Essays on Digital Technologies and Digital Divide

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ABSTRACT

Due to the rise of Information and Communication Technologies (ICT), mainly social media, and, on the other hand, the emergence of new economies, like the Sharing Economy, markets are transforming. Ride-hailing services like Uber are among the most well-known new business model in the Sharing Economy, and they have faced both praise and criticism. Most of the researchers studied the motivations and hindrances to the use of shred economies. However, as far as I know, only some researchers have studied the factors affecting people's motivation to use ride-hailing services like Uber. Therefore, the first aim of the study is to determine the factors affecting the motivation behind their use of ride-hailing services and their heterogeneity. Exploratory factor analysis (EFA) was performed on 2015 data available at the Pew Research Center, and latent class regression models were used to find the determinants of heterogeneous segments of users. The two primary motivations can be interpreted as economic and social motivations.

Furthermore, motivations are heterogeneous. Systematic heterogeneity in economic motivations can be reduced to three social clusters and social motivations to two. Word of mouth (WOM), knowledge, and legal debates are critical determinants of economic motivations. At the same time, familiarity with the Sharing Economy is a significant factor in economic motivations. Finally, digital skills have a significant influence on consumers' socially motivated.

According to the social description of clusters, economically motivated users driven by negative WOM are males, young couples, college graduates, high earners, mixed race, couple from south region, mainly agnostic by religion; those driven by knowledge are adult couples with college graduates, high earners, Asian/Asian-american from the South West, and Jewish; economically motivated consumers driven by Trust are mainly older Americans, women, less educated, enjoying lower levels of income, single, and Protestans. Socially motivated consumers driven by negative WOM are found mainly among older women with low to moderate income, white Catholics, and protestants; socially motivated consumers driven by positive WOM are younger (18–49 years), men, highly educated but low earners, Asian-Americans from the northeast region of America).

Additionally, the use of these digital technologies is not distributed equally in society, creating a digital divide among different groups. Therefore, the second aim of this study was to understand to what extent behavioral differences in the use of Uber can be explained by users' motivation towards digital media, physical access of digital media, and their digital skills, as the resources and appropriation theory proposes. Using logistic regression to analyze data from the Pew Research Center, it was discovered that there is a statistically strong relationship between motivation and using Uber, an influence that is mediated by physical access as the theory predicts but not by digital skills. Concluding that motivated people with physical access are getting more benefits from new forms of personal transportation, but digital skills are embedded into the application, so they do not mediate motivation and physical access. Hence, digital divide is not produced by digital skills but by motivation and physical access. Furthermore, educated, young, and single people play a influencial role in determining the use of Uber.

Finally, this study looked at social media use from the viewpoint of Van Dijk's Resource and Appropriation (RA) theory. The objective of this study is two-fold. Firstly, to analyze the sequential process of RA theory in terms of social media use. Secondly, the study aims to see the impact of positional factors (countries' digital resources) on social media appropriation. The study discovered that technophobia operates as a barrier to motivation for social media use and that motivation positively impacts physical access, digital skills, and the outcomes of social media use. This was done using structural equation modelling (SEM) and multigroup analysis. Physical accessibility has a substantial favourable impact on acquiring digital skills and the use of social media. According to this study, social media use is significantly influenced by digital skills. According to the study, people in less technologically advanced nations are more heavily impacted by barriers than those in more developed nations. Finally, motivation is more important in obtaining physical access in leader countries as opposed to follower countries.

The significant contribution of this study is to extend the literature on the shared economy beyond motivation and barriers by incorporating antecedents of the motivation behind the use of ride-hailing services. Furthermore, a new theoretical framework, (RA) theory, is applied in the field of shared economy for the first time. Additionally, different segments and customer profiles were established with the help of this study. Finally, the literature on RA theory

extended beyond just internet use by incorporating its application in the shared economy and the context of social media. In this vein, another variable, *barriers to motivation*, is also introduced in the sequential model of RA theory.

CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION

New technologies have brought numerous significant changes in the modes of communication, information retrieval, and business operations (Jungmittag & Welfens, 2009). The set of tools commonly referred to as Information and Communication Technologies (ICTs) encompasses a variety of technological innovations, such as the internet, social media platforms, mobile devices, and digital business models (Hamari et al., 2016; Möhlmann, 2015; Tussyadiah, 2015; Tussyadiah & Pesonen, 2018; Vizo et al., 2022; Wu, 2022).

One of its most important effects is the internet's ability to connect individuals over great distances. Maintaining connections with far-flung friends and family is now simpler than ever . Additionally, it has aided in developing online social communities that unite people from all over the world who share similar interests (Hill et al., 2015). However, because people might spend more time online than interacting with others in person, the internet can also be isolating.

The way we consume information has also altered because of the internet. People can receive news and information online from several sources rather than just traditional ones like newspapers or television (Boczkowski et al., 2017; Gayeta, 2021). Since it can be challenging to assess the dependability and accuracy of online sources, this can be both helpful and difficult (Haimson et al., 2021).

The internet has significantly impacted the way we work. It has encouraged the expansion of the gig economy and made it possible for people to work remotely from anywhere in the world (Graham & Anwar, 2019; Ostoj, 2021). It has, however, also engendered a culture of continual labour, where individuals may experience pressure to be accessible and attentive to their employers or clients at all times.

The internet has impacted privacy. While it has made it simpler for people to share personal information with others, it has also made it simpler for unauthorized parties to access that

information. As a result, in recent years, worries about data breaches, identity theft, and online harassment have grown in popularity (Bentaleb et al., 2015).

The Shared Economy represents a novel approach to consuming and producing goods and services (Boateng et al., 2019; Zhu et al., 2020). Different business models are working on these principles, and ride-hailing service is one of a kind. In this kind of shared economy (ride-hailing business models), digital service platforms like Uber serve as the liaison between customers (riders) and service providers (drivers) (Kumar et al., 2018). In this setting, customers demand underutilized goods or services. The service provider supplies these goods and services. The connection between demand and supply is mediated by a digital platform (Uber), and the phenomenon is called Sharing Economy. Instead of individual ownership, individuals engage in resource sharing and establish connections via digital platforms (Kim et al., 2015). Uber is a widely recognized shared economy platform that has emerged as a significant contender to conventional taxi services on a global scale.

On the one hand, ICT and its offshoots have brought so many opportunities for the betterment of society (Palvia et al., 2018). Nonetheless, conversely, it has given rise to a significant disparity between individuals who possess digital technologies and those who don't, a phenomenon known as the digital divide (Attewell, 2001). This divide may take many forms, such as differences in high-speed internet access, device accessibility, and digital literacy abilities (Hamari et al., 2016; Möhlmann, 2015; Tussyadiah, 2016; Tussyadiah & Pesonen, 2018; Van Deursen, 2010). Despite the possibility that technology will improve people's lives, the digital divide has significant societal repercussions, particularly regarding social and economic inequality.

The divide has been identified as a significant issue that can impede economic, social, and political progress, particularly in developing nations (Ferro et al., 2011; Hargittai & Hinnant, 2008). People who are already marginalized, such as those who are low-income, those who are the residents of rural areas, and those with disabilities, are disproportionately affected. Moreover, a lack of access to technology can limit prospects for civic engagement, employment, and education, aggravating already-existing disparities. For instance, low-income students may need dependable internet connectivity to finish online coursework. In addition, job seekers without computer access may find it challenging to apply for specific opportunities.

The digital divide can also reinforce social and cultural divides. For example, digital literacy is becoming increasingly important in today's culture, yet only some people learn these skills (Deursen & Mossberger, 2018). As a result, people may feel excluded and alone, further isolating them from the larger community. For instance, older adults who are less internet savvy could find it challenging to connect with distant relatives or participate in online activities.

The digital divide significantly affects public health as well. The importance of having access to technology has increased due to the COVID-19 outbreak (Budd et al., 2020; Rimmer, 2020). The capacity to work, study, and receive medical care from a distance has reduced the virus's potential to propagate. The health inequities in marginalized groups are exacerbated by those lacking dependable internet access or the requisite technology.

The digital divide presents difficulties, but some efforts may be taken to close the gap. Regardless of financial level or geography, governments and private organizations can invest in infrastructure to guarantee that high-speed internet is accessible in all areas. Programs can also be created to offer individuals needing cheap gadgets and training in digital literacy. These initiatives may help level the playing field and allow everyone to engage in digital life.

1.2 RESEARCH PURPOSE AND QUESTIONS

This thesis aims to unearth the factors affecting people's motivation to use the internet in general, particularly in digital economies like Uber. Furthermore, the thesis aims to put forward valuable information for managers, especially in the shared economy sector, to enrich the customer experience by providing what customers expect and desire from their services. On the other hand, this thesis is intended to inform policymakers of the factors that cause economic and social divides in society.

Based on this general purpose, the following research questions have been drawn, which are connected to three different chapters of this thesis (Table 1):

Table 1. Research Questions

Chapter	Research Questions
TWO ANTECEDENTS OF MOTIVATIONS TO USE UBER	RQ1. What are the motivations of the individuals to use Uber? RQ2. To what extent consumers' motivations are heterogenous in association with their correlates? RQ3. To what extent consumers' heterogeneity is socially distributed?
THREE DIGITAL DIVIDE IN THE CONTEXT SHARED ECONOMY	RQ1. To what extent the RA model explains the use of Uber? RQ2. To what extent Physical Access and Digital Skills mediate Motivation's effect on Uber? RQ3. To what extent the effect of theoretical drivers systematically differs according to the social position of users? RQ4. To what extent social indicators moderate the effect theoretical drivers on using Uber?
FOUR SOCIAL MEDIA DIGITAL DIVIDE	RQ1. To what extent RA theory explains the sequential process of social media appropriation in developing countries? RQ2. To what extent the digital development of the country affects the RA model for the appropriation of social media in developing countries?

1.3 STATE OF ART LITERATURE, RESEARCH GAP AND OBJECTIVES

Studies on the sharing economy, notably Uber and AirBnB, so far have been grounded on three primary theoretical domains i.e. Marketing and Consumer Research, Economics and Sociology. The most comprehensive consumer decision-making model, developed from marketing and consumer research, is based on the buyer behavior model (Howard, 1994). This model explains behavior as the result of motivation, search, evaluation of alternatives, intentions and behavior leading to satisfaction if actual performance is matched with expectations. If the satisfaction is positive, it reinforce the preferences (intention to repurchase).

In the light of above model of buyer behavior, scholars have found a positive relationship of Attitudes (or expected benefits), Perceived Value (PV), Behavioral Intention (BI), Satisfaction, and Loyalty (Repurchase Intention). So et al.(2018) found that price value (another way of measuring Economic Benefits) has a direct relationship with Attitude and an indirect relationship with Behavioral Intention mediated by Attitude. Conversely, research has not found any significant relationship between Economic Benefits (EB) and attitude but a direct impact on Behavioral Intention (BI) (Hamari et al., 2016). Similarly, the positive relationship between EB and Behavioral Intentions has been witnessed in marketing literature (Chatterjee et al., 2019; Pappas, 2017; Tussyadiah, 2016) but the relationship between EB and BI is negated by Möhlmann (2015)

Furthermore, findings also show that Monetary Saving (EB) has a direct relationship with Perceived Value (PV) (Stollery & Jun, 2017) as it should theoretically be. In this connection, it is also found that PV has a favorable impact on Attitude (Mao & Lyu, 2017; Wang & Jeong, 2018), Satisfaction (Möhlmann, 2015), and Repurchase Intention (Liang et al., 2018; Möhlmann, 2015) but the relationship between PV and Repurchase Intention is negated by (Mao & Lyu, 2017). Research conducted within the parameters of the collaborative consumption model (Sharing Economy) found a positive relationship between satisfaction and repurchase intention (Möhlmann, 2015) between satisfaction and behavioral intention (Tussyadiah, 2016).

In the light of Self-determination theory, human behavior is determined by two types of motivations: intrinsic motivation, which is driven by the satisfaction derived from engaging in behavior for its own sake, and extrinsic motivation, which focuses on behaviors that are instrumental towards achieving outcomes beyond the behavior itself (Deci & Ryan, 1985, 2000).

Therefore, in the context of sharing, in connection to the attitude (Expected Benefits), enjoyment, convenience, unique/novel are the primary intrinsic motivations for developing attitude, satisfaction, and behavioral intention towards sharing economy. Hedonic benefit pertains to the desire for enjoyment, amusement, or pleasure during the consumption experience (Lai, 1995). The term "Unique" denotes versatility, distinctiveness, or novelty in contrast to standardized tourist offerings that might embrace authentic local culture and the distinctive preferences of suppliers in the context of sharing economy like Airbnb (Guttentag, 2015; Tussyadiah, 2015, 2016; Tussyadiah & Pesonen, 2018). A well-established relationship is found between Home benefits and Overall attitude, Satisfaction & Behavioral Intention (So et al., 2018a; Tussyadiah, 2016; Wang & Jeong, 2018); between Enjoyment and PV (Stollery & Jun, 2017), Attitude (Hamari et al., 2016; So et al., 2018a), Satisfaction (Tussyadiah, 2016), Behavioral Intention (Hamari et al., 2016; So et al., 2018a; Tussyadiah, 2016); between Unique/Novel and Perceived Value (Stollery & Jun, 2017), Attitude and Repurchase Intention (Mao & Lyu, 2017); between Authenticity and Perceived Value (Liang et al., 2018), Attitude & Behavioral Intention (Chatterjee et al., 2019; So et al., 2018a).

Service Quality is another integral component of the consumer buyer behavior model (Howard, 1994). Service Quality term is defined as "*a global judgment, or attitude, relating to the superiority of the servic*e" (Parasuraman et al., 1988, p.16). In services marketing, well-established scholarly evidence shows that Perceived Quality has a robust positive relationship with Satisfaction and Repurchase intention (Cronin & Taylor, 1992; Fornell & Larcker, 1981). Similarly, it is also found that Service Quality is a strong antecedent of Satisfaction, Commitment, Loyalty, and Repurchase Intention (Akbaba, 2006; Chen & Chen, 2014; Hu et al., 2009; Petrick, 2004; Wilkins et al., 2007). Conversely, one study in the context of sharing economy negated the impact of Service Quality on Satisfaction and Repurchase Intention (Möhlmann, 2015). In the lodging industry the perception of Service Quality is determined

by the customer experience during service consumption (Parasuraman et al., 1988), and according to a study conducted by Priporas et al. (2017), the key factors that significantly influence people's perception of service quality in Airbnb are "Convenience" and "Assurance," closely followed by "Understanding and Caring."

Word of Mouth (WOM) information is pivotal in consumer decision-making (Howard, 1994). WOM refers to exchanging personal opinions and recommendations between consumers regarding products and services (Sen & Lerman, 2007). In the online realm, WOM becomes eWOM, encompassing all communications on the internet aimed at informing consumers about product attributes, usage scenarios, and sellers' qualities (Litvin et al., 2008)

WOM serves as input stimuli for perceptual constructs, which then affect the learning constructs of consumer decision-making, like motives and intentions (Howard & Sheth, 1969). In the context of Airbnb, it is found that eWOM has a direct positive impact on the Repurchase Intention of Airbnb users and also has a direct impact on Subjective Norms (Mao & Lyu, 2017).

Familiarity is the dynamic dimension of consumer research because it has been linked to many theoretical frameworks like the Technology Acceptance Model (Davis, 1985) and the Theory of Planned Behavior (Ajzen, 1985). Familiarity, according to Chong et al. (2009) and Park, Suh, & Lee (2004), Engaging in collaborative consumption necessitates the acquisition of skills necessary to navigate intricate technological platforms. Being acquainted with these technologies is akin to possessing self-efficacy, as defined by Bandura (1997), and Perceived Ease of Use, which pertains to an individual's belief that using a particular technology requires minimal effort (Davis, 1985). The findings of one study in the context of sharing economy show that Familiarity positively impacts Satisfaction and Repurchase Intention (Möhlmann, 2015). According to Mao & Lyu (2017), a separate study discovered that Repurchase Intention is influenced by Familiarity, both directly and indirectly through Perceived Behavioral Control (PBC). Similarly, Wang & Jeong (2018) identified a positive influence of Attitude on Behavioral Intention mediated by PEOU.

Convenience is the central influential factor in the context of online consumer behavior (Beauchamp & Ponder, 2010; Colwell et al., 2008; Degeratu, 2000; Sabine et al., 2009). In sharing economy literature, it is also found that Convenience Benefit (CB) is a critical

motivation to use digital platforms like Uber. Ride-hailing service like Uber uses the online digital platform as the intermediary between the consumer (rider) and provider (driver), which makes this service convenient (Beauchamp & Ponder, 2010). Priporas and his co-authors (2017) also found that convenience , which saves search time and reduces the psychological cost of the customers, is a key driver of sharing economy. Furthermore, the study on ride-hailing services found that search convenience is a key motive for people to use Uber (Boateng et al., 2019).

Sociology has more significant stakes in the field of Sharing Economy/collaborative consumption in the light of Social Exchange Theory (Homans, 1958). Collaborative consumption allows users to fulfil their social needs through interaction with new people and building relationships (Botsman & Rogers, 2010; Möhlmann, 2015). In the area of collaborative consumption like Airbnb, (Kim et al., 2015) states that social interaction creates intense host-guest social exchange beyond the economic exchange.

As discussed by Williams & Soutar (2009), collaborative consumption offers consumers an inherited social advantage. By fostering social interactions, it promotes a sense of community belonging, enabling individuals to establish connections and develop a group identity with others within their local area (Kim et al., 2012; Kim et al., 2015; Möhlmann, 2015). Consequently, fulfilment of the expectation for social benefits results in the satisfaction and positive behavioral intention towards collaborative consumption. This umbrella construct of Social benefits is also used by different authors with varying names like Social Interaction/Host-Guest Relationship (HGR) /Community belonging/ Community (Möhlmann, 2015; Pappas, 2017; So et al., 2018a; Stollery & Jun, 2017; Tussyadiah, 2016; Tussyadiah & Pesonen, 2018; Wang & Jeong, 2018). As with the economic benefits construct, the social benefits is also treated as an independent variable that drives the perceived value, satisfaction, commitment, and loyalty to use Sharing Economy. Research has found that interaction between provider and user of these platforms has a direct influence on satisfaction, behavioral intention (Pappas, 2017; Tussyadiah, 2016; (Pappas, 2017; Tussyadiah, 2016), repurchase intention (Möhlmann, 2015), attitude (So et al., 2018), perceived value (Stollery & Jun, 2017) and commitment and loyalty (Yang et al., 2017).

Therefore, according to socio-cultural viewpoints, trust can evolve even without monetary advancements. When individuals possess shared values, they naturally gravitate towards forming connections with others in the same boat, referred to as reference groups or group affinities. This encourages the development of trust within that particular group. Additionally, such groups significantly impact an individual's principles and their appraisals of various goods and services (Howard, 1994).

The attributes of the providers (drivers) on these platforms refer to their responsiveness, credibility, and honesty. But this variable is latent because it cannot be measured directly. Therefore, it can be measured through online review scores which portray the drivers' reputation and through visual profile photo and review stars, which may communicate attributes of the driver like trustworthiness (Deng & Ravichandran; Einav et al., 2016).

