption' was the more accurate term. Similarly, Belk (2013) also highlights that it is now possible to express identity without ownership thanks to the internet. On the other hand, it is also possible to focus on temporary access rather than ownership. For example, Frenken (2017) defined the sharing economy as 'the practice that consumers grant each other temporary access to their under-utilized physical assets.'. Moreover, the actors of the

transaction are also important in defining the sharing economy. Even though many definitions of the sharing economy focus on the peer-to-peer (P2P) nature of transactions, such as Hamari et al. (2015) or Cohen (2016), there are other definitions that go beyond P2P and include business-to-consumer (B2C) models.

Sharing economy can be analyzed through the societal, economic, and technological aspects. The sharing economy has the potential to increase social capital. For instance, Hamari et al. (2016) argue that the collaborative consumption platforms where people can share their goods, skills, and time can also boost a sense of community and trust. Similarly, Botsman and Rogers (2010) argue that the sharing economy can revive social capital by bringing people together and encouraging social interaction. On the other hand, some scholars are concerned that the sharing economy could boost social inequalities. For instance, Schor (2017) explained that the sharing platforms appear to increase inequality in the bottom 80 percent of the income distribution. These platforms are already and most accessible to those with higher income and easy access to technology, which may result in those with lower income not being able to access these benefits. Belk (2014) explains that the sharing economy requires a new form of trust among strangers, which mostly leans on digital platforms, and yet these systems are very open to manipulation. The societal effects of the sharing economy are complicated and well-rounded, which may have both positive and negative consequences and affect important social concepts like social capital, inequalities, power dynamics, trust, and ethics.

Based on the economic aspect, the sharing economy is based on many major shifts in consumer behavior. According to Belk (2014), the sharing economy brings a completely new perspective to the concept of ownership. He explains that in their daily search for new alternatives to the traditional ownership models, consumers continue to place an increasing amount of focus on access. Some scholars argued that the sharing economy creates new paths to access goods and services by challenging the traditional business models. For example, Frenken and Schor (2017) explain that platforms such as Airbnb and Uber disrupt the market by competing with resident actors like hotels and taxis because of their ability to leverage lower prices and costs, technological innovations, etc. These platforms allow consumers to use their unused assets to generate income by facilitating peer-to-peer exchange. This situation may create both opportunities and threats for traditional businesses. Moreover, the sharing

economy is also causing a significant transformation in the labor market. Frenken (2017) explains that platforms such as Uber and TaskRabbit contribute to a phenomenon known as the “gig economy” which enables individuals to work independently and earn some money, and by doing so, it creates alternative business models to traditional employment relationships.

Lastly, the technological aspect is also very critical, especially considering that the sharing economy was made possible by technological advances and digitalization. The sharing economy relies heavily on digital platforms, which serve as marketplaces that connect those with underutilized assets with others in need of access.

There are many other scholars who have very different definitions for the term sharing economy. The sharing economy, as defined by Hamari et al. (2015), is the short-term renting, buying, trading, or sharing of both tangible and non-physical goods or services between peers via a variety of digital platforms. According to Böckmann (2013), the sharing economy is a business model that allows peers to share necessary resources. Frenken and Schor (2017) define the sharing economy as a system in which consumers exchange tangible products and grant temporary access to them, emphasizing that sharing is about making better use of tangible goods. Botsman and Rogers (2010) present the sharing economy as a type of collaborative consumption where consumers utilize digital platforms to grant each other access to their products, skills, or time. A sociological notion known as “critical mass” describes a self-sufficient quantity of movement in the system; in other words, if there are many possibilities, participants will be more satisfied, which will lead to the system’s continuity. The concept of critical mass is essential in understanding the dynamics of the sharing economy because the number of participants and the variety of opportunities directly influence user satisfaction and the viability of these systems. Botsman and Rogers were criticized by different scholars, such as Belk (2014), based on their definition of the sharing economy. He finds their definition too broad because it involves traditional sharing, bartering, lending, trading, renting, gifting, and swapping (Belk, 2014). Different scholars have defined and conceptualized the sharing economy from various perspectives. These definitions are summarized in Table 2.

Table 2.2: Definitions of the Sharing Economy.

Scholars	Definition
Frenken et al. (2015)	Consumers granting each other temporary access
Frenken et al. (2017)	The sharing economy is related to the circular economy, access economy, peer-to-peer markets, sustainable consumption, and collaborative consumption
Botsman and Rogers (2010)	Based on access over ownership, the use of online services, as well as monetary and non-monetary transactions such as sharing, swapping, trading, and renting
Eckhardt et al. (2019)	A measurable socio-economic system that uses technology-supported platforms to provide users with temporary access to intangible and tangible resources
Belk (2014)	Differentiates true sharing from collaborative consumption
Puschmann & Alt (2016)	The sharing economy is discussed from different disciplines, distinguishing between macro and micro economic perspectives, with the former focusing on market models and the latter investigating strategies and processes
Mokter Hossain (2020)	Emphasizes the sharing of underutilized assets in ways that improve efficiency and sustainability. Can be labelled with different names, and it overlaps considerably with other concepts such as the collaborative economy, collaborative consumption, access economy, and platform economy

Sharing economy is defined as “an economic system that is based on people sharing possessions and services, either for free or for payment, usually using the internet to organize this” in the Cambridge Dictionary (2024). There are different examples of P2P sharing that do not involve monetary exchange, but there are also several digital platforms that operate as businesses that organize the P2P interactions for a fee. For instance, Airbnb and Uber, along with many other platforms, are great examples of how the sharing economy has transformed traditional consumption patterns through

the internet. Even though they operate as B2C platforms involving monetary exchange, successful examples like Airbnb and Uber can not be dismissed as part of the sharing economy. Furthermore, these platforms' capacity to promote trust between strangers plays a significant role in the longevity of the sharing economy system. The sharing economy has faced numerous criticisms, particularly for its environmental and economic effects. Although some claim that the sharing economy promotes sustainable consumption, others like Frenken and Schor (2017) have highlighted the rebound effect, which is the sharing economy's potential negative environmental impact. For example, making these services more accessible and affordable may raise demand and have a negative impact on the environment. In consequence, this could raise carbon emissions and reduce the anticipated environmental advantages. Furthermore, given that the majority of people who use these services have high incomes and access to technology, Frenken and Schor (2017) pointed out that the sharing economy may make economic inequality worse. In the economic dimension, it has been suggested that sharing economy platforms may result in unequal distribution of monetary assets. This, and other related issues, highlight the need to define the sharing economy and research its social, economic, and environmental implications.

2.2. Mobility in the Sharing Economy

In recent years, the mobility sector has been growing significantly with car-sharing, ride-sourcing, and bike-sharing platforms, thanks to the sharing economy. These new platforms not only provided new ways of moving but also changed the consumer perception towards mobility. Hence, it can be said that this rapid growth of innovative platforms has affected travel behaviors.

According to Frenken and Schor (2017), the sharing economy is “the practice of consumers providing each other with temporary access to their unused physical assets (idle capacity), possibly in exchange for money.” This definition is then limited only to consumer-to-consumer (C2C) car-sharing platforms. The concept of the sharing economy should not be trapped in the abstract and more sociological debate of what sharing is and what it is not. Even though Frenken and Schor's (2017) definition focuses on peer-to-peer exchange, the practical applications seem to extend beyond this and include business-to-consumer models as well. Restricting the sharing economy to only C2C transactions ignores important platforms that play an essential

role in changing traditional consumer habits. Moreover, both C2C and B2C platforms optimize the use of resources, which aligns with the sharing economy's principle of reducing the idle capacity, and both are essential parts of the larger sharing economy framework. Therefore, from a more general perspective, the sharing economy should include not only car-sharing services and ride-hailing platforms but short-term car rentals as well.

These platforms provide an alternative to owning a personal vehicle while offering consumers flexibility and financial gain, either by earning money or by allowing cost savings. Whether the sharing is between family/relatives or strangers, and whether it is really an act of sharing when money is involved, are valuable discussions, especially from a sociological perspective. When we compare car sharing and short-term car rental services, we see that they differ in one point. While car sharing services are P2P services, short-term car rental services, the fact that a corporate company is usually the intermediary at the payment point and most probably offers more advanced digital payment methods will increase the sense of trust in the consumer compared to the payment in a P2P service – assuming that the peer is a complete stranger. Below, a quote from Frenken and Schor (2017, p.4) clearly explains how people are shifting from owning to accessing.

“Access rather than ownership. The sharing economy is an instance of the access economy, where consumers increasingly opt for access over ownership. Most prominently, car ownership is declining among younger people as access alternatives have been proliferating. Not only can car drivers make use of sharing economy platforms like Relayrides for C2C car sharing or BlaBlaCar for C2C ridesharing, but also cheap and convenient car rental services (ZipCar, Car2Go, Sict) or ride-hailing services (Uber, Lyft, Didi).”

Belk (2013) also points out that young people are losing interest in owning a car. According to him, this pattern could be explained by young people perceiving problems like parking difficulties and car maintenance expenses as major responsibilities. He also notes that one important aspect causing this change is migration from suburban to urban areas. Different business models and platforms developed in the realm of mobility, thanks to the sharing economy, are given below:

- a) Consumer-to-consumer (C2C) Car Sharing: C2C car sharing platforms allow individuals to rent their vehicles to other consumers

- b) C2C Ride Sharing: C2C ride sharing platforms bring together ‘passengers/consumers’ who are going in the same direction and allow them to split the cost of the trip. Although there are differences about the definitions of ride-sharing and ride-hailing platforms, Uber can be mentioned under this category as it brings together drivers and passengers.
- c) B2C Car Rental Services: There are two different services under this category. The first is traditional car-sharing platforms like Zipcar. The second is short-term car rental platforms like GetirAraç and Tiktak.

Table 3 summarizes the important structural differences between short-term car rentals and car-sharing services.

Table 2.3: Key Differences Between Short-Term Rental and Car Sharing.

Feature	Short-Term Car Rental	Car Sharing
Business Model	B2C	P2P & B2C
Duration	Hourly/Daily Rental	Per-minute/hourly usage
Usage Purpose	Short-term mobility needs	Alternative to private vehicle ownership
Payment Method	Fixed reservation-based pricing	Dynamic pricing and usage-based fees
Examples	Zipcar, GetirAraç, TikTak	BlaBlaCar, Getaround, MartıTAG

Sharing economy also creates both opportunities and threats in the field of mobility in terms of environmental impacts. Ideally, the sharing economy has the potential to reduce carbon emissions and consumption by enabling less vehicle use. Yet it is important to note that this can only be true for C2C ride-sharing platforms. For the others, it is important to keep in mind that these platforms are making it cheaper and

more accessible, which may result in an increase in demand and an increase in carbon emissions as well.

2.3. Short-Term Car Rental Services

Short-term car rental services can be simply defined as a service model that allows consumers to access a vehicle for a certain period of time. Companies in this industry also include hourly or minute rental alternatives, which sets them apart from traditional car rental services. In addition, unlike traditional car rental services, these services are provided mainly through digital platforms. The short-term car rental industry, which can be viewed as a fundamental segment of the sharing economy, has transformed consumer access by providing flexible and cost-effective transportation solutions. As can be seen from most of the actors in the market, the industry relies heavily on technological innovations. The rapid growth of the industry clearly reflects the alteration in consumer preferences towards convenience and flexibility. The short-term car rental process usually begins with user registration via a mobile application. Then, users can discover nearby vehicles available for use and reserve a vehicle for either a fixed or an unfixed period of time. These applications allow users to unlock and start the car via the mobile application used, after using the vehicle. Payment, which is typically included by minute/by hour or daily rates then processed automatically through the application. The short-term car rental industry has become a rapidly growing sector worldwide due to urbanization, technology advancements, and shifting consumer preferences. Major companies that have become popular and effectively used in the world are companies such as Zipcar, Yoyo, MOOV, TikTak, Ubeeqo (Telli, 2011). It is observed that short-term car rental services have become widespread, particularly in major cities. Factors such as traffic congestion and parking problems lead consumers to seek alternative transportation options. Nonetheless, Turkey's industry for short-term car rentals has not yet matured. Yet, industry reports in Turkey show that short-term car rental services offer a growing market potential. (TOKDER, 2024). The TOKDER (2024) report states that in the last 3 years, the market share of short-term car rental services has grown from 12% to 18%. However, it has been noted that the adoption of these services is significantly influenced by factors like price sensitivity and the reliability of service providers.

The prevalence, regulatory framework, and reasons for adoption of short-term car rental services vary across countries. Table 4 presents the comparative analysis.

Table 2.4: Market Comparison.

Region	Market Maturity	Regulatory Framework	Key Players	Main Adoption Drivers
USA	Highly developed	Well-defined insurance requirements	Zipcar, Turo	Convenience, car ownership cost
Europe	Developed	Standardized under EU mobility laws	Sixt, Ubeeqo	Environmental benefits, public transport integration
Turkey	Emerging	Limited regulations, unclear insurance policies	Tiktak, GetirAraç	Cost concerns, limited-service coverage

Despite the fact that major global companies like Zipcar are well-known globally, local players like Tiktak and GetirAraç shape the Turkish short-term car rental market. According to industry reports (TOKDER, 2024), Turkey’s market share is growing, as short-term car rental services’ market share is rising from 12% to 18% shows. However, in contrast to more developed markets where factors affecting adoption of consumers differ and regulatory frameworks are more clearly defined, this growth continues to position Turkey as an emerging market.

Short-term car rental services present a number of opportunities and challenges for both consumers and businesses. First, the expansion of the market has been made possible thanks to urbanization, technological advancements, and shifting consumer preferences. This trend can be explained by three main factors: changing consumer behavior, the expansion of social networks and online marketplaces, and widespread adoption of mobile devices and online services. (Botsman, 2014; Hamari, 2015). Furthermore, various tools such as mobile applications, payment systems, and tracking technology used in vehicles have emerged based on technological developments, offering opportunities to increase efficiency. Consumers are now able to easily access

services in the expanding ‘app economy’ (Macmillan, 2009) thanks in large part to the increasing usage of mobile smart devices. On the other hand, competition in the sector is increasing significantly with the participation of both local and global players. Additionally, operational processes such as cleaning and maintenance of cars may also emerge as a challenge at this point. From another environmental aspect, legal requirements may present challenges and limitations. When we look at these opportunities and challenges in terms of their impacts on consumer behavior, it is feasible to conclude that mobile applications improve the accessibility and usability of these services, which can have a beneficial impact on the customer experience with user-friendly interfaces. However, because the shift from ownership to shared access disrupts traditional expectations, users who are less tech-savvy may find it difficult to use these services. In addition, consumers may also be concerned about a number of security issues. For instance, they can be worried about the vehicles’ security, cleanliness, and hygiene because they have been used by others. As online sharing platforms have grown in popularity, issues regarding trust and personal associations with possessions—which were formerly firmly linked to ownership—have changed (Belk, 1988; Belk, 2013). Finally, consumers may be worried about payment security and privacy of personal data, particularly if they are less tech-savvy. The advent of the Internet, particularly Web 2.0 technologies, has facilitated large-scale sharing practices (Grassmuck, 2012), but this may also have introduced new anxieties regarding personal information security.

2.4. Consumer Perception Towards Mobility Services

Consumer behavior refers to the process of individuals searching for, purchasing, using, evaluating, and disposing of goods and services. These processes are affected by many factors such as the needs, desires, motivations, perceptions, and attitudes of consumers. It is possible to say that the sharing economy has a significant share in this change. (Belk, 2014). He explains that the change and development of the internet have also played an important role in this change and that people no longer need property to express their own identities. He posits that “the old wisdom that ‘we are what we own’, may need modifying to consider forms of possession and uses that do not involve ownership” (Belk, 2014). However, with the Internet, we have many ways to express our identity without ownership. (Belk, 2013, in press). Rifkin (2001) also claimed that society was moving toward a shift in the significance of possession,

suggesting that having and using access to things would become more important than possessing them.

Belk (2013) explains this shift in consumer behavior with several factors. First, individuals no longer need to own possessions; instead, people would rather have easy access to items. Second, the platforms that have been developed within the internet and technology, made it simple for individuals to exchange goods and services. In terms of economics, renting allows consumers to avoid the costs of buying, maintaining, and repairing. Additionally, renting gives consumers the chance to try out different products and services. Finally, the sharing economy has positive outcomes and sustainability.