The concept of trust is of paramount importance due to the lack of information about prosumers and consumers. Owing to the online nature of the sharing economy, it has multiple forms of associated risks that reduce the trust in the platform i.e., Performance Risk, Physical Risk and Time Risk.

According to Horton (1976), performance risk is the potential for not obtaining the expected outcome or having the service perform below expectations. Regarding Sharing Economy, since its service cannot be physically experienced beforehand, as Forsythe & Shi (2003) point out, determining its actual quality becomes challenging. On the other hand, physical risk refers to the possibility that a service might prove unsafe or harmful, as Jacoby & Kaplan (1972) described.
In the case of sharing economy, Uber and Airbnb, some “horror” stories exist, which has created security and personal safety concerns, resultantly diminished trust on the plateform (Stollery & Jun, 2017).

Scientific studies in the context of Sharing Economy have used Trust variable to determine the users' Attitude, Satisfaction, Commitment, Loyalty, Behavioral Intention and Repurchase Intention. This construct is used with a few variations like Confidence / Distrust/Risk.

Findings of the various scholarly research show that Trust has positive relationship with Attitude (So et al., 2018b; Wang & Jeong, 2018), Satisfaction (Möhlmann, 2015),

Commitment (Yang et al., 2017), Behavioral Intention (Möhlmann, 2015; Pappas, 2017; Tussyadiah, 2015; Tussyadiah & Pesonen, 2018) and Loyalty (Yang et al., 2017).

Sustainability is getting the attention of researchers and consumers due to the growing concern for sustainable consumption. Similarly, the attitude towards sustainable consumption through these platforms has been studied by many authors (Hamari et al., 2016; Möhlmann, 2015; Tussyadiah, 2016; Tussyadiah & Pesonen, 2018). These studies have found that the sustainability motivation for using Airbnb as the prefer accommodation has positively influenced peoples' satisfaction level and Purchase/Repurchase intention. One study has found that Sustainability motivation positively impacts the Attitude but does not directly impact Behavioral Intention (Hamari et al., 2016). Unexpectedly, the increase in ecological advantages obtained from peer-to-peer (P2P) consumption leads to a decline in satisfaction, as suggested by Tussyadiah's study conducted in (2016) .

Based on the extensive review of the literature in the context of collaborative consumption, it is uncovered that the following theories have been used in conjunction with the Theory of Buyer Behavior: Theory of Planned Behavior (TPB)(Chatterjee et al., 2019; Mao & Lyu, 2017; Möhlmann, 2015; So et al., 2018b), Social Exchange Theory (SET) (Boateng et al., 2019; Chatterjee et al., 2019; Geiger et al., 2018; Kim et al., 2015; Priporas et al., 2017; Tussyadiah, 2016), Self Determination Theory (STD) (Böcker & Meelen, 2017; Hamari et al., 2016; Tussyadiah, 2015, 2016) , Technology Acceptance Model (TAM) (Wang & Jeong, 2018; Zhu et al., 2017), Agency Theory (Cohen & Kietzmann, 2014), Social Cognitive Theory (Zhu et al., 2017), Means-End Chain Theory (Chiu et al., 2014; Liang et al., 2018), Prospect Theory (Chiu et al., 2014; Liang et al., 2018; Mao & Lyu, 2017) Theory of Chaos and Complexity (Pappas, 2017).

All these theories have been developed in the brick-and-mortar framework of firms, but Sharing Economy is purely a digital technology-based model. In order to use these digital platforms, consumers need to be motivated, have access to digital technologies, and be digitally skillful. Additionally, a sharp rise in sharing economy is the result of socio-economic circumstances which requires an equal distribution of resources, greater advancement in technology, and changing consumer attitude about having ownership of the products along with social needs (Botsman & Rogers, 2010). The social need to use sharing economy is significantly in accordance with Maslow's theory of hierarchical needs (Maslow

et al., 1954), so in the case of sharing economy (Ride-hailing) key driver to use this service is the social belonging between Uber drivers and riders to form a social connection (Boateng et al., 2019).

Therefore the decision to conduct the thesis's three studies was motivated by a desire to address important knowledge gaps and enhance understanding of crucial concepts in the sharing economy and digital divide. Each study examines unique aspects, employing relevant theoretical frameworks to yield valuable insights.

Beginning with Social Exchange Theory, the first study investigates the factors influencing individuals' motivations (both economic and social) for utilizing platforms such as Uber within the sharing economy. By comprehending these underlying motivations, the objective of this study is to elucidate the factors that underpin individuals' initial adoption as well as long-term engagement with such digital platforms. Furthermore, segmenting individuals based on their motivators allows for a more profound comprehension of differentiation among users, which contributes to tailored strategies and interventions in the realm of sharing economy. This study is developed based on the various gaps found in the literature and suggested conducting a study on a large sample and different regions of the countries. A study also suggested that various factors affect the motivation towards digital technologies (Boateng et al., 2019; Sijabat, 2019), specifically digital skills related to smartphones (Hargittai & Kim, 2010; Van Deursen, 2010).

Turning our attention toward Resource Appropriation (RA) theory concerning the digital divide, the second study applies it specifically concerning striving economies like Uber. Its focus is on exploring how resource appropriation within these contexts can deepen existing divides. Examining how resources are appropriated in sharing economy unveils potential obstacles or inequalities that could further aggravate inequality between various user groups. This study broadens awareness of the societal implications of sharing economy platforms while depicting their influence on digital inclusion. The majority of the dimensions are suggested by previous studies (Lopez-Sintas et al., 2020; Van Dijk, 2017)

Extending RA theory into social media use predominately within developing nations comprises our third. Performed across multiple developing countries, this research intends

provide an all-encompassing comprehension into how appropriation occurs regarding social media usage while accentuating its role in amplifying disparities pertaining to technological access. Such cross-country analyses facilitate comparative evaluations displaying variations inherent within appropriation procedures along with consequential outcomes concerning digital divides. The various aspects of this study are suggested by literature in digital divide context (van Deursen & van Dijk, 2014, 2019; Vimalkumar et al., 2021).

To summarize, the trio comprising aforementioned studies is crucial for bridging scholarly deficiencies surrounding motivation influencers intertwined with shared economies.the process through which resources are claimed,hence affecting participation,societal impact,and amplifiable dispaily. Abiding different theories whilst focusing upon distinct circumstances collectively generates invaluable intuitions. The resultant school of thought both enables theoretic developments and propels policy-frameworks tailored towards relevant field practitioners, representing an advantageous apparatus for researchers alongside policymakers and industrial scholars.

With the growing influence of technology on various aspects of our society, researchers, managers, and policymakers need to understand its impact at the micro and macro levels. For this reason, they require scientific evidence of why people use technology, how it benefits them, and why not using it will disadvantage them. They also require scientific recommendations on how managers and policymakers can support the development of customers and society, respectively. Therefore, this study has identified gaps and set objectives to cover these gaps in three different sections, as given below.

After reviewing the literature on the Sharing Economy, it was apparent that a significant number of researches have been conducted with the purpose of analysing the factors behind individuals' motivations towards taking part in the Sharing Economy, as well as the barriers that hinder them from engaging in it (Boateng et al., 2019; Böcker & Meelen, 2017; So et al., 2018a; Tussyadiah & Pesonen, 2018; Zhu et al., 2017). Still, scientific evidence regarding the variables influencing people's motives for ride-hailing services like Uber is scarce.

Ride-hailing services and Social Exchange Theory (SET), widely utilized in management and social psychology, have much in common. According to Kim et al.,(2015), the Sharing Economy model (Uber) is based on exchanging advantages between drivers and passengers.

According to this idea, human interactions are based on the maximization of benefits and the minimization of costs (Hamon & Bull, 2016; Homans, 1958).

The economic and social dimensions are the two fundamental building blocks of social exchange theory, and these motivations are not homogenous. Unfortunately, no study has studied heterogeneity in their users' economic and social motivations and profiling. Therefore, this study aims to discover heterogeneous segments of economic and social motivation of Uber users and their customer profiling. So, the first objective of this study is as follows:

"To identify the factors affecting economic and social motivation, heterogeneity in motivation and underlying customer profiles of ride-hailing service (Uber) users".

In the second part of the thesis, we use the RA theory (van Dijk, 2020) to test the sequential process of internet appropriation. In previous studies, the RA theory was used to explain Internet use. However, this study applies the RA theory to a particular form of the Sharing Economy. Studies on the Sharing Economy have employed numerous theories, such as the Theory of Planned Behavior (TPB) (Chatterjee et al., 2019; Mao & Lyu, 2017; So et al., 2018a), the Technology Acceptance Model (TAM) (Wang & Jeong, 2018), the Social Exchange Theory (SET) (Boateng et al., 2019; Geiger et al., 2018; Priporas et al., 2017; Tussyadiah, 2016), and the Self Determination Theory (SDT) (Hamari et al., 2016). These theories have been mainly used to examine individuals' motivations, perceptions, and behavioral intentions, providing valuable insights into why and how individuals decide to participate in the sharing economy. Still, these models do not provide insights into how using digital economies like Uber could lead them toward the right side of the digital divide and vice versa.

Therefore, a sizeable gap seems to persist in the existing literature. The literature on Sharing economy lacks studies describing how people's motivation toward sharing economy can initiate the process of the digital divide. Furthermore, there are no studies in literature describing the factors affecting the digital divide in the context of sharing economy, how the sequential process of digital divide develops, and how the policy makers play their role in bridging this digital gap in the context of sharing economy. When examining sharing economy platforms like Uber, this theory holds valuable potential for gaining a significant understanding of the digital divide and its impact on engagement within these platforms. It is

of utmost importance to comprehend this digital divide, particularly in the case of Uber, as its functioning heavily depends on digital technologies. Although the Resources and Appropriation theory can be beneficial, it has not been fully utilized in examining dynamics within the sharing economy.

Therefore, studies have yet to frame the domain of the Sharing Economy, such as Uber, within the RA theory. According to RA theory, the appropriation process begins with people's motivations to use the Internet and their positive attitudes toward doing so (Motivation/Attitude). Once individuals are motivated to use web-based applications, they must progress to having physical access to digital devices, such as a computer, smartphone, and mobile data connection. Nevertheless, proper use of these technologies requires basic digital skills to operate and benefit from them. This whole process is also affected differently by the resources (material/income, social, and cultural), social categories (age, gender, ethnicity), and positional resources (labor/employment, education, household, nation/region). Therefore, the objective of this study is as follows:

"To understand the process of resources and appropriation in the context of digital economies like Uber and see how it creates social divide"

Finally, this study also intends to expand the application of RA theory to social media appropriation. The use of social media has increased dramatically during the past ten years. Nearly 4.76 billion people use social media and spend 147 minutes daily on it (Statista, 2023). The most popular social media platforms are WhatsApp, Facebook, Instagram, Snapchat, and Twitter (Marengo et al., 2021, 2022). The Internet is useful in bringing people together despite negative worries about its use in general (Ellison et al., 2006; Ellison et al., 2007; Howard & Jones, 2004) and social media in particular (Humphreys, 2007). In addition to facilitating social connection, social media sites like Twitter are utilized as news sources to keep up with societal politics and social issues (Kwak et al., 2010). According to Correa, (2016), the practical (expressive and informational) use of social media is strongly related to important beneficial influences, including the growth of social capital and public participation in politics and civic affairs. The literature review findings show that RA theory has been tested partially for physical access (Van Dijk, 2017) and digital skills (Hargittai, 2002; Van Deursen, 2010). However, the complete model has yet to be tested except Van & Helsper (2015) and a study conducted on EU countries by Lamberti and his colleagues (Lamberti et

al., 2021a). These studies were only conducted in the context of using the Internet in general and in developed countries. Therefore, this study is conducted to achieve the following objective:

"To explain the process of resources and appropriation in the context of social media use in developing countries to determine the digital divide phenomenon".

1.4 THESIS NOVELTY, CONTRIBUTION AND IMPLICATIONS

The novelty of the thesis lies in its exploration of consumers' motivations for using ride-hailing services like Uber, with a specific focus on the heterogeneity of these motivations. While previous studies have primarily examined motivations and hindrances for participation in the sharing economy, there is a scarcity of scientific evidence related explicitly to the factors associated with motivations to participate in ride-hailing services. The first part of the thesis also explores the economic and social dimensions of the Social Exchange Theory (SET) within the context of ride-hailing services, providing a unique perspective on how social and economic factors influence motivations for using such services.

This thesis presents a unique approach by investigating the connection between motivations and several factors that have not been previously explored. These factors include Word of Mouth, Legal discussions surrounding Uber, Trust in Online Reviews, Awareness of Sharing Economy, Digital Skills, and Familiarity with Sharing Economy. Furthermore, this study segments the consumers based on their motivations and examines how they differ across various consumer segments. The empirical study uses an extensive Pew Research Center dataset to explore the relationships between motivations and determinants thoroughly. No study has studied such a large data pool in this context, Sharing Economy. Additionally, the thesis is enhanced by conducting customer profiling, which aims to comprehend better the consumer segments identified. This facet further adds novelty to the research as it intricately characterizes various groups of consumers rooted in their motivations and corresponding factors.

The second study's novel aspect lies in applying the Resources and Appropriation (RA) theory to the sharing economy, explicitly focusing on Uber. While previous studies have mainly relied on theories like the Theory of Planned Behavior (TPB), the Technology

Acceptance Model (TAM), Social Exchange Theory (SET), and Self-Determination Theory (SDT), this thesis introduces a novel approach by utilizing the RA theory.

The RA theory offers a broader perspective regarding digital access and usage by considering physical access to technology and incorporating elements like motivation, and attitude from TPB, TAM, device-related opportunities, and digital skills. Moreover, this thesis addresses an existing gap in the literature in an original way to understand how motivations, physical access, and digital skills may contribute to creating a digital divide in the field of Sharing Economy. This thesis explores how motives towards participating in the sharing economy can bridge or exacerbate this divide through platforms like Uber. Additionally, it examines various factors that influence the divide's development within this context while considering policymakers' role in bridging such gaps.

Through analyzing motivation levels alongside physical access and digital skills concerning Uber usage, this paper contributes valuable insights into comprehending how social distribution affects the digital division within the sharing economy, explicitly focusing on Uber.

Additionally, this thesis widens the application of the RA concept from general utilization of the internet to a particular facet of the Sharing Economy- Uber. This expansion brings fresh insights into how individuals with access to digital technologies, such as Uber, benefit more than those who do not utilize these platforms.

This thesis also contributes methodologically in the second study by utilizing factor scores in logistic regression obtained via Partial Least Squares Structural Equation Modeling (PLS-SEM). Implementing this methodology strengthens the robustness of the analysis and presents a dependable framework for examining the connections between motivation, physical access, digital skills, and the usage of Uber.

Concerning the third study, the novelty resides in its focus on addressing the research gap surrounding the distinct dynamics of social media platforms and their impact on bridging the digital divide. While previous studies have primarily examined overall internet usage and its outcomes, there is a noticeable lack of knowledge regarding how the use of social media can

contribute to this divide. This study covers important ground in existing literature by specifically investigating the adoption and utilization of social media resources.

Another novel element of this thesis lies in its application of the Resources and Appropriation (RA) theory to elucidate motivations, physical access to digital devices, and participation within social media platforms. Although RA theory has been used before to delve into general internet adoption, its specific implementation within social media platforms is rare. By applying RA theory here, this study brings forward a fresh and thorough viewpoint on the factors influencing resource acquisition, digital skills development, active use, and benefits found within these platforms.

The contribution of this study towards understanding the digital divide within social media consists mainly in uncovering previously overlooked barriers to involvement, such as unequal distribution of resources, skill levels, and social connections, and revealing their negative effects. These insights then help shape targeted strategies for fostering digital inclusion through embracing online communities like social media sites—a benefit that extends beyond researchers to policymakers and managers alike.

The threefold contribution made by the third study includes the specific examination of appropriation within social media use, incorporating motivational hindrances into the analysis, and evaluating both social and economic outcomes of utilizing these platforms for communication. By expanding knowledge in the literature concerning the digital divide, considering the unique context of social media, and assessing its widespread implications, this research provides valuable insights towards minimizing imbalances in technology access and internet availability within societies today, with particular attention to developing countries.

The thesis brings a comprehensive understanding of the digital divide in the sharing economy to the table. It focuses on Americans' access to and use of Uber, shedding light on motivations, physical access, digital skills, and resources contributing to digital inequality within this realm.

The thesis delves deeper by examining how physical access and digital skills mediate between motivation and Uber use, not just direct relationships between variables of the

sequential process of the digital divide. Additionally, it explores how social indicators moderate the relationship between theoretical drivers and Uber usage. This holistic analysis provides valuable insights into mechanisms and contextual factors shaping the digital divide within the sharing economy.

Furthermore, the thesis offers a methodological contribution by utilizing factor scores derived through Partial Least Square Structural Equation Modeling (PLS-SEM) combined with logistic regression analysis. This approach strengthens analytical robustness while providing a reliable framework for examining associations between motivations, access barriers, digital skills, and Uber usage.

Platform providers such as Uber can benefit from understanding users' motivations, access barriers, and digital literacy levels uncovered in this research project. They can design initiatives to promote equitable access and enhance user competence, resulting in improved experiences for all users while narrowing socioeconomic disparities caused by unequal internet accessibility.

Both from a theoretical standpoint as well as practical implications, this thesis holds substantial weight. The application of RA theory to explore social media platforms advances existing theoretical frameworks by expanding our comprehension of resource appropriation amidst the digital divide. Doing so offers a comprehensive framework for analyzing how social media resources are obtained and their subsequent effects on digital inequality. Moreover, insights derived from this thesis can inform real-life initiatives to bridge this digital divide. Policymakers, educators, and researchers can utilize this knowledge to design targeted interventions that boost digital literacy levels while fostering inclusivity within our digital society.

The findings from this study hold significant policy implications for bridging the digital divide in the sharing economy. Policymakers can develop targeted strategies based on identified contributing factors to promote inclusion for individuals with limited access or skills. The study emphasizes resource allocation and considering social indicators when addressing this gap within sharing economy platforms.

The findings of this thesis have immense significance for policymakers, legislators, educators, and researchers working towards digital inclusion and narrowing the gap between those who have access to technology and those who do not. Comprehending the obstacles faced in motivating individuals, understanding how resources are acquired in a step-by-step process, and recognizing the impact of social media platforms on social and economic outcomes can assist in devising strategies and initiatives that specifically target these issues. Then, policymakers can develop policies that tackle the unique challenges posed by social media usage while ensuring equal technological access to all members of our society.

1.5 RESEARCH METHODOLOGY

Considering the general nature of this study and the research questions, we used quantitative research methods in the empirical tests. The data for the thesis comes from the Pew Research Center (Pew Research Center, 2015). Pew Research Center is a not-for-profit research organization without any political influence that conducts polls about public opinions, demographic research, and other types of social science research to inform the masses about ongoing attitudes and trends worldwide (Pew Research Center, 2015) . Chapters 2 and 3 data come from the survey conducted on November 24-December 21, 2015, among 4,787 respondents. In contrast, the data for Chapter 4 is based on a survey on technological trends conducted in eleven (11) countries: India, South Africa, Colombia, Mexico, Philippines, Vietnam, Jordan, Venezuela, Lebanon, Tunisia and Kenya. The sample is a multistage probability design collected in face-to-face interviews from 28122 adults (18+ years) in 2018 (Pew, 2018).

1.5.1 Chapter 2 Methodology

Since our data come from a large pool of the USA population, it was assumed to have heterogeneity in the sample, which might have affected the impact of explanatory variables on response variables (Wedel & Kamakura, 2000). Therefore, we used latent class regression analysis to find hidden clusters in the data while simultaneously performing cluster-wise regression (DeSarbo & Cron, 1988). Latent class models are a powerful tool for market segmentation, better than cluster analysis (McLachlan et al., 2019), where the creation of segments “a posteriori” and the division or “split” the population into distinct segments that have unique sets of attributes that address their preferences are advantages over other forms

of segmentation for greater understanding of the phenomena studied (Bond & Morris, 2003). Furthermore, this analysis used social indicators as concomitant variables to profile segments based on social categories (Grun & Leisch, 2008).

1.5.2 Chapter 3 Methodology

As the theoretical model proposes that motivational access, physical access, and digital skills form a causal chain that affects the use of Uber, instead of using exploratory factor scores, this study has used factor scores from a Partial Least Square Structural Equation Modeling (PLS-SEM) (Bollen, 1989; DiStefano et al., 2019; Hair et al., 2017). In addition, these construct scores from PLS-SEM analysis for motivational access, physical access, and digital skills were extracted for subsequent analysis (Logistic Regression) (Hair et al., 2017).

Since the response variable is discrete and has a binary response, we used logistic regression techniques rather than other multivariate techniques to address research questions. Furthermore, logistic regression can handle discrete and continuous independent data (Park, 2013). Logistic regression is the preferred method over linear regression and discriminant analysis for studies that involve dichotomous outcomes (Norušis, 1994; Tabachnick & Fidell, 1996a).

Furthermore, we investigated the role of physical access and digital skills in mediating the relationship between motivation and Uber use. We used the causal mediation analysis given by Imai, Keele, & Tingley (2010) and implemented it in the *Mediation* package in the *R programming language* (R Development Core Team, 2004).

According to the RA theory, resources, personal, and positional categories influence behaviour and the theoretical drivers of behaviour (van Dijk, 2020). Therefore, we have used these social factors as moderating variables in this study.

1.5.3 Chapter 4 Methodology

In order to extract factors from the given battery of 42 items, exploratory factor analysis (EFA) is conducted with the *mirt* package (Chalmers, 2012) developed for the R environment for statistical computing (R Development Core Team, 2004). Structural equation modelling

(SEM) is performed by using the diagonally weighted least squares (DWLS) function from the *lavaan R package* (Rosseel, 2014). This approach is used because the data of the study are categorical, collected through ordinal measures, as suggested in the literature (Finney & DiStefano, 2013; Savalei & Rhemtulla, 2013). The effect of country-level digital development on the appropriation of social media is analyzed through the multigroup parametric test (Rosseel, 2014).

In the multigroup analysis (MGA), countries are divided into two groups based on the ICT development index (IDI) provided by ITU (2017). The ITU (International Telecommunication Union) stands as the UN's specialized body focusing on information and communication technologies (ICTs). IDI is the combined score of internet access, internet use and digital skills, by a particular country. Developed countries have the highest IDI scores, so they are considered leaders. However, the data for this study come from developing countries, so countries have been split into two groups based on the mean IDI scores: Leaders (Above Average) and Followers (Below Average).

1.6 STRUCTURE OF THE STUDY

Five chapters make up the thesis. The introduction is the first chapter, and it gives a general summary of the study's background, literature, research questions, gaps, aims, and methods employed in the various sections. Finally, the structure of the whole thesis is given in (Table 2).

The second chapter consists of a quantitative study to understand the factors affecting people's motivation to use Uber. It is based on the data provided by the PEW research center for Uber. Latent class regression is used for this study. The third chapter studies the digital divide in the context of shared economies like Uber. It explains the appropriation process, from motivation, physical access, and digital skills to using digital technologies like Uber. This chapter is based on logistic regression. The fourth chapter contains a quantitative analysis of social media appropriations for eleven countries based on the RA theory and data on technological trends provided by the PEW research center. In this chapter, SEM is employed for analysis.

Finally, the fifth chapter is about the overall discussion and conclusion of the thesis. It engages in an exploration of a study's theoretical and managerial significance, its limits and prospects going forward.

Table 2 Structure of the study

CHAPTERS	DESCRIPTION
CHAPTER ONE INTRODUCTION	• Presentation of study overview • General Purpose • Research Gap and Objectives • Novelty, Contribution, and Implications • Methodologies
CHAPTER TWO ANTECEDENTS OF MOTIVATIONS TO USE UBER	• Study to identify the factors influencing the motivation of people to use digital economy like Uber and their profiling.
CHAPTER THREE DIGITAL DIVIDE IN THE CONTEXT SHARED ECONOMY	• Study to explain the RA process of the digital divide in the context of Uber • To study the mediating role of Physical Access and Digital Skills. • Identify the impact of social factors on RA process
CHAPTER FOUR SOCIAL MEDIA DIGITAL DIVIDE	• Appropriation process of social media • Impact of digital development of the country on the appropriation of social media
CHAPTER FIVE CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH	• Overview of Theoretical contribution • Managerial and Policy implications • Limitations and future research

2 CHAPTER TWO: ANTECEDENTS OF MOTIVATIONS TO USE UBER

2.1 INTRODUCTION

Worldwide economies have been subject to various structural changes owing to technological advancements, and the United States of America is no exception. Due to the rise of Information and Communication Technology (ICT), on one hand, and social media, on the other hand, the emergence of new economies has been witnessed and Sharing Economy is one of those prominent technological phenomena. Not only has the business ecosystem encountered changes, but consumers' attitudes toward ownership of products and the social relationship has been shifted drastically (Botsman & Rogers, 2010). This new concept of Sharing Economy (SE) has grown exponentially over the past years (Belk, 2014; Owyang et al., 2013). Despite its growth, the definition of "Sharing Economy" is still under debate. According to Belk (2007), the Sharing Economy aims to provide what you have to others and take what you need, money, or other services. But this idea of Sharing Economy is counter-argued in a study (Botsman & Rogers, 2010), which proposes that Sharing Economy is not the owner of the physical product. Instead, it's based on the access we grant to others to use tangible and intangible assets. This access-based concept of sharing is strongly advocated by other researchers (Bardhi & Eckhardt, 2012). The collaborative economy is another term Belk (2014) used as part of the access-based Sharing Economy. This phenomenon has given birth to new business models, and ride-hailing service like Uber is one of those innovative business models which has severely affected the traditional taxi service (Zhu et al., 2017). Initially, the growth of these Sharing Economy was attributed to these models' economic benefit in the face of economic crisis. This was supported by many studies that financial benefit is the critical motivation for people to use Sharing Economy. However, Botsman & Rogers (2010) argue that the drivers of the Sharing Economy are beyond its economic benefits. In this connection, the social benefit of Uber is found to be an essential motivation to use it (Yang et al., 2017; Zhu et al., 2017).

Literature on Sharing Economy shows that most of the studies conducted were aimed at motivations and hindrances for participation in the Sharing Economy (Boateng et al., 2019; Böcker & Meelen, 2017; So et al., 2018a; Tussyadiah & Pesonen, 2018; Zhu et al., 2017). However, there is a scarcity of scientific evidence for the factors associated with the motivations to participate in sharing ride-hailing services like Uber. The primary purpose of

this research is to analyze consumers' motivations for using ride-hailing services like Uber to explore the heterogeneity regarding consumers' motivations. Specifically, our study extends the understanding of various motivations to use ride-hailing service, grounded in the Theory of planned behavior (TPB). Secondly, the study aims to understand the economic and social dimensions of Social Exchange Theory (SET).

The association of motivations with a set of determinants may vary according to consumers' motivations. Therefore, we segment consumers according to the association of motivations with a set of determinants, Word of Mouth, Legal debates regarding Uber, Trust on Online Reviews, Awareness of Sharing Economy, Digital Skills, and Familiarity with Sharing Economy.

Word of Mouth is significant in consumers' decision-making processes (Howard, 1994). By treating WOM as an independent variable, this study investigates how personal recommendations and opinions shared by others affect individuals' motivation to utilize Uber. Previous studies have demonstrated that positive WOM can substantially influence consumer behavior (Howard & Sheth, 1969), particularly their motivations (Mao & Lyu, 2017; Sen & Lerman, 2007; So et. al., 2018) to adopt new technologies or services.

Uber has been involved in legal controversies across several jurisdictions, which have heightened public awareness and sparked discussions around the platform's legality and ethical implications. Therefore, legal debates are included as an independent variable to examine how individuals' familiarity with these discussions and perspectives regarding Uber's legal status impacts their motivation to utilize the service. This element encompasses the larger societal context surrounding Uber and potentially influences users' motivation (Jeon et al., 2020).

This study included Trust in reviews as a determinant of motivation to understand how the individuals' confidence in the feedback they receive about Uber shapes their motivation to use the platform. Moreover, considering the Uncertainty Reduction Theory (Berger & Calabrese, 1975), consumers utilize online reviews to minimize risks and alleviate doubts before proceeding with any transactions (Chen, 2008). Trusting these reviews can act as social cues that shape individuals' perceptions and attitudes towards the service (Lee and Turban , 2001), ultimately affecting their motivation to engage with Uber.

Digital skills pertain to individuals' ability to effectively navigate digital technologies and online platforms proficiently (Van Deursen & Van Dijk, 2015). Treating digital skills as an independent variable acknowledges the role played by individual technological competency (Marakas et al., 2007) in shaping their motivation for using Uber (Zhu et al., 2017). Research indicates that people with higher digital skills tend to feel more at ease when using technology-based services like Uber while perceiving greater benefits and convenience associated with such platforms.

Finally, this study considered individuals' awareness of and familiarity with the sharing economy as determinants of motivation towards sharing to explore how their understanding and exposure to this economic model affect their motivation to use Uber. Familiarity is crucial in helping individuals minimize uncertainty and build confidence to adopt technology. When people gain familiarity with a product or service, it helps them in bolstering perceived behavioral control and makes them perceive ease of use (Davis, 1989), which would increase their motivation to use digital economies like Uber (Wang & Jeong, 2018)

We would be able to check the robustness of the relationship because we have developed the analysis from a large pool of data provided by the Pew Research Centre. Once identified the heterogeneity we proceed to describe its social distribution. Therefore, we propose the following research questions concerning our study of ride-hailing services like Uber:

RQ1. What are the motivations of the individuals to use Uber?
RQ2. To what extent consumers' motivations are heterogenous?
RQ3. To what extent consumers' heterogeneity is socially patterned?

This research is organized as follows: the second and third sections present the literature revies and theoretical hypotheses developed. Section 4 introduces the methodology; section 5 provides the results. Section 6 deals with the discussion and conclusion, and section 7 presents implications. Finally, section 8 contains limitations and future research lines.

2.2 LITERATURE REVIEW

2.2.1 Rise of the Sharing Economy as technological phenomenon

In today's life, technology is pervasive. It has influenced every aspect of life, from study to job, entertainment to solving complex problems, commuting to finding a place to live and so on. Notably, the rise of Information and Communication Technology (ICT) has given birth to various new fields, and Sharing Economy is one of the most talked about phenomena. The concept of Sharing Economy has grown by leaps and bounds over the last few years (Kumar et al., 2018). The Sharing Economy has posed many challenges to the existing business ecosystem, especially to the traditional taxi and hotel industry, by providing low-cost alternatives. In a short time, this concept has gained much attention from top media like Fortune magazine, even praised by President Obama (Eckhardt & Bardhi, 2015). Not only this, but this concept became more popular when it surfaced in the form of two success stories (Airbnb and Uber) of Silicon Valley between 2011 and 2012 (Martin, 2016). Currently, Uber has a presence in sixty-three (63) countries and more than seven hundred (700+) cities with 94.9 million active users of the platform, out of which 91 million are consumers and 3.9 million drivers (prosumers) (Uber, 2018). Growth of the Sharing Economy is expected to rise from $15 billion in 2014 to $335 billion in 2025 (Sarote, 2019). The driving forces for growth are the rise of social media and web 2.0 because these have enabled Sharing Economy platform to build websites and spread awareness among masses (Botsman & Rogers, 2010; Heinrichs, 2013; Kaplan & Haenlein, 2010; Wang & Zhang, 2012).

2.2.2 Sharing Economy as two-sided digital platform

There are numerous definitions in the literature for Sharing Economy. Belk (2007) defined sharing as "the act and process of distributing what is ours to others for their use and/or the act and process of receiving or taking something from others for our use." But this was challenged by another definition that suggested that the Sharing Economy is based on 'Access to' not the 'Ownership of' physical objects or intangible assets like someone's skills or time (Botsman & Roger, 2010). The access-based concept of sharing is strongly supported by researchers (Bardhi & Eckhardt, 2012), and they proposed that people may not want to own the physical things; instead, they would wish to access the experiences of using the product for a short time. In connection to this, Belk (2014) suggested another term, 'collaborative consumption.' It is part of the access-based economy (Bardhi & Eckhardt,

2012), which the market facilitates. A study (Schor et al., 2015) proposed that the Sharing Economy is formed by 'economic activity that is Peer-to-Peer or person-to-person, facilitated by digital platforms.' In literature, collaborative consumption is used as an alternate term for sharing. For simplicity, this study uses "Sharing Economy" concept as "consumers granting each other temporary access to their underutilized physical assets ("idle capacity"), possibly for money (Böcker & Meelen, 2017; Meelen & Frenken, 2015). This concept of Sharing Economy is also used by Stephany (2015) as 'the value in taking under-utilized assets and making them accessible online to a community, leading to a reduced need for ownership' and supported by Richardson (2015). Kumar defines The same concept as 'the monetization of underutilized assets that are owned by service providers (firms or individuals) through short-term rental' (Kumar et al., 2018). Additionally, this study excludes the concept of free sharing like Freecycle or Couchsurfing because it does not fit in this domain since it does not involve any monetization.

2.2.3 Sharing Economy as Ride-hailing Service Business Model

The fourth industrial revolution and Information and Communication Technology (ICT) have brought many opportunities and challenges to the existing business ecosystem. As a result, numerous disruptive business models have surfaced in services marketing literature and Sharing Economy is one of its kind. Though the concept of sharing has long been in existence in the context of sharing something as a gift or not for profit (Belk, 2010), which applies to different platforms like Couchsurfing and Freecycle, but the Sharing Economy nowadays is used as the commercial activity to share resources uniquely and pleasantly (Cohen & Kietzmann, 2014). For example, people share their cars as a taxi (short-term rental) via Uber and Lyft (Codagnone & Martens, 2016; Martin, 2016). This commercial attribute of these frameworks makes them "sharing economies" (Botsman & Rogers, 2010).

In these kinds of ride-hailing business models, digital service platforms like Uber serve as the liaison between customers (riders) and service providers (drivers) (Fig 1) (Kumar et al., 2018). In this setting, customers demand underutilized goods or services. The service provider supplies these goods and services, and the connection between demand and supply is mediated by digital platforms (like Uber). The phenomenon is called Sharing Economy.

Nowadays, the most renowned Sharing Economy platform in the field of Ride-hailing service is Uber. This service was launched in 2009 and the headquarters are located in San Francisco, California, USA. This business model was launched with the concept of "Tap a button, get a ride" to provide consumers with a convenient way of commuting (Uber, 2018). Uber's ride-hailing business model is used on mobile application, providing the connecting platform between drivers and riders (consumers). The application has different features for consumer convenience. To use Uber service, the consumer has to follow five straightforward steps (Uber, 2019b). Firstly, the rider opens the Uber app and sets the "where to" box, then chooses desired vehicle and price options and confirms the pickup. Secondly, the rider is matched with the driver nearby, and the rider is notified when the vehicle reaches a one-minute distance. Thirdly, the ride starts after verifying each other's identity and desired location. Fourthly, the driver takes the rider safely to the desired location. Finally, at the end of the trip, the rider and driver rated each other on a scale of 1-5, five being the best. This business model does not only works on the convenience, but the safety of both rider and driver is the priority (Uber, 2019c). For riders, there is a special button for emergency assistance, and they can share their details with family and loved ones for real-time tracking. Drivers have 24/7 assistance from the dedicated team of Uber. Another key feature of the Uber ride-hailing service model is the diversity and inclusivity as said by CEO of Uber Dara Khosrowshahi: At Uber, divergent qualities receive hearty recognition while building a work environment that embraces all individuals equally. It's important to us that everyone here feels not just accepted but also encouraged and pushed beyond their comfort zones. Recognizing diversity as a vital element integrated deeply within our actions will undoubtedly help steer Uber towards greater heights (Uber, 2019a)."

This kind of business model assists consumers in saving their time and avoid the hassle they bear when searching for a traditional taxi (Boateng et al., 2019; Dredge & Gyimóthy, 201). On the other hand, drivers can use their vehicles (idle resources) for ride-hailing service whenever they are free, providing an additional source of income with a Flexi-hour job (Bardhi & Eckhardt, 2012; Tussyadiah, 2015). For ride-hailing services like Uber, this digital intermediation with the intelligent application has saved a lot of cost of connecting a vast pool of consumers with various non-commercial car providers and made it economical for consumers (Richardson, 2015). In addition to its lower rates as compared to a traditional taxi, promotional prices for first-time users, ongoing rewards for consumers, and ease of use

consumers enjoy while using this service have made it very successful (Dredge & Gyimóthy, 2015; Wallsten, 2015).

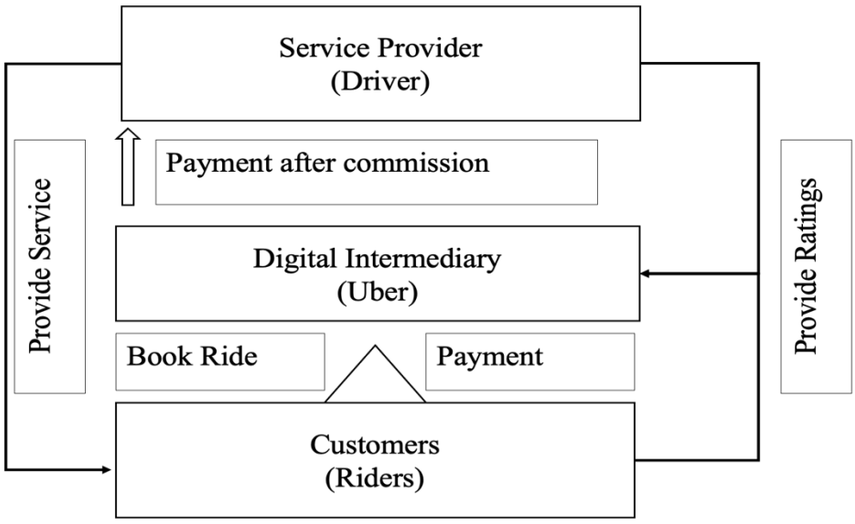

Figure 1 Uber App Structure (Kumar et al., 2018)

2.3 THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Studies conducted on the Sharing Economy, particularly Ride-hailing services like Uber, have been grounded on three basic theoretical domains i.e. Marketing and Consumer Research, Economics, and Sociology. The most comprehensive consumer decision-making model, developed from marketing and consumer research, is based on the buyer behavior model (Howard, 1994). This model explains rational choice behavior as the result of motivation, search, evaluation of alternatives, intentions and behavior leading to satisfaction if actual performance is matched with expectations. If the satisfaction is positive, it reinforces the preferences (intention to repurchase). Furthermore, the sharing economySharing Economy (Uber) model operates on the exchange principle, specifically exchange of benefits between driver and rider (Kim et al., 2015). Social Exchange Theory (SET), which is widely used in management and social psychology, reflects striking similarities with Sharing Economy like ride-hailing services. This theory states that human interaction revolve around one basic principle of maximizing benefits and minimizing cost (Hamon & Bull, 2016; Homans, 1958). However, this theory is flexible, meaning that benefits and cost are beyond quantitative terms (Stafford & Kuiper, 2021). According to the literature, social exchange

theory has two basic building blocks: economic and social dimensions. Hence, we can argue that these two perspectives and their related factors determine the users' behavior to ride-hailing services like Uber.