Öztürk (2022) analyzed the connection between online customers' experiences renting cars through mobile applications and their tendency to repurchase. The study discovered that repurchase intention is significantly affected by reliability, customer service, privacy, and ease of use. Telli and Şen (2022) found that consumer attitudes are influenced by their perception of risk, which in turn influences their intention to use car rental services. Solomon (2017) identified factors that influence consumers' perceptions of risk, including the product or service's cost, ambiguity, or recent introduction to the market, all of which contribute to high perceived risk because of uncertainty. Furthermore, Veríssimo (2018) explained that app adoption is encouraged by factors like perceived usefulness and perceived ease of use. Consumers are more likely to use a mobile application for car rental if they believe it to be user-friendly and beneficial. Consumer motivations for using mobility services may vary. One of the most significant factors is economic motivation. For instance, Hamari et al. (2016) state that the sharing economy can provide economic benefits, and prior studies have shown that financial benefits are a significant motivator for sharing. Belk (2014) also mentioned sustainability and financial gain as some of these incentives. Economic factors are still quite important when it comes to short-term car rental services since they may help customers in lowering the costs of car ownership, including fuel, maintenance, and insurance. Sustainability is another important motivation for the sharing economy. Hossain (2020) explains that the sharing economy facilitates sustainable consumption and offers environmental promises. Short-term car rentals and car sharing are often described as an environmentally friendly alternative to owning a vehicle, with the potential to reduce carbon emissions. According to Nijland

and Van Meerkerk (2017), a person who switches from owning a car to car-sharing reduces both car ownership and CO2 emissions. Nonetheless, other scholars emphasize that consumers are not always motivated by environmental factors. According to some academics, a sense of belonging and social status are also significant motivators. Finally, ease of use is a crucial component.

2.5. Consumer Adoption of New Technologies

Technology adoption can be simply defined as the process by which people and societies accept and utilize new technologies. Because new technologies have the power to alter consumer habits and preferences, their adoption has a significant impact on consumer behavior. Numerous theoretical models or explanatory frameworks have been put forth to address technology adoption, particularly in the context of digital platforms.

According to the Theory of Planned Behavior (TPB), human behavior is driven by behavioral intention, and people frequently plan their actions in advance. (Ajzen, 1985). According to the theory, this intention is shaped by three primary factors: attitude, subjective norm, and perceived behavioral control. In a very similar vein, the Theory of Rational Action (TRA) argues that people's actions are determined by their beliefs about the consequences of the action as well as their evaluation of those consequences. (Fishbein & Ajzen, 1975). Therefore, it is stated that behavioral intention is determined by attitudes toward that behavior and subjective norms.

A sociological model called Diffusion of Innovations (DOI) examines how new ideas and technologies proliferate through society. A number of variables, such as relative advantage, compatibility, complexity, trialability, and observability, affect how quickly and how widely ideas spread. (Rogers, 1995). The theory divides those who adopt innovations in society into five groups: early adopters, innovators, laggards, late majority, and early majority. Nevertheless, this theory may be insufficient to explain adoption decisions at the individual level.

The Technology Acceptance Model (TAM) is derived from the Theory of Rational Action (TRA). The Technology Acceptance Model explains a person's intention to use a new technology through perceived usefulness and perceived ease of use, simply how beneficial they believe it to be. (Davis, 1989). Therefore, people are more likely to accept a new technology if they believe that it will benefit them, and it is simple to

use. Although this model has been widely accepted due to its simplicity and applicability, it can overlook some critical elements, such as social norms, which is why versions like TAM2 and TAM3 have also been developed after a period of time.

The Unified Theory of Acceptance and Use of Technology (UTAUT) is formed as a more refined and extended acceptance model. According to UTAUT, users' intentions to accept and use a technology are influenced by four main factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. (Venkatesh, 2003). Additionally, UTAUT takes into consideration moderator variables such as gender, age, experience, and willingness to use. UTAUT 2, which is an extended version of UTAUT, takes into account factors such as hedonic motivation, price value, and habit in addition. (Venkatesh, 2012).

The Unified Theory of Acceptance and Use of Technology (UTAUT) is derived from different acceptance models. According to UTAUT, users' intention to accept and use a new technology is influenced by four primary factors: performance expectancy, effort expectancy, social influence, and facilitating conditions. Moreover, UTAUT considers moderator variables such as gender, age, experience, and willingness to use. The expanded version of this model, UTAUT2, takes into account factors like hedonic motivation, price value, and habit in addition to performance expectancy, effort expectancy, social influence, and facilitating conditions.

From the consumer point of view, short-term car rental services could be analyzed based on acceptance models to understand the motives underlying the adoption by consumers. Interest in short-term car rental services has grown along with the sharing economy and alternative transportation solutions. This trend is spreading worldwide, and consumers are shifting from car ownership toward access-based models. However, there is a gap in research on the factors influencing the adoption of short-term car rental services, especially in emerging markets such as Turkey. This thesis aims to address this gap by concentrating on the factors affecting consumer adoption in the Turkish context. It is observed that Turkey, as an emerging market, offers significant potential for short-term car rental services, and the results unique to the Turkish market may help to develop effective marketing strategies.



3. THEORETICAL FRAMEWORK

The Unified Theory of Acceptance and Use of Technology (UTAUT2) serves as the foundation for this study's theoretical framework because it offers a more thorough explanation of how consumers adopt new technologies. This model was developed by Venkatesh et al. (2012) to describe how people accept and use new technology. UTAUT 2 is based on seven fundamental factors. It has been suggested that these factors influence people's decisions to embrace and utilize technology. One of the most important advantages of the UTAUT 2 model is its multifaceted approach to the consumer adoption process of a service. For instance, performance expectancy helps consumers to assess how short-term car rental services will improve their lives. Effort expectancy (perceived ease of use) is correlated with how accessible and user-friendly digital platforms are. The majority of Turkey's short-term car rental platforms provide their services via mobile applications, which makes it important to understand the effort expectancy of consumers to adopt these services. The social influence factor focuses on how consumers' use of these services is affected by people around them. Price value is another very critical factor, especially in Turkey's context, where price sensitivity is generally high. Turkey's high rate of inflation and rising fuel prices in recent years have increased consumer sensitivity to the cost of mobility. Consumers may prefer more affordable transportation alternatives due to rising car ownership expenses. Therefore, it is critical for service providers to develop adaptable pricing plans. The variables considered in the UTAUT 2 model and their explanations are presented in Table 5.

Table 3.1: Variables in UTAUT2 Model.

Variable	Definition
Performance Expectancy (PE)	The belief that using a technology will improve performance
Effort Expectancy (EE)	The perception that using a technology is easy
Social Influence (SI)	The extent to which others influence a person's usage decision
Facilitating Conditions (FC)	The extent to which a person has the necessary resources and support
Hedonic Motivation (HM)	The enjoyment and pleasure derived from using a technology
Price Value (PV)	The perceived value of a technology relative to its cost
Habit (H)	The extent to which usage becomes automatic

The variables depicted in the above table can be explained further:

- Performance Expectancy: The extent to which an individual believes that utilizing a particular technology will increase their productivity or performance. For instance, if someone believes that these services will make transportation quicker and more effective, they will have high performance expectations for short-term car rentals.
- Effort Expectancy: The degree to which a person believes using a particular technology will be simple and effortless. For instance, the user-friendly

interface of the car rental application and the ease of transaction are effective in the effort expectancy of this service.

- **Social Influence:** The degree to which a person believes that the people they care about approve of their use of a technology. The social impact of a car rental business will be significant, for instance, if the people they care about in their close circle regularly use it and express their satisfaction.
- **Facilitating Conditions:** The degree to which a person believes that they have the resources and support necessary to use a particular technology. The facilitating conditions will be positively impacted, for instance, by the availability of car rental services in the area where they are located and the user's comfort level with digital platforms.
- **Hedonic Motivation:** The degree to which a person enjoys and feels satisfied with using a particular technology. For example, someone who enjoys driving or simply likes to test out new car models will have a high level of hedonic motivation.
- **Price Value:** The degree to which a person believes that the perceived benefits of a technology is advantageous compared to its cost. For example, the price value of a car rental service will be high if it is thought to be more cost-effective than the cost of owning a car.
- **Habit:** The use of technology becomes an automatic behavior. If a person uses short-term car rental services regularly, the habit factor will affect the use of the service.

With the goal of offering a more thorough model, UTAUT 2 was applied to the present study by drawing inspiration from other technology acceptance models, including TRA, TPB, and TAM. UTAUT 2 has been found to have higher explanatory power (i.e., R^2) compared to other models. Although UTAUT is known for its simplicity and high explanatory power (R^2), Bagozzi (2007) argues that it is limited because it does not examine direct impacts. Potential new relationships or significant elements that have been included in already-existing variables may be hidden by this omission. In a similar vein, neither TAM2 nor TAM3 examines direct impacts, which might have revealed more important influences or insights in the study. (Lai, 2017).