2.3.1 Motivations to use Uber

The theory of Planned Behavior by Ajzen (1991) posits that attitude is the strong determinant of consumer intention and behavior. In this connection, another study argues that the customers' perception significantly determines consumer attitude and intention towards innovative product/service (Zhu et al., 2017). Use and gratification theory (Ruggiero, 2000) which is subsumed in Resource and Appropriation (RA) Theory (Van Deursen & Van Dijk, 2015) postulates that motivational factors have a direct effect on the behavioral intention to use technology. Furthermore, RA theory, in connection to the use of technology, suggests that it is not the lack of physical access (Have Not) which hinders the use of technology but the lack of motivation (Want Not) to use the technology.

Literature on Sharing Economy has shown various motivations of people to use digital platforms like Uber. Most of the studies have reported that sharing economy. Sharing Economy has gained much of traction among consumers compared to traditional businesses owing to its economic benefits after the economic crisis of 2008 worldwide (Bardhi & Eckhardt, 2012). It is evident that a Ride-hailing service business model like Uber provides economic benefit to its users because it uses digital intermediaries to connect consumers with drivers, which reduces the cost of connection, and Uber provides service at lower rates (Richardson, 2015). This economic benefit as motivation to use Sharing Economy is also supported by researchers (Lamberton & Rose, 2012). A study on Uber service conducted by Hamari et al. (2016) found a significant relationship between Economic Benefits (EB) and Behavioral Intention (BI). So et al. (2018) found that price value (another way of measuring Economic Benefits) has a direct relationship with Attitude and an indirect relationship with Behavioral Intention mediated by Attitude. Furthermore, findings also show that Monetary Saving (EB) has a direct relationship with Perceived Value (PV) (Stollery & Jun, 2017) as it should theoretically be. In this connection, it is also found that PV has a positive impact on Attitude (Mao & Lyu, 2017; Wang & Jeong, 2018), Satisfaction (Möhlmann, 2015), and Repurchase Intention (Liang et al., 2018; Möhlmann, 2015). In contrast, one comparative study of renting and ownership does not show any evidence of economic benefit as a driving

factor in the decision to use the Sharing Economy (Moeller & Wittkowski, 2010). Moreover, Botsman & Rogers (2010) claim that motivations that encourage the use of Sharing Economy are beyond its economic values (Tussyadiah, 2015).

Sociology has greater stakes in Sharing Economy in the light of Social Exchange Theory (Homans, 1958). Sharing Economy allows users to fulfil their social needs through interaction with new people and building relationships (Botsman & Rogers, 2010; Möhlmann, 2015). The inherited social benefit (Williams & Soutar, 2009) of collaborative consumption provides consumers a sense of community belonging because social interaction foster a sense of linkage and belonging with individuals which leads to the collective identity among them. (Kim et al., 2012; Möhlmann, 2015). In the Sharing Economy literature, the social benefit is a crucial motivation to use digital platforms like Uber (Yang et al., 2017; Zhu et al., 2017). Therefore, in this study, we have used Motivations to use Uber (Economic and Social) as dependent variables in our theoretical framework (Fig.2 Theoretical Framework)

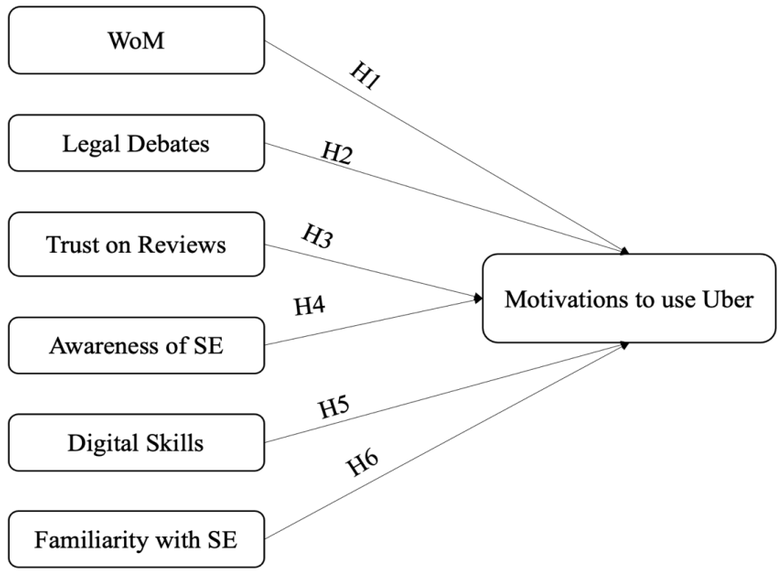

Figure 2 Theoretical Framework

2.3.2 Word of Mouth (WOM)

Word of Mouth (WOM) information is pivotal in consumer decision-making (Howard, 1994). WOM refers to personal consumer discussions regarding products or services (Liang et al., 2018). WOM serves as input stimuli for perceptual constructs, which then affect the learning constructs of consumer decision-making, like motives and intentions (Howard & Sheth, 1969). Word of Mouth has been found as the key influential factor in affecting the perception of the people towards the use of a product or service (Mao & Lyu, 2017; Sen & Lerman, 2007; So et. al., 2018) and literature shows that participation in Sharing Economy has greatly been influenced by the recommendation of other people who have experienced the service (Owyang et al., 2013). Therefore, in this study, we would like to know the effect of WOM on Motivation to use Uber. Hence we hypothesis that :

H1. WOM influence the Motivation to use Uber (positively or negatively)

2.3.3 Legal Debates for Uber

Literature shows that Sharing Economy has been subject to legal debates worldwide. This debate has divided the population into two prominent groups, those who are in favor of regulations (Cannon & Chung, 2014; Gobble, 2015; Ranchordás, 2015) and those libertarians who are against any regulatory interventions (Cohen & Sundararajan, 2015; Koopman et al., 2014). From a libertarian perspective, excessive law and regulation could nullify consumer benefits and the apparent efficiency gains achieved by technological innovation (Codagnone & Martens, 2016). According to Corporate Social Performance (CSP) model (Carroll, 1998), legal dimensions are critical to determine any firm's compliance with regulatory requirements and its one step toward Corporate Social Responsibility. In this connection, Windsor (2001) posits that the economic and legal dimensions of a firm are considered socially-desired CSR. The literature in the area of Sharing Economy suggests that perceived CSR affects the attitude and preferences toward ride-hailing services (Jeon et al., 2020). All of the previous studies were focused on the ethical aspect of the CSR and its impact on customer behavior, so our study aims to identify the legal aspect of CSR on customers' motivation to use Uber. Hence we hypothesis:

H2. Legal Debates influence the Motivation to use Uber (positively or negatively)

2.3.4 Trusting Online Reviews

People post reviews and ratings about their experience with products and services in an online environment. According to the study of Lee & Turban (2001), having a favorable perception of the medium of shopping is crucial to build a positive attitude toward online purchases. Sharing Economy literature also reveals that lack of trust is considered as risk which may arise from digital media (internet), and this risk can be a deterrent to use the Sharing Economy (Pavlou & Gefen, 2004; So et al., 2018a). Therefore, trust in online reviews and ratings creates a positive perception of the digital media for potential customers who wish to buy and use digital services online. Furthermore, in the light of the Uncertainty Reduction Theory (Berger & Calabrese, 1975), customers use online reviews to reduce risk and uncertainty to make any purchase (Chen, 2008). Therefore, trusting online reviews would lead people to have positive attitude (motivation) to use digital technology like Uber. Hence we hypothesis that:

H3. Trusting Reviews has impact on Motivation to use Uber (positively or negatively)

2.3.5 Awareness of Sharing Economy

Product awareness is deeply rooted in the literature of psychology and marketing. Product awareness is a primary component of knowledge in consumers' minds regarding product/brand. Brand awareness is the key influential factor for perception and attitude towards a product (Aaker, 1991). Another study (Farris et al., 2010) posits that customer buying decisions are greatly influenced by their product awareness. In Sharing Economy, awareness is a significant factor, mostly peer-induced (Filippas & Gramstad, 2016). Considering the importance of product awareness, we can argue that awareness about sharing has influenced the motivation of people to Uber. Hence we hypothesis:

H4. Awareness of SE affects the Motivation to use Uber (positively or negatively?)

2.3.6 Digital Skills (DS)

According to RA Theory (Van Deursen & Van Dijk, 2015), Digital Skill determines one's capability to interact with digital media and perform varying nature of online tasks. By this definition, digital skill is equivalent to Self-efficacy (Bandura, 1986). The literature of

Information and Communication Technology shows different kinds of self-efficacy, for example, computer-related self-efficacy (Compeau & Higgins, 1995), internet self-efficacy (Marakas et al., 2007), web-related self-efficacy (Hsu & Chiu, 2004), and software related self-efficacy (Agarwal et al., 2000). Moreover, it is also found that self-efficacy has a positive impact on attitude (Hsu & Chiu, 2004) and behavioral intention (Compeau & Higgins, 1995). In the context of Sharing Economy, literature posits that Self-efficacy (another word for digital skills) demonstrates a positive relationship with perceived value and attitude toward the use of ride-hailing services (Zhu et al., 2017). Therefore, we can argue that people with high digital skills get more motivation to use Uber as compared to people with less digital skills. Hence, we hypothesis that:

H5. Digital Skills increase the Motivation to use Uber (positively or negatively?)

2.3.7 Familiarity with Sharing Economy (FSE)

Marketing literature postulates that familiarity shows the extent to which consumers have direct or indirect experience of a product or service (Alba & Hutchinson, 1987). As a result, people with more familiarity gain more knowledge and experience about a phenomenon. From the perspective of consumer research, the concept of familiarity is very dynamic because its tentacles are widespread and added as an extension to many theoretical frameworks like the buyer Behavior Model i.e., Theory of Planned Behavior (Ajzen, 1985) and Technology Acceptance Model (Davis, 1989). It serves as a means for people to reduce uncertainty and simplify their interactions with others. As individuals get familiar with a particular product or service, their comprehension accumulates and it enhance confidence and develop a sense of ease. This increased expertise offers them a sense of control over their actions, making familiarity an important factor in enhancing perceived behavioral control (Mao & Lyu, 2017).

Unfamiliarity can be viewed as a hindrance when adopting peer-to-peer lodging services. In the sharing economy, where product offerings are still considered innovative, customers' self-efficacy explicitly impacts their attitudes toward ridesharing applications. Lack of familiarity serves as a barrier preventing engagement in the context of sharing economy. However, once users become more familiarized with the platform, these barriers can be overcome, leading reduced constraints on collaborative consumption (So et al., 2018b).

Concerning TAM framework, familiarity represents the perceived ease of use (PEU) as people's degree of comfort to use or awareness regarding Sharing Economy (Wang & Jeong, 2018). When consumers start using particular products or services, they may find using that technology easy, and their motivation to adopt it increases. In Sharing Economy literature, it is found that familiarity has a strong positive relationship with behavioral intention (Mao & Lyu, 2017) and satisfaction (Möhlmann, 2015). Therefore, we can argue that people who have used other types Sharing Economy are familiar with Sharing Economy and have more tendency to influence motivation towards using Uber. Hence we hypothesis that:

H6. Familiarity with Sharing Economy positively increases the Motivation to use Uber

2.4 DATA AND METHODOLOGY

2.4.1 Data

Data are drawn from Pew Research Center (Pew Research Center, 2015). Pew Research Center is not-for-profit research organization without any political influence which conducts polls about public opinions, demographic research and other types of social science research to inform masses about ongoing attitudes and trends worldwide (Pew Research Center, 2015). This survey was conducted on Nov. 24-Dec. 21, 2015, among 4,787 respondents (4,317 by web and 470 by mail). This dataset was used because no recent data was accessible, specifically addressing the research objective and variables of interest. As per the objectives pursued by this study, PEW Research data ATP 2015 constitute the most fitting dataset available.

Although it may appear outdated, the PEW Research data ATP 2015 still provides valuable insights for understanding customer behavior and attitudes toward the Sharing Economy. The fundamental principles of Social Exchange Theory and customer segmentation are rooted in human behavior and decision-making processes, which remain relatively stable over time.

Depending on the nature of the research being conducted, employing older data can provide a longitudinal perspective that enables analyzing trends and changes in customer behavior across time. This approach elevates analysis depth while furnishing the historical context required to grasp how the sharing economy has evolved and its impact on customer attitudes.

Furthermore, it might help other researchers to perform comparative analyses with recent studies based on past and present data.

Finally, considering the robustness applied during collection methods, sample size selection protocols followed, and quality measurements offered by PEW research center are very much credible.

Wave 13 targets non-institutionalized American adults aged 18 years and above residing in the United States, encompassing Alaska and Hawaii. The individuals selected for this study were identified among participants of the American Trends Panel (ATP), which operates as an internet-based sampling resource recognized for its probability-driven design specifically tailored for representing the United States population. The questionnaire consists of multiple-choice items in this survey. After data cleaning and retaining completes case, consisted of 2971 respondents with following profiles: 79% aged 18-64; 52% males; 66% couples; 59% Graduates; 48% High Income; 33% from South
region; and 83% Whites (Table 3).

Table 3 Social Indicators (N= 2971)

Characteristics	n	%	Characteristics	n	%
Age			Gender		
18-29	509	17	*Male*	1539	52
30-49	935	31	*Female*	1432	48
50-64	908	31	Education		
65+	619	21	*H.S. graduate or less*	289	10
Marital Status			*Some college*	931	31
Single	467	34	*College graduate+*	1751	59
Couple	2504	66	Region		
Income			*Northeast*	569	19
<$30,000	486	16	*Midwest*	652	22
$30-$74,999	1071	36	*South*	974	33
$75,000+	1414	48	*West*	776	26
Race			Religion		
White	2481	83	*Roman Catholic*	544	18
Black or African-American	204	7	*Agnostic*	894	29
Asian or Asian-American	81	3	*Jewish*	894	04
Mixed Race	107	4	*Protestant*	1233	40
Some other race	98	3	*Other*	260	09

2.4.2 Scales and Measurements

Following are the indicators to represent various theoretical constructs used in the study. These variables' detailed information and justification are given in sections 2.1 and 2.3. The labels of the majority of these variables are taken from PEW research questionnaire and the author names a few after an extensive literature review based on the theoretical frameworks used in the context of Sharing Economy.

Indicators of the motivations

Economic motivations (EM). Individuals were asked their motivations to use Uber, whether it: (1) Is less expensive than taking a taxi; (2) Use drivers who you would feel safe riding with; (3) Save users time and stress; (4) Is more reliable than taking a taxi or public transportation; (5) Provides good jobs for people who want flexible working hours; and (6) Collects less personal information about users.

Social motivations (SM). Respondents were asked their motivation to use Uber related to its social benefits: (1) Are a good option for people who have trouble getting taxis to pick them up because of their race or appearance; and (2) Serve neighborhoods that taxis won't visit.

Indicators of the determinants of motivations

Trust on Reviews (TRUST). People were asked about their trust on the online reviews about products and services: (1) Ensure that the products and services people buy are safe; (2) Make consumers feel confident about what they are buying; and (3) Make company be accountable to their customers.

Awareness of Economies (AWARE). Individuals were asked whether they have heard about: (1) Sharing Economy; (2) Gig Economy; and (3) Crowd Funding.

Digital Skills (DS). Respondents were asked about their levels of digital skill by asking the tasks that they performed online like: (1) Post Product Reviews online; (2) Post Restaurant Reviews online; (3) Post Service Reviews online; and (4) Read Product Reviews online.

Familiarity with Share Economy (FSE). Individuals were asked about the use of different kinds of sharing economies like: (1) Earning on online sites ; (2) Earn online (handcrafts website; (3) Order grocery online; (4) Hire Online; and (5) Rent clothing or other products online.

Word of Mouth (WOM). For this construct, respondents were asked whether they had they heard about (1) good experience or (2) bad experience of Uber from other people who have used Uber. Good experience is labelled as positive WOM and bad experience is referred as negative WOM and used directly in linear models as explanatory variables.

Legal debates about the Sharing Economy. People were asked whether or not they had heard of the ongoing legal debates about Sharing Economy like Uber . This is single item variable, so it is used directly in linear models as independent variable.

2.5 STATISTICAL ANALYSIS

Since our data was drawn from large pool of USA population so it was assumed to have heterogeneity in sample which might have affected the impact of explanatory variables on response variable (Wedel & Kamakura, 2000). Therefore, we used latent class regression analysis to find hidden clusters in data and simultaneously performing cluster wise regression (DeSarbo & Cron, 1988). Latent class models serve as powerful tool for market segmentation better than cluster analysis (McLachlan et al., 2019), where the creation of segments "a posteriori" and the division or "split" the population into distinctive groups that possess different sets of attributes that address their preferences are advantages over other forms of segmentation for greater understanding of the phenomena studied (Bond & Morris, 2003). Furthermore, social indicators were used as concomitant variables in this analysis for the profiling of segments based on social categories (Grun & Leisch, 2008).

For the purpose of scale development *mirt package* (Chalmers, 2012); and for mixture models *flexmix package* (Grun & Leisch, 2008) were used in the R environment for statistical computing (R Development Core Team, 2004).

2.6 FINDINGS

2.6.1 The measurement and estimation model

Since our data is a mixture of ordinal scales (Dichotomous, 3-Levels, 4-levels) so classic Factor Analysis (FA) is less suitable for several reasons (Woods & Edwards, 2007). First, Pearson correlations are not suitable when categorical data implies ordinal scales (Holgado–Tello et al., 2008). In addition, according to Dollan (1994), the utilization of normal Factor Analytic Theory on Pearson correlations necessitates a minimum of five response categories but in our case categorical indicators have 3 or 2 levels. Therefore, for identification of factors that explain a variety of results we have used Item Response Theory (IRT) for scale development. This represents a broad class of statistical models applicable to development of scale and scores (Embretson and Reise, 2000; Yen and Fitzpatrick, 2008).

This study has used EFA based on unidimensional IRT models in order to develop optimal scales for theoretical constructs, results are summarized in (Table 4). In addition, WOM (positive and negative) and legal debates are single item variables and are used directly in regression models as independent variables.