The relationships between the variables discussed above are summarized visually in Figure 1.

3.1. Alternative Models Considered

Before UTAUT 2 was chosen as the primary framework for this study, other models were also considered. A comparative evaluation of alternative models that can be used to explain the adoption of short-term car rental services is presented in Table 6.

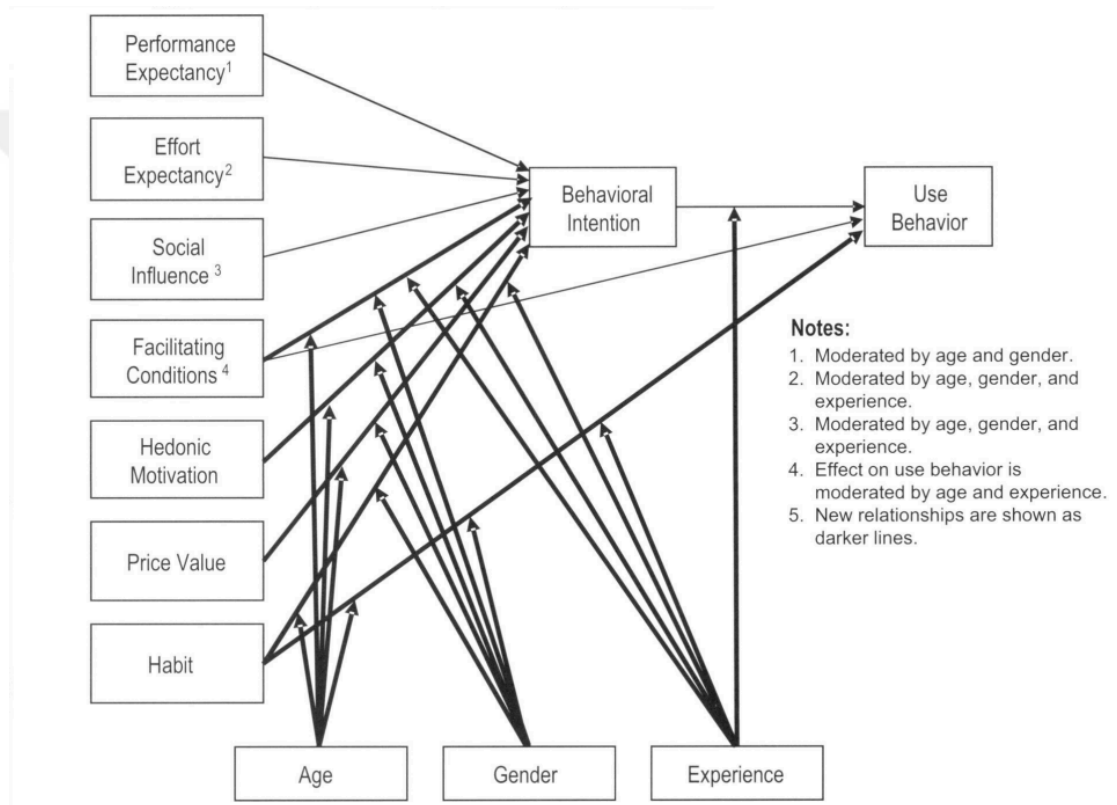


Figure 3.1: Unified Theory of Acceptance and Use of Technology 2.

Table 3.2: Comparison of Alternative Models.

Model	Key Focus	Strengths	Limitations	Relevance to Short-Term Car Rental Services
Technology Acceptance Model (TAM) (Davis, 1989)	Perceived Usefulness & Perceived Ease of Use	Simple and widely used, strong predictive power in technology adoption	Ignores social influences and price sensitivity, lacks broader behavioral factors	Limited, as social and economic factors (e.g., price, trust) significantly impact rental decisions
Theory of Planned Behavior (TPB) (Ajzen, 1991)	Attitude, Subjective Norms, Perceived Behavioral Control	Useful for explaining intentional behavior, considers social norms	Not technology-specific, does not account for hedonic motivation or habitual behavior	Insufficient, as technology adoption requires more than just attitude-based decision-making
Diffusion of Innovation (DOI) (Rogers, 1995)	Adoption of innovation in society	Useful for explaining how innovations spread over time	Lacks focus on individual decision-making factors, does not consider price, and habit	Partially relevant, but does not account for individual motivations behind car rental service adoption
Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003)	Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions	High predictive power for technology adoption accounts for multiple behavioral drivers	Lacks hedonic motivation, price value, and habitual behavior factors	Limited, as price perception and personal motivation are critical in consumer-based services
Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh et al., 2012)	Expands UTAUT with Hedonic Motivation, Price Value, and Habit	Most comprehensive model, incorporates key behavioral, economic, and social factors	Complexity in implementation requires large datasets	Highly relevant, as it addresses key drivers influencing short-term car rental service adoption

The Technology Acceptance Model (TAM) focuses on perceived usefulness and perceived ease of use but lacks the broader social and hedonic factors, as well as the price factor, that are covered by UTAUT 2. Theory of Planned Behavior (TPB) explains adoption through attitudes, subjective norms, and perceived behavioral control, but lacks specific focus on technology-related factors. Despite explaining how people's intentions and external factors shape their behavior, the TPB may not be sufficient to explain the adoption process of technological innovations. Diffusion of Innovation (DOI) Theory emphasizes the stages of innovation adoption (awareness, interest, evaluation, trial, and adoption), but it does not account for factors of habit and price value that are central to UTAUT. Although the DOI mainly emphasizes the transmission of innovations to society, it still does not give enough attention to individual acceptance factors, such as habit and price sensitivity, that are central in consumer-based decisions. Therefore, Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) provides a better framework for examining the adoption of short-term car rental services.

3.2. Justification for Using UTAUT2

UTAUT 2 was chosen for this study for a number of reasons. First of all, UTAUT 2 is the most comprehensive model that includes a wide range of factors such as performance expectation, effort expectation, social influence, facilitating conditions, hedonic motivation, price value, and habit. Also, it takes into account not only the dimension concerning technology, but also various issues such as price, social, and personal factors. Although TAM emphasizes important factors such as perceived usefulness and ease of use, it lacks behavioral and social motivators essential to analyze for mobility services. Conversely, TPB does not specifically address barriers to technology adoption, such as perceptions of price and trust. In the original UTAUT model, price value and hedonic motivation were not taken into consideration. This limited its applicability in consumer settings where users' adoption decisions are frequently affected not only by performance or effort expectancy but also by the perceived enjoyment of using the technology and whether it offers good value for the money, both of which are critical in determining user behavior in voluntary usage environments. Although this approach has been used in prior studies for various digital services, its applicability and relevance to short-term car rental services are still largely unexplored, especially in the context of emerging markets.

UTAUT 2 is found to be better suited for researching short-term car rental businesses since it incorporates hedonic incentive, price value, and habit. Additionally, UTAUT 2 appears to be a model focused on the needs of the user. By adding constructs like hedonic motivation, price value, and habit – factors that more accurately reflect individual user preferences, experiences, and behaviors in consumer contexts, it builds upon the original UTAUT and, as a result, it makes a suitable model for a study examining how consumers behave in the sharing economy. According to Venkatesh (2012), the UTAUT 2 model that includes only direct effects accounts for 44% of the variance in behavioral intention, while the version with interaction terms increases to 74%. Similarly, 35% of the variance in actual technology use can be explained by the direct effects model, whereas 52% can be explained by the moderated model. These numbers demonstrate a significant increase in explanatory power over the original UTAUT model. Finally, UTAUT 2 has been used and extended in a wide variety of contexts, which makes the model suitable for a new and developing technology such as short-term car rental. This study explores the factors influencing consumer adoption of short-term car rental services within the context of the sharing economy. Understanding the motivations and barriers influencing consumer behavior becomes much more important than ever as global trends shift from ownership to access-based models. While short-term car rental services offer a flexible and cost-effective substitute for traditional car ownership, their adoption differs across different markets and consumer groups. In order to present a structured analysis of consumer behavior, this thesis builds upon research already available on the sharing economy, mobility services, and technology adoption models. The theoretical framework chosen for this study, UTAUT 2 (Unified Theory of Acceptance and Use of Technology 2), was chosen to overcome the limitations of the first UTAUT model, specifically to better explain technology adoption in consumer settings. The theory also enables a comprehensive analysis of interactions of important factors such as performance expectancy, effort expectancy, facilitating conditions, hedonic motivation, habit, and price value.



4. METHODOLOGY

4.1. Research Design

In the study, the factors influencing consumer adoption of short-term car rental services are examined in detail. The effect of performance expectancy, social influence, hedonic motivation, price perception, and facilitating conditions on usage intention was analyzed in accordance with the Unified Theory of Acceptance and Use of Technology 2 Model. The research model could be seen in Figure 2.

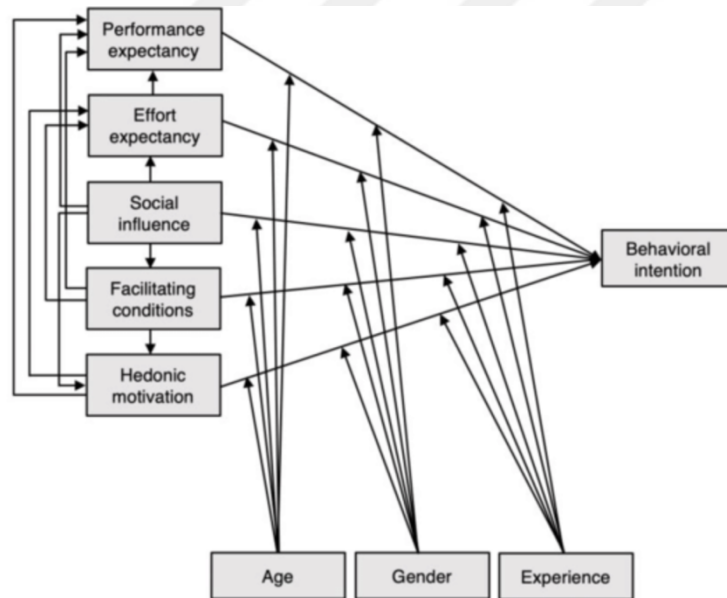


Figure 4.1: Unified Theory of Acceptance and Use of Technology 2.

A quantitative approach has been adopted in order to measure participants' perception towards short-term car rental services and the impact of afore mentioned variables on usage intention. The field research was conducted using self-administered online surveys, and the survey questions were adapted from validated UTAUT 2 scales (Venkatesh et al.,2012) and tailored to the short-term car rental context. The survey was initially prepared in English and then translated into Turkish to guarantee semantic equivalence. Before the final data collection, a pilot study with 86 respondents was conducted to ensure clarity and improve the question wording. A five-point Likert scale (1: strongly disagree, 5:strongly agree) was used to measure key constructs.

A variety of analyses were conducted, such as Cronbach's alpha analysis to test the scale's reliability, explanatory factor analysis to examine the factor structure, correlation analysis to determine the relations between the variables, regression analysis to explore independent variables effect on the dependent variable and lastly cluster analysis to create user segment profiles. To ensure the validity of the regression model, the assumptions of normality, multicollinearity, homoscedasticity, and autocorrelation were tested.

4.2. Sampling and Data Collection Methods

This study targeted individuals who have a valid driver's licence and live in İstanbul, Ankara, or İzmir, as these services are only available in these cities in Turkey. Convenience sampling was utilized. Due to practical limitations, including time, accessibility, and the concentration of service availability in urban areas, this method was chosen. Furthermore, UTAUT-based consumer research commonly employs this non-probability sampling strategy for exploratory purposes. (Hair et al., 2014). The survey was conducted via online platforms to ensure wide accessibility and efficient data collection. Specifically, SurveyMonkey was chosen due to its user-friendly interface and customizable question formats. Data collection took place between January and February 2025. A total of 413 responses were collected, but after the screening process, 261 surveys were found valid to use in the analyses. Table 7 shows demographic characteristics of the participants.

Table 4.1: Demographic Characteristics of Participants.

Variable	Categories	Percentage (%)
Age Group	18-24	20%
	25-34	45%
	35-44	25%
	45+	10%
Gender	Male	48%
	Female	50%
	Other	2%
Education Level	High School	10%
	Undergraduate	70%
	Graduate / Postgraduate	20%
City	İstanbul	63%
	Ankara	18%
	İzmir	4%

The majority of participants are between the ages of 25-34. The gender distribution is balanced. When looking at the level of education, it is seen that the majority of the participants have a bachelor's degree.

4.3. Data Analysis

This chapter presents the analysis of the data to understand the factors influencing consumer adoption of short-term car rental services in Turkey. The statistical analyses were conducted using SPSS.

4.4. Findings

A detailed discussion and interpretation of the results obtained from the analyses are discussed in detail in this chapter.

4.4.1. Descriptive findings: General awareness and usage patterns

This study first aimed to understand the general awareness level of short-term car rental services among Turkish consumers. As observed, 93% of respondents indicated that they were aware of these services, showing a general familiarity with the concept in the major metropolitan areas. Following this, participants were asked about their prior experience with these services. 57% of the participants mentioned that they used short-term car rental services, which shows that despite the high awareness score, actual adoption is still limited. For participants who had prior experience, the study also investigated their usage frequency, as detailed in Table X. The distribution showed that the half of the participants use these services less often than once every 2 months indicating that short-term car rental services are seen as a need-based, conscious choice rather than an automatic behavior or ingrained habit.

Table 4.2: Usage Frequency.

Usage Frequency	(%)
4-6 times a week	4%
2-3 times a week	6%
Once a week	6%
2-3 times a month	12%
Once a month	6%
Once every 2 months	10%
Less than once every 2 months	52%

As shown in Table 9, the study also looked at the particular occasions in which consumers prefer using these services. These services are mostly preferred on occasions like “when I don’t have a car, to avoid lengthy public transportation options, and on vacation.” This highlights the service’s existing function as a situation-specific remedy as opposed to an everyday form of transportation.

Table 4.3: Usage Occasions.

Usage Occasions	(%)
For my daily chores	22%
To move stuff	16%
On vacation	28%
On weekends	18%
When I don't have my own vehicle	57%
To avoid the long-distance public transport option	43%
Other	15%

4.4.2. Descriptive findings: Consumer perception of short-term car rental services

The descriptive statistics offer insights into consumer perceptions of short-term car rental services. It was found out that most of the participants evaluated short-term car rental services positively. Most of the participants claimed that short-term car rental services meet their transportation needs quickly. This underlies the practicality and quick accessibility of these services. Yet, participants' perception of whether these services are convenient or not seems to be neutral. Therefore, it can be argued that even if the service enables a quick solution for transportation, participants are indecisive about the convenience of these services. The high mean value for "It is easy to learn about short-term car rental through an app or website" ($M = 4.000$) indicates that, on average, respondents perceive these services as efficient and user-friendly. Yet, this can be due to the young nature of the sample. As Belk (2014) points out in the context of the sharing economy, the findings align with growing acceptance of technology-driven solutions. Furthermore, Verissimo (2018) explained that perceived usefulness and perceived ease of use are factors that promote app adoption.

Although the proportion of participants who perceived the price as offering good value was relatively low, the opinion that the rental cost was reasonable compared to other transportation options remained at a lower level. The rate of users stating that they will continue to rent a car for a short time, even if the prices increase, is quite low. This finding is in line with Oğuz (2019), who argued that price was a key factor in car rental decisions. Although price is a construct in the UTAUT2 model, the descriptive statistics suggest that it might be a barrier rather than a motivator.

The rate of participants choosing short-term car rental services without much consideration is relatively low, yet the rate of preferring to use these services when needed is high. The high tendency to use this service “when needed” shows that usage is determined by a need-based and conscious decision process rather than an automatic behavior that has become a habit. This finding reveals that short-term car rental is seen by the participants as a situation-based and flexible solution to meet certain transportation needs. Therefore, the use of the service is shaped more in line with its compatibility with daily life and its capacity to respond to instant needs.

Table 9 presents the descriptive statistics for the items in the scale. The mean values show that respondents agree with the claims made about short-term car rental services. For instance, the item “Short-term car rental services provide quick transportation needs”, with a mean score of 3.65, indicates a favorable opinion. On the other hand, price and social influence items demonstrate less agreement, which suggests possible user concerns.

Table 4.4: Descriptive Statistics of Scale Items.