Table 4 Exploratory Factor Analysis (IRT) for Uber

Construct	Factor Loadings	Variance %	Cronbach's Alpha
Economic motivations (EM)		46	0.71
Are less expensive than taking a taxi.	0.55		
Use drivers who you would feel safe riding with.	0.79		
Save users time and stress.	0.83		
Are more reliable than taking a taxi or public transportation.	0.65		
Provide good jobs for people who want flexible working hours	0.66		
Collect less personal information about users	0.56		
Social motivations (SM)		50	0.53
Are a good option for people who have trouble getting taxis to pick them up because of their race or appearance.	0.65		
Serve neighborhoods that taxis won't visit	0.76		
Trust on reviews (Trust)		72	0.77
Ensure that the products and services people buy are safe.	0.87		
Make consumers feel confident about what they are buying.	0.83		
Make company be accountable to their customers.	0.85		
Awareness of Economies (AWARE)		63	0.61
Heard about Sharing Economy	0.87		
Heard about Gig Economy	0.77		
Heard about Crowd Funding	0.72		
Digital Skills (DS)		60	0.72
Post Product Reviews online	0.81		
Post Restaurant Reviews online	0.87		
Post Service Reviews online	0.94		
Read Product Reviews online	0.3		
Familiarity with Share Economy (FSE)		45	0.56
Earning on online sites	0.91		
Earn online (handcrafts website)	0.6		
Order grocery online	0.54		
Hire Online	0.79		
Rent clothing or other products online	0.71		

EFA confirmed the uni-dimensionality of the constructs considered in the model. The factor loading is above the minimum of 0.3 (Nurosis, 1993) recommended for all constructs. Variance is also in the acceptable range (Reckase, 1979), and Cronbach's alpha (α) exceeded 0.50 (Perry Hinton et al., 2004).

2.6.2 Heterogeneity in the motivations

Once we had assessed the measurement instrument's psychometric properties, we proceeded to estimate the linear model, using a mixture model (flemix) for economic and social motivation.

For Economic Motivation, the mixture regression model with three classes was selected as the best models because models beyond three class could not converge and model with three classes has lowest BIC (7100) and AIC (6753). The BIC value is almost identical to the model with two classes. Still, the AIC statistic is much lower (Table 5). For the Social Motivation model, the model with two classes was selected based on the lower AIC statistic and non-convergence of other models beyond (*k=2*).

Table 5 BIC and AIC values for mixture models

Economic Motivation			
Clusters	df	BIC	AIC
(k=1)	8	7180.509	7132.536
(k=2)	33	7101.159	6903.269
(k=3)	58	7100.934	6753.128

Social Motivation			
Clusters	df	BIC	AIC
(k=1)	8	6292.953	6244.980
(k=2)	32	6321.199	6129.306

2.6.2.1 Correlates of Economic Motivations

First segment is very small which covers less than 10% of the sample and has only one significant explanatory variable, negative word of mouth (Table 6), that has a negative effect on economic motivations. That means that for consumers classified in this segment, economic motivations are driven by the information they received from their peers.

For Segment two, economic motivations are 1) related negatively to other peers' negative experiences; 2) positively associated to their knowledge of the legal debates regarding the fight between Uber and taxi drivers; 3) their trust on peer's reviews; and 4) knowledge regarding the share economy. That means that the negative effect of the word of mouth on economic motivations is offset by consumer's knowledge regarding the share economy and its associated legal debates.

Finally, for individuals classified in segment three, the economic motivations is positively associated to trust on reviews, but decreases with negative word of mouth and information about the legal debate concerning the use of Uber. It seems that economic motivations of consumers classified in this segment are limited not only by their peers' experiences but also by legal debates, so that the more they read (reviews) or hear about the legal debates, their trust on on sharing economy affect their economic motivations.

The findings suggest that the test of hypotheses provides heterogeneous results, depending on the economic motivations. Consequently, hypothesis H1 finds support in all segments, but hypotheses H2 and H3 only find support in segment two and three, and hypothesis 6 only finds support in segment two.

Table 6 Mixture Regression Model for Economic Motivations of Uber (k = 3)

		Segment 1 Driven by WOM		Segment 2 Driven by Knowledge		Segment 3 Driven by Trust	
Segment Size (%)		(10%)		(57%)		(33%)	
Economic Motivations of Uber (Y)							
	(Intercept)	1.240	***	-0.607	***	-0.242	*
	Negative Word of Mouth	-0.058	**	-0.229	***	-0.242	***
	Legal Debates	0.039		0.383	***	-0.149	**
Covariates	Trust on Reviews	0.085		0.186	***	0.157	***
	Awareness of Economies	-0.033		0.014		0.006	
	Digital Skills	-0.016		0.025		-0.046	
	Familiarity with Share Economy	-0.003		0.168	***	-0.075	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.'

2.6.2.2 Social distribution of Economic motivations

Social indicators describe the social distribution of the three segments identified in the mixture regression model. The social indicators were selected based on the statistically significant differences between these segments. Chi-squared test of independence was performed to check the relationship of variables with their respective segments (Table 7). In this table we also report the row profile because it is easy to judge whether a social indicators is over represented in the segment: just compared the row profile to the size of the segment; if the former is higher than the latter, the social group is over represented, and the higher the difference the more it is over represented.

Table 7 Contigency Table and Social Profiles for Economic Motivations

		Segment 1		Segment 2		Segment 3		Total Sample	Chi Squared Test		
		290 (9.8%)		1688 (56.8)		993 (33.4%)		2971	$\chi2$	DF	p-value
Age	18-29	117	**(23%)**	327	**(64%)**	65	(13%)	509	2971	357.28	6	< 2.2e-16
	30-49	96	(10%)	619	**(66%)**	220	(24%)	935				
	50-64	64	(7%)	463	(51%)	381	**(42%)**	908				
	65+	13	(2%)	279	(45%)	327	**(53%)**	619				
Gender	Male	199	**(13%)**	882	**(57%)**	458	(30%)	1539	2971	45.819	2	1.12E-10
	Female	91	(6%)	806	(56%)	535	**(37%)**	1432				
Education	H.S. graduate or less	3	(1%)	143	(49%)	143	**(49%)**	289	2971	78.011	4	4.60E-16
	Some college	69	(7%)	524	(56%)	338	(36%)	931				
	College graduate+	218	**(12%)**	1021	**(58%)**	512	(29%)	1751				
Income	<$30,000	50	(10%)	244	(50%)	192	**(40%)**	486	2971	61.964	4	1.12E-12
	$30-$74,999	87	(8%)	556	(52%)	428	**(40%)**	1071				
	$75,000+	153	**(11%)**	888	**(63%)**	373	(26%)	1414				
Race	Some Other Race	9	(9%)	81	(83%)	8	(8%)	98	2971	105.98	8	< 2.2e-16
	Asian or Asia-American	9	(11%)	70	**(86%)**	2	(2%)	81				
	Black or African-American	20	(10%)	139	**(68%)**	45	(22%)	204				
	Mixed Race	17	**(16%)**	37	(35%)	53	**(50%)**	107				
	White	235	(9%)	1361	(55%)	885	(36%)	2481				
Region	Midwest	61	(9%)	271	(42%)	320	**(49%)**	652	2971	130.88	6	< 2.2e-16
	Northeast	48	(8%)	311	(55%)	210	(37%)	569				
	South	104	**(11%)**	649	**(67%)**	221	(23%)	974				
	West	77	(10%)	457	**(59%)**	242	(31%)	776				
Marital Status	Couple	260	**(10%)**	1456	**(58%)**	788	(31%)	2504	2971	29.477	2	3.97E-07
	Single	30	(6%)	232	(50%)	205	**(44%)**	467				
Religion	Roman Catholic	50	(9%)	301	(57%)	177	(34%)	528	2971	15.244	8	0.054
	Agnostic	96	**(11%)**	512	(58%)	275	(31%)	883				
	Jewish	7	(6%)	77	**(70%)**	26	(24%)	110				
	Other	21	(8%)	153	(59%)	87	(33%)	261				
	Protestant	116	(10%)	645	(54%)	428	**(36%)**	1189				

First segment which is referred to as driven by peers' negative WOM is over represented among young men college graduate with high income, and mixed race, couple from south region, mainly follows the average social description of the population. Any other social group is not over-represented in this group.

The second segment of economically motivated consumers is characterized by young adults (18-49 years) some college or graduates, high income males, Jews, from South and West (Table 7).

Segment 3, which is referred as driven by Trust, is over represented in the following social groups: older consumer (aged 50-64 years), with a high school degree, mainly, with low to moderate earners ($30000 – $74,999/ annually), single, white and mixed racial background, c protestants, and residents of Midwest region.

The main difference among the three segments is that segment one, whose economic motivations are driven by peer's negative word of mouth are the youngest and college educated enjoying a high income. The biggest segment, the driven by knowledge, are young adult couples with college graduates enjoying high income. The second largest segment is segment three, driven by Trust, are older females and less educated Americans and with a lower income in comparison.

2.6.2.3 Correlates of Social Motivations

Social motivation to use Uber is the second motivation for exploring the heterogeneity in their determinants. In this analysis two heterogeneous groups were identified (Table 8). According to our findings, the negative WOM hurts both groups' perceptions of Uber's social motivations, however, segment 2 is less affected than segment 1 (β = -0.082 vs β = -0.240). Moreover, positive WOM has a favorable and significant influence on segment 2 for their socially driven motivation to use Uber (β = 0.335). Findings also suggest that legal debates positively influence the perceived benefit of Uber on segment 2 (β =0.159) because these debates serve as a source of information about Uber service features which may reveal how Uber could be used as a social mode of transportation. Furthermore, results show that for segment 2, driven by positive WOM, trust in reviews positively influences the perceived benefits of Uber as online reviews reveal the real experience of other people who use products or services in different social settings. Finally, our study found that digital skills have very significant positive influence on the expected social benefits of Uber use for segment 2 (β =0.053) because these digital skills help them to use Uber most conveniently as compared to those who lack these skills (Hsu & Chiu, 2004; van Deursen & van Dijk, 2009a; Zhu et al., 2017). Hence, H1, H2, H3 and H5 are supported.

Table 8 Mixture Regression Model for Social Motivations of Uber (k = 2)

		Driven by negative WOM		Driven by positive WOM	
	Segment Size (%)	(44%)		(56%)	
	Social Motivations (Y)				
		Estimate		Estimate	
	(Intercept)	-0.296	**	-0.226	*
	Negative Word of Mouth	-0.240	***	-0.082	*
	Positive Word of Mouth	0.087		0.335	***
Covariates	Legal Debate Information	-0.057		0.159	***
	Trust on Reviews	0.038		0.078	***
	Awareness of SE	0.019		-0.018	
	Digital Skills	-0.004		0.053	*
	Familiarity with Share Economy	-0.095	(.)	0.045	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.'

2.6.2.4 Social Profiles for Social Motivations

The social pattern for the finite mixture regression model for the social motivations of Uber suggests that there are two heterogeneous segments, those who are driven by negative WOM and those driven by positive WOM. Chi-squared test of independence was performed to check the relationship of variables with their respective segments (Table 9).

Table 9 Contigency Table and Chi Squared Test for Social Motivations

		Segment 1		Segment 2		Total Sample	Chi Squared Test		
		1299 (44%)		1672 (56%)		2971	$\chi2$	DF	p-value
Age	18-29	47	(9%)	462	**(91%)**	509	2971	354.19	3	< 2.2e-16
	30-49	390	(42%)	545	**(58%)**	935				
	50-64	536	**(59%)**	372	(41%)	908				
	65+	326	**(53%)**	293	(47%)	619				
Gender	Male	631	(41%)	908	**(59%)**	1539	2971	9.3865	1	2.19e-03
	Female	668	**(47%)**	764	(53%)	1432				
Education	H.S. graduate or less	187	**(65%)**	102	(35%)	289	2971	60.236	2	8.31e-14
	Some college	365	(39%)	566	**(61%)**	931				
	College graduate+	747	(43%)	1004	**(57%)**	1751				
Income	<$30,000	160	(33%)	326	**(67%)**	486	2971	28.491	2	6.51e-07
	$30-$74,999	479	(45%)	592	(55%)	1071				
	$75,000+	660	**(47%)**	754	(53%)	1414				
Race	Asian or Asia-American	18	(22%)	63	**(78%)**	81	2971	139.52	4	< 2.2e-16
	Black or African-American	20	(10%)	184	**(90%)**	204				
	Mixed Race	54	**(50%)**	53	(50%)	107				
	White	1181	**(48%)**	1300	(52%)	2481				
	Some Other Race	26	(27%)	72	(73%)	98				
Region	Midwest	367	**(56%)**	285	(44%)	652	2971	136.68	3	< 2.2e-16
	Northeast	135	(24%)	434	**(76%)**	569				
	South	445	(45%)	529	(55%)	974				
	West	352	(46%)	424	(54%)	776				
Religion	Roman Catholic	217	(41%)	311	**(59%)**	528	2971	14.393	4	0.00614
	Agnostic	359	(41%)	524	**(59%)**	883				
	Jewish	46	(42%)	64	(58%)	110				
	Protestant	570	**(48%)**	619	(52%)	1189				
	Other	107	(41%)	154	(59%)	261				
Marital Status	Couple	1061	(42%)	1443	**(58%)**	2504	2971	11.46	1	0.00071
	Single	238	**(51%)**	229	(49%)	467				

The participants in each group were described using social variables (Table 9). The segment Driven by positive WOM may be profiled as follows: 18-49 years old male, relatively more educated, low earners, roman catholic, agnostic, couples, Asian-American from northeast region of America. On other hand the segment Driven by negative WOM is profiled as old age females, high school or less education but mid to high range income, white, singles, protestants from west and south regions of America.

2.7 DISCUSSION

Two main motivations are behind the use of Uber: economic and social. However, the influence of motivations' correlates (WOM, Legal debates, Trust in Reviews, Awareness of SE, Digital Skills, and Familiarity with Sharing Economy) is heterogeneous. We have found that heterogeneity can be resumed among economically motivated consumers into three segments. Consequently, the hypotheses developed in the theoretical framework found partial support in each group. As a result, hypothesis H1, WOM, finds support in all segments. Still, hypothesis H2, knowledge regarding the legal debates, and H3, trusting reviews, only find support in segments two and three, and hypothesis 6, familiarity with Sharing Economy, only finds support in segment two. Hypotheses 4, awareness of the Sharing Economy, and H5, digital skills, did not find support.

Regarding the effect of WOM, first hypothesis, it shows that economic motivation of the users is greatly driven by the experience of other people as suggested by other studies in the literature of Sharing Economy (Mao & Lyu, 2017; Owyang et al., 2013; Sen & Lerman, 2007; So et al., 2018a). It shows that negative WOM influences the motivation to use Uber for all three segments, but segment three is the most affected.

Regarding knowledge of the legal debaters, hypothesis two, consumers classified in segment two may interpret legal debates as evidence of restriction to competition, as researchers have proposed. They may be more libertarians who are against the restrictions to competition (Cohen & Sundararajan, 2015; Koopman et al., 2014). In contrast, consumers in segment three, negatively driven by legal debates, seems to be very much receptive in terms of legal debates regarding Uber as their motivation is negatively influenced by the ongoing legal debates, which is also supported by other researchers (Cannon & Chung, 2014; Gobble, 2015; Jeon et al., 2020; Ranchordás, 2015).

Furthermore, hypothesis three, Trust in online reviews, has also shown a positive influence on the economic motivation to use Uber for Segment Two and Segment Three because reviews help people to avoid the risk of uncertainty on these online platforms (Chen, 2008) under the framework of Uncertainty Reduction Theory (Berger & Calabrese, 1975). In contrast, it does not show any statistically significant impact for the first segment. Results suggest that people familiar with the Sharing Economy (H6), are more inclined towards using Uber and are on the benefited side of the society (Van & Helsper, 2015). This is because familiarity makes them understand the process of sharing online which helps them to utilize Sharing Economy service in an economical way (Hennig-Thurau et al., 2007). Consequently, it motivates people to use different Sharing Economy services (Mao & Lyu, 2017; Möhlmann, 2015).

The influence of the perceived social motivation determinants on Americans differed according to two social groups: driven by negative WOM and driven by positive WOM. The first hypothesis, the effect of WOM on social motivation to use Uber, was supported in each segment. In contrast, hypothesis two, the impact of legal debates, and hypothesis three, the impact of trust in reviews, and hypothesis five, the impact of digital skills, found support only in the second group of users. Whereas hypothesis Four, awareness of SE, and hypothesis six, familiarity with SE, are not supported by the findings of our study in either segment.

For the first hypothesis, segment 1 is driven by negative WOM and segment two is driven by positive WOM. This shows that users of the first segment are apprehensive about negative WOM compared to the users of segment two. Their social motivation to use Uber is negatively affected by negative WOM. This segment comprises old age, females and less educated users, who seems to be risk averse. On the other hand, in segment two, positive WOM drives, is greatly influenced by positive WOM. This segment, comprised of young, male, highly educated, seems more opportunist in nature. Behavioral (Howard & Sheth, 1969) and Sharing Economy literature (Mao & Lyu, 2017; So et al., 2018) suggest findings related to hypothesis one.

Regarding the second hypothesis, results show that legal debates for the second segment positively stimulate the social motivation of the users. For this segment, legal debates serve as a source of information to know the beneficial characteristics of ride-hailing services,

which may lead them to use Uber as a means of convenient social mode of transportation, as suggested by Kim et al. (2015) and Möhlmann (2015) under the framework of Social Exchange Theory (Homans, 1958).

For the third hypothesis regarding trust's impact on online reviews, segment two is more receptive. This segment is dominated by youngsters with relatively high education, which rely heavily on others' online opinions, as Prensky (2004)suggested.

Furthermore, the impact of digital skills on social motivation (H5) to use Uber, is favorable for segment two. This suggests that users of this segment are digitally more capable, which is suggested by their young age as digital natives (Prensky, 2001). This characteristic enables them to fully comprehend the Uber app and perceive Uber as a social means of transportation in comparison to others who lack these skills, as other researchers have proposed in ICT-related behavioral studies (Bandura, 1997; Compeau & Higgins, 1995; Hsu & Chiu, 2004; van Deursen & van Dijk, 2009b; Williams & Soutar, 2009) and Sharing Economy literature (Yang et al., 2017; Zhu et al., 2017).

The main difference between the two segments is that in segment one, whose social motivations are driven by peer's negative word of mouth, these users are old age, predominantly white females with relatively low education and high income from different regions of America. The biggest segment two, driven by positive WOM are young Asian/african-american males, highly educated, with low income from the northeast region of America.