Item	Mean	Std.Dev
Short-term car rental services provide quick transportation needs	3,650	1,241
I see short-term car rentals as a convenient transportation option	3,408	1,247
Short-term car rental allows you to use your time more efficiently	3,483	1,250
It is easy to learn about short-term car rentals through an app or website	4,000	1,145
It is easy to find an available vehicle nearby for short-term car rental	3,242	1,181
It is easy to complete a reservation for a short-term car rental	3,583	1,267
My family and/or friends think I should use short-term car rental services	2,683	1,372
People who influence my behavior think I should use short-term car rental services	2,833	1,356
People whose opinions I value think I will use short-term car rental services	3,058	1,392
I have the resources (smartphone, internet, etc.) to use short-term car rental services	4,592	0,957
I think customer support is available if I have a problem with short-term car rental services	3,625	1,174
I am aware of the procedures, such as insurance and maintenance, in the short-term car rental process	3,492	1,347
I think using short-term car rental services is enjoyable	3,633	1,202
Short-term car rental feels like a fun experience	3,500	1,328
Short-term car rental gives a sense of freedom	3,417	1,357
Short-term I think car rental services offer good value for money	3,167	1,212
I think the cost of short-term car rental is reasonable compared to other transportation options	2,750	1,330
Even though the prices are a bit higher, I prefer short-term rentals to other transportation options	2,533	1,309

4.4.3. Reliability analysis: consistency of measurement

One of the most vital steps in empirical research is reporting the reliability and validity of the research instruments. To assess the reliability and construct validity of the measurement scale, Cronbach's Alpha, Kaiser-Meyer-Olkin (KMO) measure, and Barlett's Test of Sphericity were utilized in this study. Cronbach's Alpha was calculated to test the scales' reliability. Cronbach's Alpha value was found to be 0.948, which shows that the scale is highly reliable. All 21 items in the scale seem to be making a strong contribution to the scale. Each item's mean and standard deviation range from 2.2797 to 4.5847, are shown in the item statistics. By looking at the item-total correlations, each item's contribution to the overall dependability of the scale was evaluated. "I think using short-term car rental services is enjoyable," showed a good correlation with the scale, with a high corrected item-total correlation of .781.

Although the overall reliability is unaffected, weaker correlations for items related to customer support, awareness of insurance, and maintenance procedures were seen. This suggests that even though consumers generally find these services reliable, they may have different perspectives on support services and procedures.

4.4.4. Exploratory factor analysis (EFA)

Explanatory Factor Analysis was conducted to determine the factor structure of the data. KMO value was 0.930 and Barlett's test of sphericity was significant ($p < 0.001$), which shows that the data is suitable for factor analysis. As a result of the analysis, a four-factor structure emerged. The total variance explained by these four factors is 69.43%. The first factor "Efficiency & Hedonic Motivation" explains 27.17% of the total variance, the second factor "Social Influence & Habit" explains 22.09%, third factor "Ease of Use" explains 11.26%, and the fourth factor "Accessibility, Awareness & Perceived Value" explains 8.90% of the total variance shows that the model has a strong structure.

Table 4.5: Factor Analysis Results.

Factor	Variables Included	Explained Variance
Factor 1	Efficiency & Hedonic Motivation	27.17%
Factor 2	Social Influence & Habit	22.09%
Factor 3	Ease of Use	11.26%
Factor 4	Accessibility, Awareness & Perceived Value	8.90%
Total Variance Explained	-	69.43%

Table 4.6: Rotated Component Matrix.

	1	2	3	4
Kısa süreli araç kiralama hizmetleri ulaşım ihtiyaçlarını hızlı bir şekilde karşılamayı sağlar	.764	.236	.318	.139
Kısa süreli araç kiralamalarını uygun bir ulaşım seçeneği olarak görüyorum	.726	.334	-.002	.305
Kısa süreli araç kiralamak, zamanı daha verimli kullanmayı sağlar	.712	.348	.121	.215
Bir uygulama veya web sitesi üzerinden kısa süreli araç kiralama işlemini öğrenmek kolaydır	.316	.135	.676	.330
Kısa süreli araç kiralamak için yakın çevrede müsait bir araç bulmak kolaydır	.502	.223	.053	.590
Kısa süreli araç kiralama için rezervasyon işlemlerini tamamlamak kolaydır	.438	.403	.536	.186
Ailem ve/veya arkadaşlarım kısa süreli araç kiralama hizmetlerini kullanmam gerektiğini düşünür	.297	.785	.170	.142
Davranışlarımda etkisi olan kişiler kısa süreli araç kiralama hizmetlerini kullanmam gerektiğini düşünür	.300	.786	.024	.200
Görüşlerine değer verdiğim kişiler kısa süreli araç kiralama hizmetlerini kullanacağımı düşünür	.335	.671	.360	.070
Kısa süreli araç kiralama hizmetlerini kullanmak için gerekli kaynaklara sahibim (akıllı telefon, internet vb.)	.154	-.073	.851	.036
Kısa süreli araç kiralama hizmetlerinde bir sorun yaşarsam, müşteri desteğinin mevcut olduğunu düşünüyorum	.630	.279	.416	.053
Kısa süreli araç kiralama sürecindeki sigorta ve bakım gibi prosedürlerin farkındayım	.008	.142	.278	.815
Kısa süreli araç kiralama hizmetlerini kullanmanın keyifli olduğunu düşünüyorum	.786	.319	.251	.031
Kısa süreli araç kiralamak eğlenceli bir deneyim gibi geliyor	.698	.340	.278	.019
Kısa süreli araç kiralama özgürlük hissi verir	.758	.347	.145	.045
Kısa süreli araç kiralama hizmetlerinin fiyatına göre iyi bir değer sunduğunu düşünüyorum	.516	.436	-.011	.494
Kısa süreli araç kiralama maliyetinin diğer ulaşım seçeneklerine göre makul olduğunu düşünüyorum	.455	.525	-.258	.321
Fiyatlar biraz daha yüksek olsa bile kısa süreli kiralamayı diğer ulaşım seçeneklerine tercih ederim	.284	.688	.083	.053
Düşünmeden kısa süreli araç kiralama yapıyorum çünkü bu benim rutinimin bir parçası	.214	.824	-.112	.176
Kısa süreli araç kiralamayı ihtiyaç duyduğumda tercih edeceğim bir seçenek olarak görüyorum	.648	.273	.250	.295
Geçici bir ulaşım ihtiyacım olduğunda kısa süreli araç kiralamak otomatik bir seçim gibi geliyor	.365	.552	.242	.121

4.4.5. Regression analysis

The analysis included four independent variables: REGR factor score 1, REGR factor score 2, REGR factor score 3, and REGR factor score 4.

The model summary shows that the predictors explain an important portion of the variance in Usage Intention, with an R Square value of .807. ANOVA results show that the model is a good fit and at least one of the factor scores is a significant predictor of usage intention. ($F(4, 113) = 117.773, p < .001$).

The coefficients table demonstrates all four factor scores that significantly predict Usage Intention. REGR factor score 2 has the strongest effect ($\beta = .691, p < .001$), followed by REGR factor score 1 ($\beta = .498, p < .001$), REGR factor score 4 ($\beta = .239, p < .001$), and REGR factor score 3 ($\beta = .156, p < .001$). The absence of multicollinearity is confirmed by VIF values of 1.000 for all predictors. Model assumptions were tested, and the assumptions of normality, constant variance, independent errors, and VIF were met.

- Normality: The error terms were normally distributed, as confirmed by the Shapiro-Wilk ($p = 0.458$) and Kolmogorov-Smirnov tests.
- Multicollinearity: The variance inflation factor (VIF) values are generally acceptable, all eigenvalues are 1.000,
- Homoscedasticity: The assumption of constant variance was met, as indicated by scatterplot analysis.
- Autocorrelation: The Durbin-Watson test result was 1.939, indicating that the error terms are independent.

Table 4.7:ANOVA Results for Regression Model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.898a	.807	.800	.50783	.807	117.773	4	113	<.001	1.939

Table 4.8: Regression Analysis Results.

Independent Variable	β	p-value
REGR factor score 1	.498	<.001
REGR factor score 2	.691	<.001
REGR factor score 3	.156	<.001
REGR factor score 4	.239	<.001

The regression analysis showed that performance expectancy is a significant predictor of usage intention ($\beta = .498$, $p < .001$), reaffirming its central role in technology adoption as theorized by Venkatesh et al. (2012). Secondly, it was found that social influence also significantly influenced usage intention. ($\beta = .691$, $p < .001$). Lastly, it is seen that effort expectancy and procedural factors also contributed significantly to the model ($\beta = .156$, $p < .001$).

4.4.6. Cluster analysis: identifying consumer segments

To determine customer segments, K-Means Cluster Analysis was performed. The results indicate that participants are divided into three different groups:

- Cluster 1 is the largest group. This group is distinguished by slightly positive scores on Factor 2 (.23672) and Factor 3 (.23411) and slightly negative scores on Factor 1 (-.22149) and Factor 4 (-.06888). This implies that they have neither a strong preference for nor a distaste for the factors that affect usage intention.
- Cluster 2 is distinguished by high positive scores on Factor 1 (1.06557), Factor 4 (.29972), and a high negative score on Factor 2 (-.95111), with a near-zero score on Factor 3 (-.06017).
- Cluster 3 is the smallest group. This group shows high negative scores on Factor 3 (-3.24202) and Factor 1 (-.79929), a slightly positive score on Factor

2 (.13460), and a slightly negative score on Factor 4 (-.12719). This group is notably different in its strong negative association with Factor 3.

An interesting pattern is revealed by the crosstabulation of cluster analysis with gender. Cluster 1 has a relatively balanced gender distribution (40% female, 59% male). Cluster 2 has a higher percentage of females (68.2% female, 31.8% male), and Cluster 3 is primarily male (16.7% female, 66.7% male). This finding proves that gender is, in fact, a discriminating factor in cluster formation, and the Chi-Square test confirms the strong correlation between cluster groups and gender. ($p = .005$).

Table 4.9: Cluster Analysis Results.

Cluster	Factor 1	Factor 2	Factor 3	Factor 4	Gender	Key Characteristics
Cluster 1	-.22149	.23672	.23411	-.06888	40% F, 59% M	Moderate stance across all dimensions
Cluster 2	1.06557	-.9511	-.06017	.29972	68% F, 31% M	High on Performance and Procedural, low on Social Influence
Cluster 3	-.79929	.13460	-3.2420	-.12719	16% F, 66% M	Low on Effort Expectancy and Performance, variable on others

The cluster analysis identified three distinct consumer segments:

- Cluster 1: Their characteristics suggest a pragmatic approach, weighing different factors without strong inclinations.
- Cluster 2: This segment is characterized by notably high scores on Factor 1 (Efficiency & Hedonic Motivation) and moderately positive scores on Factor 4 (Accessibility, Awareness & Perceived Value). This suggests that they are

highly motivated by the perceived functional benefits, efficiency, and enjoyment. They are strongly driven by performance and procedural factors but less influenced by social influence, demonstrating that their independent evaluation of usefulness and quick benefits has a greater influence on their adoption decisions than their social circles.

- Cluster 3: This cluster is distinguished by its strong negative association with effort expectancy, with its low negative score on Factor 3. These consumers' adoption is most probably hindered by perceived difficulties in using short-term car rental services.



4.4.7. Barriers and drivers of short-term car rental adoption

Table 14 presents barriers to adopting short-term car rental services.

Table 4.10: Barriers to Short-Term Car Rental Adoption.

Barrier	Mean	Standard Deviation	Significance	Barrier	Mean
Not being used to short-term car rental services	1.68	1.12	Most frequently cited barrier	Not being used to short-term car rental services	1.68
Concerns about accident risks	1.64	1.09	High perceived risk is a major concern	Concerns about accident risks	1.64
High rental prices	2.15	1.20	Pricing is a concern, but not the primary factor	High rental prices	2.15
Fear of not finding a car nearby	2.32	1.18	Some users hesitate due to availability issues	Fear of not finding a car nearby	2.32
Uncertainty about service reliability	2.32	1.17	Trust remains an issue for adoption	Uncertainty about service reliability	2.32

Among users' motivations for renting a car, the most common motivation is "providing a more comfortable and private transportation" (66.4%). Additionally, "flexibility" (52.1%) and "campaigns and discounts" (61.0%) are also among the important motivations. Factors such as being environmentally friendly and reducing traffic

congestion emerged as less important motivations for users. The results of the study show that sustainability is a relatively low motivator for Turkish consumers, in contrast to research conducted in developed markets, where environmental benefits seem to be a major motivator. This finding points to a difference in consumer preferences, which is likely influenced by the region’s unique economic context, where personal benefits outweigh longer-term environmental concerns.

Table 15 presents motivations to adopt short-term car rental services.

Table 4.11: Drivers of Short-Term Car Rental Adoption.

Motivation Factor	Percentage (%)	Interpretation
Flexibility (time & location independence)	66.4%	The most common motivation for renting cars.
Comfort and privacy in transportation	52.1%	Users appreciate the ability to rent at their convenience.
Promotional discounts & campaigns	61.0%	Discounts encourage more users to adopt rentals.
Avoiding maintenance costs	28.1%	Some users see rentals as a cost-saving alternative.
Affordability of rental costs	19.2%	Price-sensitive users still consider cost a barrier.
Environmental benefits (reducing congestion, emissions)	6.2%	Sustainability is not a primary motivation.

The main aim of this research was to examine user perceptions and motivations towards short-term car rental services in depth, and to reveal important factors related to usage intention. The study found that performance expectancy and effort expectancy are the most influential factors in the adoption of short-term car rental services; social influence has a moderate effect, demonstrating that recommendations from peers and close social circles impact the decision-making process. Hedonic motivation and price

perception play minor roles in the adoption, which suggests that emotional and financial concerns are secondary to convenience. Moreover, this study found that there is a significant gap between usage intention and actual behavior, which means that external barriers may hinder adoption. This also may explain why consumers recognize the benefits of short-term car rentals but hesitate to use the services due to their concerns about pricing and the availability of the service. Many respondents mentioned worries about affordability, highlighting that price continues to be an important barrier. The findings of this study align with prior research in the field of technology adoption and the sharing economy. Prior research highlights that performance expectancy and ease of use are the main drivers of consumer behavior. For instance, Davis (1989) proposed that perceived usefulness and perceived ease of use are the fundamental drivers of users' acceptance of technology and their intention to use. Furthermore, Venkatesh et al. (2003) found that performance expectancy is the strongest predictor of usage intention. Yet, this study also revealed new insights, specifically the critical role of pricing concerns and trust barriers, which have not been fully studied in earlier research on mobility services. The findings of the research indicate that when determining the strategies of service providers, focusing on users' performance and effort expectations will be more effective than factors such as price and social impact.



5. CONCLUSION AND RECOMMENDATIONS

This study was conducted to explore the underlying factors behind consumer adoption of short-term car rental services. Analyses based on the Unified Theory of Acceptance and Use of Technology (UTAUT)² indicated that performance expectancy and effort expectancy have a strong effect on usage intention. The major aim of this study was to identify the factors influencing the consumer adoption of short-term car rental services. Findings indicate that performance expectancy, social influence, and hedonic motivation significantly impact consumer intentions. However, price perception and trust issues remain barriers to widespread adoption.

This study has identified that users perceive short-term car rentals as a fast and efficient transportation solution. However, the encouraging role of price value and social influence is limited. Social influence and facilitating factors have a strong effect on usage intention. The power of social influence is especially noticeable in the context of Turkey and may reflect collectivistic cultural trends frequently seen in emerging economies, as mentioned by Oğuz (2019). The regression analysis indicated that performance expectancy and effort expectancy have a notably stronger effect on usage intention, reaffirming their central role in technology adoption as theorized by Venkatesh et al. (2012). This finding is also consistent with earlier work by Davis (1989), who highlighted perceived usefulness as a fundamental driver. Price value was found as one of the weakest factors affecting usage intention. The fact that price value is not a determining factor may demonstrate that users take the price-performance ratio into account. It was also found that users are hesitant about service and vehicle availability. The idea that short-term car rental services provide convenient and time-saving solutions for specific transportation needs is directly linked to the willingness of consumers to accept and use these services. Adoption is facilitated by the belief that the service offers flexibility and convenience, particularly in situations like transporting heavy objects or traveling under time pressure. In this case, awareness of car sharing and the "convenience" aspects of the service are key factors in determining the desire to use. Users are also more inclined to try the service if they believe the digital process is easy to use, such as through a user-friendly interface and

simple usage processes. Models of technology adoption, particularly UTAUT, demonstrate that elements like perceived ease of use have a significant impact on behavioral intention (Venkatesh, Thong & Xu, 2012).

5.1. Academic Contribution

The main aim of this study was to contribute to the body of knowledge in academia by identifying the factors influencing consumers' adoption of short-term car rental services in 3 metropolitan areas in Turkey, because behavioral factors influencing short-term car rentals in developing markets are not well examined in the literature. This study provides a detailed analysis of consumer behavior specific to the Turkish market, and also the application of the Unified Theory of Acceptance and Use of Technology 2 model, specifically within the context of the Turkish market, makes it unique. Furthermore, this study identified a significant gap between usage intention and actual behavior, showing that other factors may be effective.