2.8 MANAGERIAL IMPLICATIONS

According to the findings of this study, word of mouth is really important factor in shaping people's attitude and behaviors towards Sharing Economy. It emerges from the experience of the peers, so managers should focus on enhancing good experience of the users on platform and try to reduce negative experience of the people because negative word of mouth has greater influence on all segments of the population. Since the Sharing Economy involves people interaction, there are chances of varying behavior. Therefore, Uber managers should set standardized protocols for both parties (Driver and Rider) to have a smooth experience to reduce negative word of mouth. Legal debates regarding Sharing Economy negatively affect

one of the economic motivation segments, so resolving regulatory issues will greatly enhance brand reputation and image. Online reviews and ratings play a vital role in individuals' attitudes, so managers should ensure ratings and reviews are authentic and shared by every user. Digital skills and familiarity with Sharing Economy are key elements in reducing people's technological anxiety of people so managers should make user interface of Uber as simple as they can and provide visual tutorials on app & offline line media. Furthermore, provide free trials of Uber to make people familiar with this online service so that people can reduce negativity towards technological service and become regular users in future.

2.9 LIMITATIONS AND FUTURE DIRECTIONS

First shortcoming of our study is that we have used secondary data which created some issues related to data suitability for statistical analysis. For example items were not strictly following the Likert scale and number of items to measure one construct (social motivation) were not sufficient which resulted lower level of reliability (alpha = 0.53) . In some cases direct items were not available to measure constructs so proxies were used (trust on reviews). In future, researchers should collect primary data and study various types of digital skills and their effect on behavioral intention. Furthermore, qualitative approach would add more value into the literature of shared economy .

2.10 CONCLUSION

Sharing Economy is one of those structural changes which has affected our daily lives, has been brought up by the advancement in technology. Many studies have been conducted to know the motivations of the people to participate in Sharing Economy but no one studied that how these motivations are formed. Therefore, we studied various factors that affect the people's key motivations (economic and social) to use Uber. This study also explored that all people are not equally affected by determinants (WOM, legal debates, trust in reviews, digital skills and familiarity with Sharing Economy). We have found that the main users of Uber are highly educated young couples that can understand the legal debates around Uber, the Sharing Economy, and also trust others' reviews of Sharing Economy services. Older users follow the rules and are negatively influenced by breaking them. More specifically, WOM is a crucial factor in shaping the motivation of all people, but negative WOM affects relatively older adults more, and positive WOM influences youngsters more. Finally, our study reveals

that digital skills are less important, only crucial for consumers motivated by the social benefits of using Uber.

3 CHAPTER THREE: DIGITAL DIVIDE IN THE CONTEXT SHARED ECONOMY

3.1 INTRODUCTION

Many technological influences permeate every part of our lives. For example, our education, occupation, entertainment, shopping, commuting, and communication, everything is influenced by technology. This advancement has given birth to many new business models, and the Sharing Economy is an emerging business model. Belk (2007) initially defined the Sharing Economy as the distribution of one's resources to others. Similarly, Schor et al. (2015) conceptualized the Sharing Economy as a peer-to-peer economic activity facilitated by digital technology. This phenomenon is not limited to the physical distribution of resources but also encompasses services and experiences. Hence this phenomenon today is known as access-based collaborative consumption (Bardhi & Eckhardt, 2012; Belk, 2014; Böcker & Meelen, 2017; Botsman & Rogers, 2010).

In this study, we are interested in ride-hailing services like Uber. Uber is a ride-sharing service that is enabled by a smartphone application. Due to Uber's business model's digital and algorithmic nature, people need to be motivated to use Uber, have access to digital technologies, and may need it. Otherwise, they might not get the benefits of using Uber. However, literature also suggests that physical access and possession of digital skills are not distributed equally in society.

Resources and appropriation (RA) theory provide a comprehensive framework of the sequential social process of digital technology appropriation (van Dijk, 2005, 2020; Van Deursen & Van Dijk, 2015). The RA theory explains this process in four distinctive but sequential stages. The first stage is motivation, which determines people's desire or positive attitude toward digital technologies. According to social exchange theory (SET), this motivation is the function of perceived benefits, functional benefits, and/ or external rewards (Homans, 1958). Motivation is the necessary condition for the next stage, physical access. It means that only people with enough motivation would strive to access digital media. Once this stage is achieved, people would desire to develop digital skills to use digital technology like Uber service.

The Sharing Economy literature is at the early stages of its conception, so most studies are exploratory. Some of the studies aim to understand the motivations to participate in Sharing Economy (Boateng et al., 2019; Hamari et al., 2016; So et al., 2018b; Zhu et al., 2017), the satisfaction after using Uber and loyalty (Tussyadiah, 2016). Most studies conducted in the context of Sharing Economy are framed in the Theory of Planned Behavior (TPB) (Ajzen, 1991), the Technology Acceptance Model (TAM) (Davis, 1989), Social Exchange Theory (SET) (Homans, 1958) and Self Determination Theory (SDT) (Deci & Ryan, 1985a). These theories have been extensively used to examine users' behaviors, motivations, and acceptance of such platforms. These theories, albeit significant, primarily focus on individual motivations, perceptions, and behavioral intentions, providing valuable insights into why and how individuals decide to participate in the sharing economy, but these models do not describe how the use and lack of use of digital economies (Uber) lead to the digital divide.

However, a conspicuous gap seems to persist in the existing literature. Literature extensively lacks studies that describe how the motivation of people towards the sharing economy can initiate the process of the digital divide and how the use of sharing economy can bring people to the right side of the digital divide, how the lack of digital skills could lead people towards the wrong side of the digital divide. Furthermore, there are no studies in literature describing the factors affecting the digital divide in the context of sharing economy, how the sequential process of digital divide develops, and how the policymakers play their role in bridging this digital gap in the case of sharing economy. The Resources and Appropriation theory, which provides a more comprehensive perspective of digital access and usage, is rarely applied in the field of the sharing economy. This theory considers physical access to digital technologies and subsumes various components from TBP and TAM, material access, device-related opportunities, and the digital skills necessary to use these technologies effectively. The Resources and Appropriation (RA) theory is a comprehensive theory that integrates and relates almost all previous theories used to explain the digital divide.

The core objective of the study, grounded in RA theory, is to provide a comprehensive understanding of the digital divide among Americans in the realm of Sharing Economy, particularly the use of Uber. Furthermore, this study explains how Uber Services' appropriation process is unequally distributed in society. First, we analyzed the influence of motivation, physical access, and digital skills on the use of Uber. Afterward, we analyzed the

role of physical access and digital skills as mediators between motivation and Uber use. Finally, the moderating effect of resources and social categories.

Our study contributes to understanding the social distribution of the digital gap when using Uber, a paradigmatic example of the Sharing Economy. RA theory is used to frame the study in the context of consumer behavior, and Sharing Economy in particular. On the one hand, in earlier studies, RA theory has been used to explain the use of the internet in general only, but in this study, the RA theory is applied to a specific form of the Sharing Economy. On the other hand, studies on Sharing Economy have used many theories like the Theory of Planned Behaviour (TPB) (Ajzen, 1991), the Technology Acceptance Model (TAM) (Davis, 1989), Social Exchange Theory (SET) (Homans, 1958) and Self Determination Theory (SDT) (Deci & Ryan, 1985a). Still, no study has framed the domain of shared economy like Uber under RA theory to determine how people with access to such digital technologies gain more benefits compared to those who don't use it. Our study also provides methodological contribution as it uses factor scores in logistic regression extracted through Partial Least Square Structural Equation Modeling (PLS-SEM).

Research Questions

1) To what extent do the RA model explains the use of Uber?
2) To what extent do Physical Access and Digital Skills mediate Motivation's effect on Uber?
3) To what extent do the effect of theoretical drivers systematically differ according to the social position of users?
4) To what extent do social indicators moderate the effect theoretical drivers on using Uber?

The paper is structured as follows. Section 2 presents the literature review of the Sharing Economy in general and Uber, particularly the RA Theory and hypotheses. Section 3 contains the methodology related to data and measurement of the theoretical constructs and social indicators. Section 4 presents the analytical model. Section 5 describes the results, and section 6 discusses the findings according to the theoretical framework, limitations and suggests the main conclusions.

3.2 LITERATURE REVIEW

3.2.1 Sharing Economy and Uber

The Internet has revolutionized every aspect of life, from entertainment to interacting with friends, buying, studying, and working online from home. The pervasiveness of the Internet has dramatically influenced almost every bit of our reality. One of the results of the Internet's pervasiveness has been the birth of Sharing Economy.

Back in 2008, the *Sharing Economy* term was first used by Harvard Law School professor Lawrence (Kim et al., 2015). To date, there is no general agreement on the concept's meaning. There are numerous definitions in the literature for *Sharing Economy* (Botsman & Rogers, 2010). Belk (2007) has defined the Sharing Economy as "the act and process of distributing *what is ours to others* for their use and/or the act and process of receiving or taking something from others *for our use*." However, Belk's definition is limited to the distribution of what is ours to others, and other researchers have followed this path, as in Schor and colleagues conceptualization of the Sharing Economy (Schor et al., 2015): the 'economic activity that is Peer-to-Peer or person to person, facilitated by digital platforms'. Botsman & Roger (2010) instead offer a broader concept based on 'Access to' not the 'distribution of' physical objects or intangible assets like someone's skills or time. Access-based concept of the Sharing Economy proposes that people may be interested not only in ownership (selling and buying through eBay, Wallapop, etc.) but also in accessing pleasurable experiences for a short time (like in AirBnB flats and houses, for instance) (Bardhi & Eckhardt, 2012). Later Belk has suggested another term to refer to access-based consumption, '*collaborative consumption*' Belk (2014), but today, the *Sharing Economy* encompasses both means, distributing and access (Bardhi & Eckhardt, 2012). Currently, collaborative consumption is used as an alternate term for sharing (Böcker & Meelen, 2017; Meelen & Frenken, 2015). For simplicity, this study understands the *Sharing Economy* as the exchange between consumers granting each other temporary or permanent access to their underutilized physical assets ("idle capacity"), possibly for money (Böcker & Meelen, 2017; Meelen & Frenken, 2015) .

According to researchers, Sharing Economy literature is at its early conceptualization stage (Martin et al., 2017). Most research so far is aimed at exploring the motivations and

constraints to participate in exchanging goods or services in the Sharing Economy. Zhu and colleagues have examined the motivation to participate in Sharing Economy (Zhu et al., 2017), So and colleagues, the motivation and constraints to using Sharing Economy (So et al., 2018b), Boateng and colleagues have studied the determinants of using Uber (Boateng et al., 2019), Hamari and colleagues studied why people participate in collaborative consumption (Hamari et al., 2016), Tussyadiah, the factors driving satisfaction and loyalty (Tussyadiah, 2016) in Sharing Economy. These studies were framed in the Theory of Planned Behavior (TPB), Social Exchange Theory (SET), Technology Acceptance Model (TAM), and Self Determination Theory (SDT) and found the economic, social, safety, times saving , psychological, service quality and reliability benefits as key factors that motivate people to participate in Sharing Economy.

Regarding the taxi industry, Uber is the best-known example of Sharing Economy, which has transformed the traditional taxi market worldwide (Zhu et al., 2017). Uber's ride-hailing business model is based on a mobile application platform provides that connects drivers and consumers. To use Uber service, the consumer has to follow five elementary steps (Uber, 2019b). Firstly, the rider opens the Uber app and sets the "where to" box, then chooses desired vehicle and price options and confirms the pickup. Secondly, the rider is matched with driver nearby and is notified when vehicle will reach there. Thirdly, the taxi service starts after verifying each other's identity, driver and rider, and desired location. In this step, the rider can cancel the service if he/she feels unsafe riding with that particular rider. Fourthly, the driver takes the rider safely to the desired location. Finally, at the end of the trip, the rider and driver give each other a rating of 1-5, with five being the best rating. This business model is based on convenience, but rider and driver's safety is prioritized (Uber, 2019c). Riders can share their location to their family or friends on real-time tracking. Drivers have 24/7 assistance from a dedicated Uber's team. According to CEO of Uber Dara Khosrowshahi, another key feature of Uber ride-hailing service model is diversity and inclusivity: Uber takes pride in valuing diversity and pledges to foster an environment that not only embraces individuality but it foster an inclusive atmosphere. (Uber, 2019a).

However, the social distribution of Uber users may be unequal due to the fact that users may not have the motivation to use the service, does not have access to smartphones, and if they do have access, they may not possess the digital skills needed to use and trust using Uber

service. We have described the sequential path leading to the digital divide according to the Theory of Resource Appropriation (van Dijk, 2005, 2020; Van & Helsper, 2015).

3.2.2 The Resources and Appropriation Theory

Many notable theories of behaviour widely back research on the Sharing Economy to examine motivations and constraints to participate in Sharing Economy: the Theory of Planned Behaviour (TPB) (Ajzen, 1991), the Technology Acceptance Model (TAM) (Davis, 1989), Social Exchange Theory (SET) (Homans, 1958) and Self Determination Theory (SDT) (Deci & Ryan, 1985a). All these theories have been subsumed by the Resources and Appropriation Theory that explains the social process or appropriation of the Internet. The concept of the Resources and Appropriation theory, which offers a more extensive viewpoint on digital access and utilization, has not been utilized within the sharing economy. This theory encompasses not only the physical accessibility of digital technologies but also considers several aspects of TBP and TAM, like attitude and perceived ease of use. Along with material access and device-related opportunities, it includes consideration for the digital skills required to effectively utilize these technologies. Therefore, our study is framed on the Theory of Resource and Appropriation that aims at uncovering how the digital divide is produced and socially distributed. According to our knowledge, so far, none of the studies on the Sharing Economy has used Resource Appropriation Theory (RA) (van Dijk, 2005, 2020).

The Resources and Appropriation Theory (van Dijk, 2005, 2020) presents a sequential model that explains the generations of digital gaps and how they are socially distributed. This starts at people's motivations to use the Internet, when people have a positive attitude towards using the Internet (Motivation/Attitude). Once people get motivated, appropriation is triggered by having access to the proper digital technologies. Finally, people need to have digital skills to use digital technologies to use them successfully. Additionally, this theory incorporates a social perspective, which shows the interplay of resources (Material/Income, Social and Cultural) and social categories (Age, Gender, Ethnicity) and positional resources (Labor/employment, Education, Household, Nation/Region) to explain the social distribution of digital gaps. This theory uncovers a vicious circle that starts from categorical inequalities that cause unequal distribution of resources, which in turn causes unequal access to the Internet. Inequality in digital technology access brings unequal economic and social outcomes to the digital inequalities.

According to the RA theory, it can be argued that the motivation or positive attitude of riders (customers) are grounded on the perceived value (Economic, Social, Safety, Trust, and Convenience) of Uber platform (Internet application) (Boateng et al., 2019; Hamari et al., 2016; Möhlmann, 2015; Zhu et al., 2017). Motivation may lead them to acquire the proper digital tools to have physical access to the Internet (smartphone and mobile data) and the Internet to use the Uber application and benefit from it. They also need digital skills to operate Uber application to use Uber services in a greater possible way.

3.3 RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

The Resources and Appropriation theory of the digital divide has provided a sequential model that explains the mechanisms that end in a digital divide, a process based on four drivers: Motivations, Physical Access, Digital Skill, and Usage (van Dijk, 2020; Van Dijk, 2012; Van Dijk, 2005). According to the theory, Motivation, Physical Access, and Digital Skills form a causal model that explains the use of Uber. Furthermore, resources like Income, social categories (Age, Gender, Ethnicity), and Positional (Education, Marital Status, Region) categories are used to explain the social appropriation of the Uber service.

3.3.1 Motivation/Attitude

The first stage of RA theory is based on psychological factors like needs, motives, attitudes, gratifications, and intentions, which drive human behaviour. The majority of the people who do not use the internet it is not because they do not have access to digital devices, but because they are not motivated enough to use internet-based applications and are categorized as 'want-nots'. Therefore, the digital divide problem cannot be solved without resolving the problem of a negative attitude toward digital technology (van Dijk, 2005, 2020). Self-determination theory (Deci & Ryan, 1985b) proposes that motivation can be intrinsic and extrinsic. Intrinsic motivation is based on values like joy, whereas extrinsic motivation is based on external factors like trust, reputation, monetary benefits etc. (Hamari et al., 2016). Studies in the context of Sharing Economy posit that trust (Botsman & Rogers, 2010; So et al., 2018b; Wang & Jeong, 2018), safety (Yang et al., 2017), economic benefits (Boateng et al., 2019), search convenience (Dredge & Gyimóthy, 2015; Priporas et al., 2017), and time-saving (Stollery & Jun, 2017) has a positive impact on developing positive attitude and

intention to participate in Sharing Economy. The ability to select a preferred driver can serve as a motivating force for users on digital platforms like Uber. By providing options based on user ratings and reviews, this feature not only boosts satisfaction and trust but also motivates to increase the usage of the platform.

Furthermore, digital economies such as Uber offer advantages in terms of time-saving and stress reduction, which can be highly motivating for users. The convenience of effortlessly booking rides through smartphones diminishes the hassles of finding parking or dealing with public transportation. This seamless experience motivates individuals seeking efficient and hassle-free transportation options.

One of Uber's key motivating factors for users lies in its reputation for reliable service. Users value prompt pick-ups, accurate estimated arrival times, and consistent service quality. Those who prioritize such reliability find themselves more inclined to rely on Uber for their transportation needs, increasing overall platform usage.
Other studies regarding a Ridesharing Application (Uber) have found that perceived value is the result of overall utility that users get by using this service based on perceived gain and loss. This perceived value is a significant factor in determining people's intention to participate in Sharing Economy (Kim et al., 2015; Yang et al., 2017). Consequently, we propose that the higher the motivation, the higher the use of Uber.

H1: The higher the motivation, the higher the use of Uber

3.3.2 Physical Access

However, to interact in the Sharing Economy (using the Uber application), motivated people need to acquire the digital equipment (smartphones and mobile data) to access the Uber application. According to van Dijk (2020): Physical access refers to the chance individuals have to use digital media both in private environments such as their own residences and shared spaces like educational institutions, libraries, social hubs, internet cafes among various other locales. Once people are motivated to use Internet applications, they have to move on to have physical access of digital devices like computer, smartphone and mobile data connection in the case of Uber. But having access to devices is not enough here because people need to have access to a mobile data subscription devices (van Dijk, 2005, 2020). In

the case of digital platforms like Uber, people only need a smartphone with an internet connection to use the service. As per the RA theory, physical access is the precondition to move on to the following steps, so here we can say that people with Physical access to smartphones and an internet connection have a high probability of using Uber service, keeping other preconditions constant. Hence we hypothesize that:

H2: The higher the access to the proper digital devices, the higher the use of Uber

3.3.3 Digital Skills

After having access to the proper digital devices, people need the proper digital skills to take the most of the Internet applications. People without adequate digital skills would not be able to benefit from most Internet applications. Digital skills are the digital equivalent of self-efficacy, to one's capabilities to perform a task online (Bandura, 1986). Consequently, a consumer who lacks these capabilities may avoid using the digital devices they have access to (Bandura, 1982). The literature on Information and Communication Technology shows different kinds of self-efficacy, for example, internet self-efficacy (Marakas et al., 2007) , software-related self-efficacy (Agarwal et al., 2000), web-related self-efficacy (Hsu & Chiu, 2004) and computer-related self-efficacy (Compeau & Higgins, 1995). In consumer behaviour literature, self-efficacy is also the antecedent of the intention to buy in TPB model (Pavlou et al., 2007) and the antecedent of adopting technology in TAM model (Alalwan et al., 2016).