5.2. Managerial Implications

Practically, findings help car rental service providers optimize pricing strategies, enhance trust-building mechanisms, and improve user experience. Service providers should focus on the following to improve customer experience and increase the adoption rate of these services.

- Focus on the ease of use of the digital applications: Even if the users find learning the rental process via digital applications easy, there are concerns about vehicle availability. The study found that practical restrictions, such as vehicle access, hindered perceived usefulness and negatively affected the overall experience. According to technology adoption models like UTAUT, a user-friendly interface and simple processes contribute to perceived ease of use, which in turn significantly impacts behavioral intention. Hence, it is crucial to improve the beginning and end of the rental process via digital applications, or the ease of finding a vehicle, as shown by lower participation in this aspect. Companies should optimize their algorithms and implement dynamic inventory management to improve the users' vehicle-finding process.

- Increase user trust: Given that users have some concerns about the reliability of the service, companies should provide more transparency about insurance guarantees, vehicle cleaning, and maintenance standards. According to the study, adoption is hindered by a lack of trust regarding service reliability. Participants also showed a lack of knowledge of maintenance and insurance procedures. According to the study, widespread adoption remains hindered by trust problems. Similarly, Belk (2014) claims that the sharing economy calls for a new kind of trust between strangers, which mostly depends on digital platforms. The suggestion to increase transparency regarding insurance guarantees, vehicle cleaning, and maintenance standards is, therefore, significant because it can help foster the new kind of trust between strangers.
- Dynamic pricing models: Considering that most of the users believe that prices are not quite reasonable, firms should adapt to dynamic pricing strategies that depend on demand and rush hours. The study's findings related to price are complex. Even though price perception did not stand out as an important factor of usage intention in the regression analysis for intention, it was found to have an effect on actual usage behavior. The economic uncertainty in Turkey, particularly in recent years, may be the reason behind this complexity. Moreover, high rental prices were also found as a barrier to adoption. Dynamic pricing models are important because they acknowledge the price sensitivity of some users.
- Loyalty programs and campaigns: The study found that users are sensitive to campaigns and promotions. Offering discounts on first rentals, especially to encourage new users, can accelerate the adoption of the service. Also tiered membership level where loyal users receive discounts may also have an increasing effect. To promote recurring use, businesses such as Tiktak, for instance, offer "loyalty points". An important finding of the study is that promotional discounts and campaigns are important motivations for users, with 61% of participants identifying discounts as a motivation to use these services. This finding directly supports the recommendation to offer loyalty programs and campaigns.

The spread of short-term car rental services should be supported by not only businesses but also public institutions and policymakers.

The spread of short-term car rental services should be supported by not only businesses but also public institutions and policymakers. Legal regulations and insurance policies should be clarified. The regulation of short-term car rental has not been fully determined yet. Clearer policies should be created for insurance coverage, sharing of liability in accidents, and legal problems that may occur during the car rental process. This is particularly relevant given that participants demonstrated low awareness about insurance and maintenance procedures, and these items showed weak correlation with overall service perception in the analysis

In addition, sustainability policies should be encouraged. It was seen that users' motivation for environmentally friendly transportation is low. Incentives should be developed to ensure that electric and hybrid vehicles are more included in short-term rental services. This aligns with the findings where only 6.2% of participants identified environmental benefits as a motivator, indicating that current environmental messaging is ineffective and needs reinforcement through supportive policies. Finally, a mixed travel model should be considered. Short-term car rental services should be integrated with public transportation and micromobility solutions to optimize users' experience. For instance, increasing parking spots outside of subway exits may increase consumers' willingness to use these services. This is supported by the finding that service accessibility is a significant limiting factor in adoption, suggesting that improvements in physical integration can enhance facilitating conditions and actual usage.

5.3. Limitations and Future Research

This study has certain limitations, even though it offers significant insights into the acceptance of short-term car rentals. First off, participants in this study were residents of İstanbul, Ankara, or İzmir, which are the locations where short-term car rental services are currently available. Consequently, the preferences of consumers residing in smaller cities were not examined. There was a time frame in which the study was carried out. However, user preferences are subject to change over time. For example, these patterns could be affected by new regulations or adjustments to the cost of car rental services. Therefore, longitudinal studies should be conducted to examine

changes over time. Additionally, this study did not include a moderator analysis within the regression model to investigate how demographic variables, such as gender, might affect the relationship between the constructs and usage intention. In future research, moderated regression analyses could be used to understand the relationships and to offer a detailed picture of how various demographic groups use short-term car rental services.





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APPENDICES

APPENDIX A: Questionnaire





APPENDIX A

This survey aims to obtain information about short-term car rental services in Turkey. Your responses will help us understand the perceptions, motivations, and factors affecting the use of these services, and will take approximately 10 minutes. Thank you for your participation.

1. Which city do you live in?
2. Do you have a license to drive a class B vehicle?
3. Which of the following statements is appropriate for your vehicle usage?
 - I have a driver's license, but I am not experienced enough to drive in traffic
 - Although it is not very comfortable, I can drive in traffic
 - I can drive in traffic comfortably
4. Do you have a vehicle?
 - I have a vehicle
 - I or one of my family members has a vehicle that we share with other family members, which is registered under my name
 - I have a company vehicle
 - A family member has a company vehicle
 - I or one of my family members do not have a vehicle
5. Have you heard of short-term car rental services (MOOV, GetirAraç, Tiktak, etc.) before?
 - Yes, I heard
 - No, I haven't
6. Have you used short-term car rental services before?
 - Yes, I have
 - No, I haven't

7. What are the transportation options you use in your daily life? (You can choose more than one option.)
- My own car
 - Taxi
 - Public transportation (Bus, metro, etc.)
 - Car sharing services (MartıTAG, etc.)
 - Short-term car rental services (MOOV, GetirAraç, Tiktak, etc.)
 - Other (please specify)
8. What is the transportation option you use most often in your daily life?
9. How often do you use short-term car rental services?
- Every day
 - 4-6 times a week
 - 2-3 times a week
 - Once a week
 - 2-3 times a month
 - Once a month
 - Once every 2 months
 - Less than once every 2 months
10. To what extent do you agree with the following statements? (1-Strongly disagree, 5-Strongly agree)
- Short-term car rental services provide quick transportation needs
 - I see short-term car rentals as a convenient transportation option
 - Short-term car rental allows you to use your time more efficiently
 - It is easy to learn about short-term car rentals through an app or website
 - It is easy to find an available vehicle nearby for short-term car rental
 - It is easy to complete a reservation for a short-term car rental
 - My family and/or friends think I should use short-term car rental services
 - People who influence my behavior think I should use short-term car rental services
 - People whose opinions I value think I will use short-term car rental services

- I have the resources (smartphone, internet, etc.) to use short-term car rental services
- I think customer support is available if I have a problem with short-term car rental services
- I am aware of the procedures, such as insurance and maintenance, in the short-term car rental process
- I think using short-term car rental services is enjoyable
- Short-term car rental feels like a fun experience
- Short-term car rental gives a sense of freedom
- Short-term I think car rental services offer good value for money
- I think the cost of short-term car rental is reasonable compared to other transportation options
- Even though the prices are a bit higher, I prefer short-term rentals to other transportation options

11. What are the factors that encourage you to use short-term car rental services?

(You can choose more than one option.)

- Affordable
- Availability of different vehicle options
- Providing flexibility
- Providing more comfortable and private transportation
- Avoiding vehicle maintenance costs
- Being an environmentally friendly transportation alternative
- Contributing to reducing traffic congestion
- Offering campaigns and discount opportunities
- Other

12. What are the main reasons why you do not use short-term car rental services?

(List from 1 to 3, with 1 being the most important reason)

- High rental fees
- Concern about not being able to find a vehicle in my immediate vicinity
- Complicated reservation and delivery process
- Not sure about vehicle cleanliness or maintenance
- Not sure about the reliability of the service

- Not used to short-term car rental services
- Risks I may encounter in case of an accident, etc.
- Having had a bad experience before
- Finding the campaigns and discounts inadequate

13. In which cases do you prefer to use short-term car rental services? (You can choose more than one option.)

- For my daily work
- To transport stuff
- On vacation
- On weekends
- When I don't have my own vehicle
- Avoiding long-term public transport options

14. Would you consider using short-term car rental services?

- Yes
- No

15. What is your age?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55 and above

16. What is your gender?

- Female
- Male
- Other
- I do not want to specify

17. What is your education level?

- High school or below
- University
- Master's degree
- PhD





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