In the context of Sharing Economy, research has found that a lack of ability to use digital technology is considered a barrier to adopting digital technologies (Tussyadiah & Pesonen, 2018). In the light of Social Cognitive Theory (SCT) (Bandura, 1986), Ridesharing self-efficacy is defined as one's capability to use this service through a mobile application (Zhu et al., 2017). According to Zhu et al., (2017), the ridesharing model is new and technology-based, therefore, self-efficacy related to ridesharing has a positive effect on the intention to use it. So we can argue that if people possess digital skills, can use Uber application, navigate and book a ride through this platform. Hence we hypothesize that:

H3: Digital Skills have positive impact on use of Uber

Causes of differences in Motivation

According to the RA theory, personal, positional, and resources are three significant factors that cause differences in people's motivation toward technology-based services. Personal factor includes age, gender and ethnicity (race). Age is a crucial element affecting people's motivation toward digital media. The younger generation has been brought up with new technologies, so its motivation towards digital technology is very high as compared to the older adults (Carey et al., 2002; Fortunati et al., 2019). Gender is another personal category that has an influence in determining the motivation of people towards digital technology. Males are highly motivated when new technology is launched, but later on girls' motivation increases at a faster rate (van Dijk, 2020). However, this gender difference for the motivation towards digital technology is getting smaller in developed countries but still exists.

Figure 3 shows The hypotheses developed and the mediating effect of Physical Access and Digital Skills between Motivation and Use of Uber. Resources and social categories mediate the effect of Motivation, Access and Digital Skills on using Uber service.

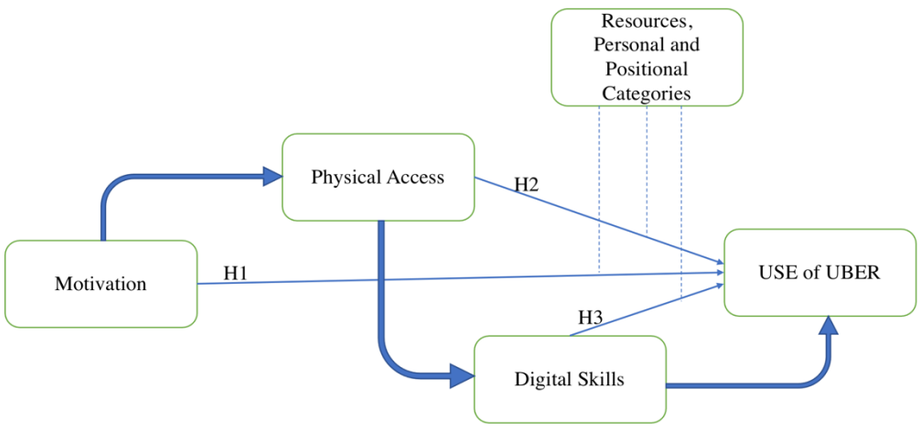

Figure 3 Theoretical Model based on RA Theory: Uber

3.4 METHODOLOGY

3.4.1 Sample and Procedure

3.4.1.1 Data

Pew Research Centre has provided collaborative economy survey conducted in 2015. The sample size was 4,787 respondents (4,317 by web and 470 by mail) age 18 and over, residents of the US, including Alaska and Hawaii. The survey questionnaire was provided in English and Spanish and had several parts, starting with questions related to the Sharing Economy and transport preferences in general; later on, it asked questions about online shopping, Sharing Economy like Home-sharing (Airbnb) & Ride-hailing service (Uber) and Gig economy.

The main purpose of using this data, which seems older, is to understand how these digital platforms impact resources and appropriation processes that may contribute to digital inclusion or exclusion. This data helps examine how the use of a sharing economy like Uber explains the resources and appropriation process influencing motivation aspects and accessibility levels pertaining to resources, ultimately shaping the scope of the digital divide dynamics.

Taking a longitudinal perspective through using PEW Research data ATP 2015, one can gain insight into the digital divide and technology adoption. By comparing this data to recent developments, such as the emergence of ride-sharing platforms like Uber, a better understanding can be attained regarding the long-term effects, these digital technologies have on resource availability and their influence in shaping the dynamics of the digital divide. Examining these changes over time helps identify any recurring patterns.

Finally, it is essential to emphasize the reliability of the Pew Research Center data as a reputable and trustworthy resource for examining societal and technological trends. Renowned for its meticulous approach, comprehensive data collection, and unbiased assessment methods, this institution conducts surveys employing robust sampling techniques to guarantee the representation of various demographic groups and deliver accurate and trustworthy data. To maintain data accuracy and validity, the Pew Research Center incorporates stringent quality control measures such as pre-testing survey questions,

conducting thorough data cleansing procedures, and utilizing statistical approaches to address potential biases.

3.4.1.2 Measurement of the dependent variable

The dependent variable was measured as a dummy variable, whether the interviewee used Uber services or not. Using the Uber application is a necessary condition for people to enjoy the benefits of the Sharing Economy, consequently using Uber divides individuals between the ones that benefit from Uber services and the ones that do not (van Dijk, 2005, 2020). Originally, the measurement of using Uber had three levels (Yes, I have done this, No but heard of it and Never heard). As this study aimed to measure the Use of Uber, we have recoded it into two levels: YES (Yes, I have done this) and NO (Not used but heard of it and Never heard).

3.4.1.3 Measurement of theoretical constructs

Motivation. According to RA theory, the motivational construct has psychological determinants like needs, motives, attitudes, and gratifications that favorably affect people's intention toward digital technology. Compared to a traditional taxi, we have considered the safety benefits of choosing their desired Uber driver, time-saving and reducing psychological stress, and Uber service reliability as an antecedent of a positive attitude that influences intention and actual usage (Table 10). These items are related to RA theory and represent the attitude construct of the Theory of Planned Behavior. Similar items are used by many studies (Boateng et al., 2019; Mao & Lyu, 2017; Möhlmann, 2015; So et al., 2018) in the context of Sharing Economy. Items related to this construct have three-level (Yes-Not sure- No), which is coded numerically as 3-2-1.

Access to digital devices. The physical access construct is the opportunity to access digital media privately or publicly (van Dijk, 2005, 2020). It means that people should have a laptop or smartphone with internet access. In the Sharing Economy, it requires having a smartphone with data services to use it. Therefore, we considered eight items for physical access (three direct items and five proxy items) (Table 10). Direct items measure internet use, internet speed, and social media use. In addition to these items, we have also considered five other items as proxies for Physical access, which represent the use of the internet and possession of

a smartphone. These proxy items measure the responses of the people who use a cellphone with internet in a physical store to check prices online, check reviews online, pay with a cell phone and discuss buying decisions on the phone; and buy something online using their cellphone.

These items are used based on the literature of RA theory and used by many studies in the context of digital divide, including the author of RA theory (Lamberti et al., 2021; Van & Helsper, 2015; van Deursen & van Dijk, 2014; Van Deursen & Van Dijk, 2015; Van Dijk, 2017).

For this construct, the use of Internet has two levels (Yes – No), speed of Internet has three levels originally (Yes, have high-speed internet service at home - No, do not have high-speed internet service - Not sure), which was later transformed into two levels by keeping first response as Yes and transforming last two responses as No (Yes – No) to match the levels with other physical access variables. The use of Social media has two levels (User – Non-User), Use of cellphone for online buying has two levels (Yes – No), and the use of cellphone for payment, checking price, checking reviews, and discussing with friends & family, have two response levels (Yes – No). These respondents are considered to have physical access to digital devices because they have a smartphone with an internet connection, allowing them to use internet applications like Uber.

Digital Skills. According to the RA theory, people need medium and content-related digital skills to use an Internet application in the most beneficial way (van Dijk, 2005, 2020). Medium related skills help people operate digital devices and navigate various website pages. Furthermore, content-related digital skills are divided into three subcategories: i) communication skills, ii) content creation skills, and iii) strategic skills (van Deursen et al., 2014). Firstly, content-related skills would enable people to search for information and evaluate information online. Secondly, to communicate with other people in various online contexts, even posting online opinions. Thirdly, creating online content through images, videos, or text. Finally, content-related strategic skills help people perform any online task to achieve goals like buying something online. In light of these mentioned skills, we have considered five items from Pew Research Centre data representing medium and content-related skills (Table 10). The items used are based on the scale developed by van Dijk (2005, 2020). These items are used by other studies in the context of the digital divide and adoption

of new technologies (Ben Youssef et al., 2022; Cueto et al., 2018; Jashari et al., 2022; Van Deursen, 2010). These items measure the ability of the respondents to post online reviews for the products they bought, restaurants they visited, and any service they have used.

Additionally, items also measure their abilities to read online ratings/reviews, which helped them to achieve a goal like buying online for the first time and performing the process of buying products online often. As a result, we can deduce that people with the skills mentioned above can use Uber via their smartphones. For Digital Skills, online purchase frequency had four levels originally (Several times a week - About once a week - A few times a month - Less often), which was later reduced t three levels (High Frequency for Several times a week, Medium for About once a week & A few times a month and Low for Less often). Reading product reviews while buying online is another variable for Digital Skills, and it has three levels (Always – Sometimes – Never). Posting product reviews, posting restaurant reviews, and posting service reviews represent the Digital Skill variables, which have three levels (Always – Sometimes – Never).

Table 10 Original Survey Items for RA Theory Constructs

Motivational Access (MA)	Physical Access (PhA)
CAR5. Thinking about ride-hailing services such as Uber or Lyft, do you think the following statements describe them well?	
A. Are less expensive than taking a taxi	F_INTUSER_FINAL (Internet Use)
B. Are a good option for people who have trouble getting taxis to pick them up because of their race or appearance	F_BBINT_RF1 (Internet Speed)
C. Use drivers who you would feel safe riding with	F_SNSUSER_RF1 (Social Media Use)
D. Save their users time and stress	SHOP20. Do you ever use a cell phone while you are inside a physical store to…
E. Are more reliable than taking a taxi or public transportation	A. Pay for a purchase by swiping or scanning your cell phone at the register
F. Provide good jobs for people who want flexible working hours	B. See if you can find a better price online for something you want to buy
G. Serve neighborhoods that taxis won't visit	C. Look up reviews or other information online about a product you want to buy
H. Are mostly used by people who already have plenty of ways to get around	D. Call or text someone to discuss a potential purchase
I. Collect too much personal information about their users	SHOP1. Thinking about your general shopping habits, do you ever:
J. Are a good option for older adults who have a hard time getting around on their own	B. Use your cell phone to buy something online
K. Are a good way for parents to make sure their children get around safely when they can't drive them	

Digital Skills (DS)	Use of Uber (Dependent Construct)
SHOP9. Thinking about some different types of purchases you might make; how often do you provide your own online ratings or reviews of…	CAR1. Do you ever use ride-hailing services like Uber or Lyft?
A. Products you have purchased	
B. Restaurants you have visited	
C. Services you have used	
SHOP3. How often do you make purchases online?	
SHOP12.How often do you read customer ratings or reviews that other people have posted online when buying something for the first time?	

In all of the above survey questions, items with Refused responses or Missing values are coded as NAs. Items with three levels are coded as 3-2-1, from more to less intensity, and dichotomous items are coded as 1-0 for Yes – No respectively.

3.4.1.4 Measurement of Resources, Personal and Positional Categories (Social Indicators)

According to the RA theory, it's not only the motivation, physical access, and digital skills which affect the use of digital media but Resources, Personal and Positional categories that can influence the use of digital technology (van Dijk, 2005, 2020). Resources include social, cultural, material (income), mental and temporal (time) categories. Our data contains only one item related to resources (Income) of the people and Religion and Race as the proxies for Culture because cultural norms vary as per the religion and race of the people. In Table 3 we describe resources, personal and positional social categories. Income was recorded as a category with three levels (<$30,000, $30-$74,999, and $75,000+); Religion has been codified with five major categories: Protestant, Roman Catholic, Agnostic, Jewish and Other. Race variable in data has five categories (White, Black or African-American, Asian or Asian-American, Mixed Race, Or some other race).

Among social categories, our data registered Age and gender. The age variable in data is categorized into four ranges (18-29, 30-49, 50-64, and 65+), whereas the gender variable has two categories (Male and Female).

The third factor affecting digital technology use is the Positional categories. In our data, we have items related to Education, Marital status (Household position), and Region to represent the positional categories of the respondents that affect digital media use. The education level of the respondents was measured in three levels (H.S. graduate or less, Some college and College graduate); Marital status, with six levels initially (Married, Living with a partner, Never been married, Divorced, Widowed and Separated) which was later reduced to two: a couple (Married and Living with a partner) and single (Never been married, Divorced, Widowed and Separated). The final positional category is Region which has four categories (Northeast, Midwest, South, and West).

According to the RA theory, resources, personal and positional categories influence behavior and the theoretical drivers of behavior (van Dijk, 2020). Therefore, we have used these as moderating variables to examine how these variables moderate the given RA model for this study (RQ4). Furthermore, we used these variables to determine how RA differs systematically across America's socio-demographic groups (RQ3).

Dealing with missing data. We deleted all observations with NAs and retained only complete cases, which reduced our dataset to 3050 observations (Table 11). Data represent both males and females almost equally, with 52% and 48%, respectively. Age categories show that 48% of the respondents are between 18-49 years. Out of 3050 respondents, 59% have a college education, 48% of respondents earn more than $75000, 66% are in a relationship, 40% are Protestants, and 83% belong to the White race.

Table 11 Social Indicators (N=3050)

Characteristics	**N**	**%**	**Characteristics**	**N**	**%**
Age			Gender		
18-29	509	17	*Male*	1577	52
30-49	935	31	*Female*	1473	48
50-64	956	31			
65+	650	21			
Marital Status			Education		
Single	1047	34	*College graduate+*	1797	59
Couple	2003	66	*Some college*	954	31
			H.S. graduate or less	299	10
Income			Region		
<$30,000	500	16	*Northeast*	584	19
$30-$74,999	1098	36	*Midwest*	672	22
$75,000+	1452	48	*South*	1003	33
			West	791	26
Religion			Race		
Protestant	1233	40	*White*	2544	83
Roman Catholic	544	18	*Black or African-American*	217	7
Agnostic	894	29	*Asian or Asian-American*	81	3
Jewish	119	4	*Mixed Race*	108	4
Other	260	9	*Some other race*	100	3

3.4.2 Measurement Model of Theoretical Constructs

Initially, we performed Exploratory Factor Analysis (EFA) to identify a set of latent constructs underlying a battery of measured variables (Fabrigar et al., 1999) (Table 12). Before performing EFA, we conducted basic tests to know the suitability of the data for EFA (Hair et al., 1995). Results were favorable as KMO was **>0.8** and Bartlett's test was **< 0.05,** which shows homogeneity of variances. We also found three factors having eigen values >1. For practical significance, factor loadings were restricted to ±0.500 (Hair et al., 2009), and as a result of this cutoff, items with lower cross-loadings were excluded from further analysis. This cut-off in EFA reduced the number of items from twenty-four (24) to eleven (11) items representing three factors (Motivation, Physical Access, and Digital Skills) (Table 13).

Table 12 Reduced Items after EFA

Constructs	Items
Motivational Access **(MA)**	
Thinking about ride-hailing services such as Uber or Lyft, do you think the following statements describe them well?	**MA1.** Use drivers who you would feel safe riding with **MA2.** Save their users time and stress **MA3.** Are more reliable than taking a taxi or public transportation **MA4.** Provide good jobs for people who want flexible working hours **MA5.** Are a good option for older adults who have a hard time getting around on their own
Physical Access **(PA)** Do you ever use a cell phone while you are inside a physical store to (PhA1 & PhA2)	**PhA1.** See if you can find a better price online for something you want to buy **PhA2.** Look up reviews or other information online about a product you want to buy **PhA3.** Thinking about your general shopping habits, do you ever: Use your cell phone to buy something online
Digital Skills **(DS)**	
Thinking about some different types of purchases you might make, how often do you provide your own online ratings or reviews of…	**DS1.** Products you have purchased **DS2.** Restaurants you have visited **DS3.** Services you have used
Use of Uber **(UU)**	**UU1.** Do you ever use ride-hailing services like Uber or Lyft?

Table 13 Exploratory Factor Analysis (cut off = 0.5) (N=3050)

Items	Constructs		
	Motivational Access (MA)	Physical Access (PhA)	Digital Skills (DS)
MA1	0.7		
MA2	0.7		
MA3	0.6		
MA4	0.7		
MA5	0.7		
PhA1		0.8	
PhA2		0.8	
PhA3		0.7	
DS1			0.8
DS2			0.8
DS3			0.9

As the theoretical model proposes that Motivation, Physical Access and Digital Skills form a causal chain that affects the use of Uber, instead of using the exploratory factors scores, we have used factor scores from Partial Least Square Structural Equation Modeling (PLS-SEM) (Bollen, 1989; DiStefano et al., 2019; Hair et al., 2017) (Table 14). At this stage, two items i.e Uber provide good jobs for people who want flexible working hours (MA4) and Uber is a good option for older adults who have a hard time getting around on their own (MA5), are

Table 14 Partial Least Square Structural Equation Modeling (PLS-SEM)

Constructs	Est. Loadings	Cronbach's Alpha	AVE	p-value
Motivational Access (MA)		0.70	0.61	
MA1	0.8			***
MA2	0.7			***
MA3	0.8			***
Physical Access (PA)		0.74	0.66	
PhA1	0.8			***
PhA2	0.8			***
PhA3	0.7			
Digital Skills (DS)		0.81	0.72	
DS1	0.8			***
DS2	0.8			***
DS3	0.9			***

removed from Motivational Access construct because of their low loading, 0.48 and 0.39, respectively. Motivation, Physical Access and Digital Skills constructs were validated by the method by Hair et al. (2017). Finally, construct scores from PLS-SEM analysis for Motivational Access, Physical Access and Digital Skills were extracted for subsequent analysis (Logistic Regression) (Hair et al., 2017).

3.4.3 Validity and reliability

Skewness and kurtosis tests were conducted to check the normality of data (data management and analysis) has been conducted with the *R language and environment for data analysis* (R-Core Team, 2021), finding that all variables values fall in the normal range of acceptance of +2/-2 (George & Mallery, 2010). Furthermore, the factor loading examined the convergent validity, which was ≥ 0.7. Cronbach's alpha and Joereskogs_rho were more significant than 0.7, showing the constructs' reliability. Average Variance Extraction (AVE) was also tested for convergent validity, and it was above 0.5. Additionally, discriminant validity was tested with a newly developed criterion, heterotrait-monotrait (HTMT) ratio (Henseler et al., 2015), and recommended by (Hair et al., 2017) (Table 15).

Even though the problem of common method bias does not seem to occur in this study because the data had different measurement properties for the dependent and independent variable (Podsakoff et al., 2003), we conducted Harman's single factor test. An unrotated single factor of all the relevant items was extracted in exploratory factor analysis. The result shows that the maximum variance explained by the single factor is 19%, which is way below the threshold variance of 50%. Hence, we can argue that common method bias is a non-issue for this study.

Table 15 Discriminant Validity

	MA	PA	DS	UU	AVE
MA	**0.777**				0.605
PA	0.032	**0.814**			0.663
DS	0.003	0.069	**0.851**		0.725
UU	0.192	0.053	0.001	**0.99**	0.99

3.5 ANALYSIS

This research aims to use RA theory to understand better how people use ride-hailing services like Uber. Ordinary least squares (OLS) regression or linear discriminant feature analysis have traditionally been used to answer such consumer research models (Peng et al., 2002). Both techniques, however, require strict statistical assumptions, including linearity of relationships, normality of independent variables, and the absence of multicollinearity among explanatory variables (Hair et al., 2009). Since the dependent variable is discrete and has a binary response, we used logistic regression techniques rather than other multivariate techniques to address research questions (Table 16). Furthermore, logistic regression can handle discrete independent data in addition to continuous data (Park, 2013). Logistic regression is the preferred method over linear regression and discriminant analysis, for the studies which involve dichotomous outcome Norušis (1994) and Tabachnick & Fidell (1996). Our analysis used Motivational Access, Physical Access, and Digital Skills as independent variables in Logistic Regression models Model 1, Model 2, and Model 3 to determine the probability of using Uber. For each model, odds ratios (OR) are determined to explain the impact of an increase or decrease in the dependent variable on using Uber. Model 4 introduces the resources and social categories, and model 5, the moderating effect of the social indicators on theoretical constructs.

Furthermore, we investigated the role of physical access and digital skills in mediating the relationship between motivation and Uber use Table 7. We used the causal mediation analysis developed by (Imai, Keele, & Tingley, 2010) and implemented it in the *Mediation* package in the *R programming language* (R-core team, 2021).

Table 16 Logistic Regression Analysis

	Model1		Model2		Model3		Model4		Model5 (Moderation)	
	Estimate (p-value)	**z value**	**Estimate (p-value)**	**z value**	**Estimate (p-value)**	**z value**	**Estimate (p-value)**	**z value**	**Estimate (p-value)**	**z value**
(Intercept)	-1.459***	-26.860	-1.515***	-26.203	-1.518***	-26.848	-2.882***	-9.916	-2.888***	-10.819
Motivational Access (MA)	1.215***	22.280	1.167***	21.071	1.172***	21.087	1.136***	19.426	0.672***	2.948
	OR= 3.37		OR=3.21		OR=3.22		OR=3.11			
Physical Access (PhA)			0.466***	9.192	0.493***	9.382	0.232***	3.746	0.144*	1.984
			OR= 1.59		OR=1.64		OR=1.26			
Digital Skills (DS)					-0.101*	-2.023	0.036**n.s**	0.674	-0.002**n.s**	-0.044
					OR=0.90		OR=1.03			
Age (65+)										
18-29							1.600***	7.778	1.587***	7.844
30-49							1.083***	5.915	1.079***	6.002
50-64							0.605**	3.415	0.598***	3.418
Education (H.S or less)										
Some College							0.325**n.s**	1.373	0.202**n.s**	0.835
College Graduate or more							1.162***	5.063	1.069***	4.700
Income ($75,000+)										
<$30,000							-0.652***	-3.696	-0.636***	-3.658
$30-$74,999							-0.639***	-5.110	-0.691***	-5.582
Marital Status (Couple)										
Single							0.414**	3.459	0.372**	3.060
Religion (Catholic)										
Agnostic							0.190**n.s**	1.295		
Jewish							0.644**	2.587		
Protestant							-0.557***	-3.803		
Some Other							-0.438*	-2.059		
MA*Education									0.470**'.'**	1.835
(Some College)										
MA*Education									0.475*	1.997
(College Graduate or more)										
PhA* Marital Status									0.308**	2.745
(Single)										
Overall Model fit	**R^2 = 0.19**		**R^2 = 0.21**		**R^2 = 0.21**		**R^2 = 0.29**		**R^2 = 0.27**	
	p value = 0.000		**p value = 0.000**		**p value = 0.000**		**p value = 0.000**		**p value = 0.000**	

OR = Odds Ratios, Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

3.6 RESULTS

3.6.1 To what extent the RA model explains the intention to use Uber?

The logistic regression results are reported in Table 16. Model one introduces motivation as the explanatory variable. We have found that it influences the use of Uber (model 1 in Table 16). The estimator is statistically meaningful and increases the odds ratio by 3.370 times, keeping other factors constant. Overall, the model is significant with p-value = 0.00 (Wald Test and Likelihood Ratio Test) and McFadden's pseudo R^2 = 0.19 (McFadden, 1973). Therefore, the hypothesis (H1) is supported.

In model two we add physical Access as an explanatory variable. It is also statistically significant and positive (model 2). The estimator increases the odds ratio by 1.59. Notice that the coefficient of motivation decreases after introducing physical access, suggesting that physical access seems to mediate the effect of motivations. Motivation reduces the odds ratio of Uber use from 3.37 to 3.21 (model 1). Additionally, the Physical Access construct has increased McFadden's pseudo R^2 = 0.21 (McFadden, 1973). Overall model significance (p-value = 0.00) is tested through Likelihood Ratio Test and Wald Test. Hence the hypothesis (H2) finds support.

In model three, we introduce digital skills as an explanatory variable (Model 3), motivational access, and physical access. We have found that all three constructs were statistically significant in determining the Use of ride-hailing services like Uber. Still, the effect size of motivation and physical access increases only slightly. Results show that Motivation, Physical Access, and Digital Skills have odds ratios of 3.23, 1.64, and 0.90, respectively. The odds ratio of Digital Skills, 0.9, suggests that a one-unit increase in Digital Skills will decrease the Use of Uber by 10 %. This model also showed the best fit with McFadden's pseudo R^2 = 0.21. Therefore, the hypothesis (H3) was supported.

To summarize, the RA sequential process explains the way people use Uber. The findings of our empirical analysis support the RA Theory and show that people, first of all, should have a strong motivation or positive attitude toward digital technologies. As suggested by Dijk (2020), the digital divide does not begin with ‘have-nots’(access), but actually, it starts with

‘want-nots’(motivation). Hence, if people are not motivated to use digital technologies, it would initiate the first digital gap. Secondly, differences in digital technology access, such as mobile phones and internet bundles, will widen the gap between ‘haves' and ‘have-nots' since access significantly influences the likelihood of using Uber. Finally, the second and third levels of the digital divide are established as people's digital skills vary, so people with strong digital skills will gain more from Uber use than people with weak digital skills.

3.6.2 To what extent Physical Access and Digital Skills mediate their effect of Motivation on using Uber?

Mediation analysis has been conducted following the procedure developed by Imai et al. (2010) and implemented in the *R language and Environment for Data Analysis* (R-core team 2020) *Mediation Package* (Tingley et al., 2014). Firstly, Physical Access is considered as a mediator between the Motivation and Use of Uber. Secondly, Digital Skills are introduced as a mediator (see Table 17).

Table 17 Mediation Analysis

	MA > PhA > UU		MA > DS > UU	
	Estimate	p-value	Estimate	p-value
ACME (control)	0.00342	<2e-16***	9.00e-04	0.076
ACME (treated)	0.00456	<2e-16***	1.20e-03	0.076
ADE (control)	0.18757	<2e-16***	1.90e-01	<2e-16***
ADE (treated)	0.18871	<2e-16***	1.91e-01	<2e-16***
Total Effect	0.19214	<2e-16***	1.92e-01	<2e-16***
Prop. Mediated (control)	0.01783	<2e-16***	4.42e-03	0.076
Prop. Mediated (treated)	0.02380	<2e-16***	5.94e-03	0.076
ACME (average)	0.00399	<2e-16***	1.05e-03	0.076
ADE (average)	0.18814	<2e-16***	1.90e-01	<2e-16***
Prop. Mediated (average)	0.02081	<2e-16***	5.18e-03	0.076

MA= Motivational Access (Treatment Variable), PhA = Physical Access (Mediator), DS= Digital Skills (Mediator), UU = Use of Uber (Outcome Variable) , ACME = Average Causal Mediation Effect, ADE = Average Direct Effect

When treating Physical Access as a mediator, the total effect of this mediation analysis is 0.192, which is decomposed in an Indirect effect/Average Causal Mediation Effect = 0.00399 and Average Direct Effect (ADE) = 0.18814. Average causal mediation effect shows the impact of motivation on the use of Uber goes indirectly through physical access and ADE shows the direct effect of motivation on use of Uber. Moreover, mediator (PhA) contributes 2.3% of total effect in mediation process. Where as the role of digital skills as mediator between motivation and use of Uber is statistically insignificant.

To summarize, the results of mediation analysis provide partial support for the sequential process of RA theory. Our results suggest that only Physical Access mediates between motivation and use of Uber. It means that motivated people with phsycial access increases the effect of motivations on Uber use. On the other hand, digital skill did not mediate the effect of motivation on behavior, meaning that almost all digital skills needed are embedded in the Uber app.

3.6.3 To what extent the effect of RA systematically differ among socio-demographic groups of Americans?

First we introduced social categories as a control to measure their main effect (Model 4). We used Likelihood Ratio Test (LRT) to compare nested models and to choose a parsimonious model without losing the model's predictive power. The null hypothesis supposes no significant difference between full and reduced models exists. The result of LRT showed p-value = 0.086. Hence we failed to reject the null hypothesis. Therefore, we removed gender and region because removing these variables does not affect the model's predictive power. Results showed that after introducing the social indicators, the effect of motivation and physical access decreased to 3.11 and 1.26, respectively, but the effect of digital skills increased to 1.03.

Furthermore, the results of model 4 showed that Age has a significant impact on determining the Use of Uber. People aged 18-29 are 4.95 times more likely to use Uber than those aged 65 and up. Similarly, people in the 30-49-year-old and 50-64-year-old groups are 2.95 and 1.83 times more likely to use Uber, respectively, than people 65 and older.

Results also show that a higher level of education plays a significant role in deciding Uber use. People with an education level of College graduation or more were 3.19 more likely to use Uber than people with a high school or lower educational level. People with some college education were 1.38 times more likely to use Uber than those with high school or lower educational levels.

Income level also had a significant role in determining the use of Uber, as per the findings of this study. Low-income people were (OR: 1/0.520= 1.92) less likely to use Uber than high-income people. Similarly, the middle-income group of people were (OR: 1/0.527= 1.89) 1.89 times less likely to use Uber.

Marital status seems to influence Uber use. The results show that singles have an odds ratio of 1.514, implying that singles are 1.514 times more likely to use Uber than couples. Finally, we found a statistically significant connection between religious beliefs and Uber use. Agnostics are 1.210 times more likely to use Uber than Catholics, while Jews are 1.904 times more likely to use Uber than Catholics, Protestants are (OR: 1/0.572) = 1.746 times, and people with other religious beliefs are (OR: 1/0.645) 1.550 times less likely.

3.6.4 To what extent Resources, Personal and Positional social indicators moderate the use of Uber ?

We used social indicators as moderators of the effect of theoretical drivers (Model 5). Results are described in Table 6. Since the results of Chi-Square test of independence for Religion and Education is p-value < 0.05, we conclude that these variables moderate the effect of theoretical drivers on Uber use. Additionally, the third independent variable, digital skills, is not moderated by any social indicators, so it is not included in model 5 based on LRT for model selection. Only education and marital status has statistically significant moderating effect with motivational access (MA) and physical access (PhA), respectively. The moderating effect of Education with motivation suggests that almost half of the total effect of motivation on using Uber is moderated by college graduation. In terms of the odds ratio, 1.60 times the likelihood of Uber use is because of the interaction between motivation and education (college diploma or more). It means if people are less educated, then the effect of motivation would decrease by almost half in determining the use of Uber. Results also show that the marital status (singles) moderate the relationship between physical access and use of Uber by 0.308 term, which means single people with access to digital media are 1.36 times more likely to use Uber than couples with the same access to digital media.

3.7 DISCUSSION

A direct comparison with previous studies is not possible owing to differences in the measurement context, however, the results of this study provide general support to the Resources and Appropriation (RA) theory (van Dijk, 2005, 2020) for Americans in determining the sequential link between motivation, physical access, digital skills and use of digital technologies like Uber. The RA theory explains the effect of motivation, physical access, and digital skills on the use of Uber. It also suggests the social process of

appropriating digital technologies and how this process creates a digital divide at different levels of the RA model.

Our findings reveal that motivation or positive attitude towards digital media, like Uber, strongly influences its usage (H1). This motivation/attitude is caused by perceived benefits, functional benefits and/or extrinsic rewards according to the social exchange theory (SET) (Homans, 1958). Researches in the context of Sharing Economy also provide support for our findings regarding the effect of motivation on the overall attitude (Hamari et al., 2016) and intention to participate in Sharing Economy like Uber (Boateng et al., 2019; Lee et al., 2018). Furthermore, our results posit that the possession of smartphones and internet access has influenced the behavior of American people regarding the use of digital technologies like Uber. It suggests that if people have a desire to use digital media (motivation), they would further go for possession of physical access to those digital media, and they would be more likely to use those digital media (H2) (van Dijk, 2005, 2020). In other words, motivation is the primary condition before moving towards physical access. Therefore, lack of motivation can create first-level digital divide.

Similarly, physical access is the condition to move on towards the next stage of RA theory, which is developing digital skills to operate digital media. Lack of digital skills causes the second level of digital divide, which is empirically supported by our findings that digital skills significantly influence the use of digital media (H3). This phenomenon is also embedded in social cognition theory (SCT) (Bandura, 1986).

Self-efficacy is also proven to be an essential determinant in adopting digital technologies in the Sharing Economy (Zhu et al., 2017). The findings of mediation analysis revealed that the effect of motivation on the use of Uber is mediated by physical access, which is supported by the sequential process of RA theory (van Deursen & van Dijk, 2015). In contrast, our study does not support the mediating effect of digital skills. Lastly, our findings posit that education influences motivation to use Uber; in other words, if people are highly educated, their motivation is also higher towards using digital media like Uber. This is supported by van (Van Deursen & Van Dijk, 2015) study. Additionally, our findings show that being single has a higher effect on the physical use of Uber as compared to couples.

3.8 LIMITATIONS AND FUTURE RESEARCH

Since the study is based on the secondary data provided by Pew Research Centre, it does not contain the exact items for the theoretical constructs as discussed in RA theory (van Deursen & van Dijk, 2015). For example, the proxy items are used for digital skills, which might have affected our results. Another limitation is that data contains the branched questions in survey which brought systematic missing data problem because removing all missing values also caused the removal of some good observations. Sharing Economy in the context of the digital divide has broader future research scope. RA model can be used to explain people's behavior in the context of Airbnb. Furthermore, a comparison of developing and developed countries could be used to determine the digital divide in the context of Sharing Economy.

3.9 CONCLUSIONS

In conclusion, our study provides empirical evidence of that how the RA model explains the sequential process of technology appropriation of American people. It suggests that the lesser the motivation towards digital technologies, the lesser the possession of digital devices. Consequently, lesser would be the development of digital skills, which would affect the proper use of digital technologies. Resultantly people would be deprived of the benefits of digital technologies like Uber. In other words, people lacking motivation, physical access, and digital access would be disadvantaged compared to their peers, resulting in a digital divide.

4 CHAPTER FOUR: SOCIAL MEDIA DIGITAL DIVIDE

4.1 INTRODUCTION

Technology, in its different forms, has influenced society at both micro and macro levels. From social interaction to economic transactions, entertainment to education, and everything in between, including finding a job to looking for a soulmate, every activity has been affected by mobile technology. It has increased global interconnectedness and opened new social and economic development potential. A particularly effective technique for bringing people together and spreading knowledge is social media. For billions of people globally, social media sites like Facebook, Twitter, Instagram, and YouTube have firmly entrenched themselves in daily life. But, unfortunately, the digital gap, however, has been brought about by the unequal distribution of technology and internet access, leaving some people and communities with little to no access to the advantages of the Internet. The social and economic growth, particularly in less developed nations, is significantly impacted by this gap. Although efforts have been made in recent years to address this issue, much work still needs to be done.

Researchers have developed a wide range of theories and models better to understand the digital divide's origins and impacts. One of the comprehensive works is the Resources Appropriation(RA) theory proposed by van Dijk (2020, 2005), as well as Van Deursen & Van Dijk (2015). There is a sizable research gap when it comes to using the Resources and Appropriation theory to investigate the digital divide, particularly in the context of social media platforms. In previous studies, the use of social media is studied from the perspective of its good and bad outcomes only, but how the use of social media can lead to a digital divide is completely missing in the literature. As far as the literature of digital divide is concerned, the prior research has mostly examined, their focus is on general use of internet. Therefore there is big gap in literature to explore the distinctive dynamics of social media for its impact on digital divide. The author observed that there is clear need to fill this gap and investigate how the Resources and Appropriation theory can be applied to explain motivations, physical access of digital devices and participation within social media platforms in greater detail.

Researchers can dive into how people appropriate social media resources by using the Resources and Appropriation theory. Examining the numerous elements that affect resource and digital skill acquisition, use, and benefits of social media platforms is part of this. Researchers, policymakers, and managers can also learn more about how motivation, physical access, and digital access can lead people to either side of the digital divide.

It is helpful to comprehend the specific dynamics of the digital divide within social media platforms. It can highlight obstacles to participation that were previously undetected, such as variations in resource accessibility, skill levels, and social capital. These observations can guide the creation of focused strategies and actions to encourage digital inclusion within the context of social media.

The RA theory suggests a step-by-step approach to internet appropriation that considers four crucial phases: attitudes or motivation to use the internet, physical access to devices and connections, digital skills, actual internet use, and finally the outcome of internet use. The sequential model has been partially tested in several nations, including the Netherlands (Van Deursen & Helsper, 2015) and in different EU countries (Lamberti et al., 2021a). Still, it has not been tested in developing countries or countries where digital infrastructure has not been established at the mass level.

The RA theory proposes a relational view of inequality that borrows from Tilly's (1998) theory of durable inequality as well as (Bourdieu's (1987) theory of consumption. These theories contend that people's social positions and behaviors are influenced by their social standing, access to resources or "autonomous goods," and behaviors related to those positions. According to the RA theory, there may be differences in the links between attitudes, actual access, digital skills, and internet use across nations, resources, and social groups, and disparities in internet appropriation may behave differently in various settings.

We specifically employ structural equation modeling (SEM) to investigate how results in the process of internet appropriation are connected to motivation, physical access, digital abilities, use of social media, and its outcome. Furthermore, this study conducts the multigroup analysis to see the difference in social media appropriation between digitally advanced and deprived countries.

The main objective of our study is to analyze the sequential process of RA theory in terms of social media use. In addition, the study aims to see the impact of positional factors (countries' digital resources) on social media appropriation. Ultimately, for those trying to close the digital divide and advance fair access to technology and the internet in today's society, including legislators, educators, and researchers, the findings of our study have significant ramifications.

The contribution of our study is threefold. Firstly, our study specifically focuses on the appropriation of social media use, adding to the body of knowledge on the digital divide because all earlier studies have mainly focused on internet appropriation in general. Secondly, we include the barriers to motivation to use social media in our analysis, providing insights into the factors that impact individuals' willingness to engage with social media. Finally, to shed light on how social media use might affect people's social and economic results, we also evaluate the outcome step of van Dijk's theory of resource appropriation and how it links to the earlier steps in internet appropriation.

4.2 LITERATURE REVIEW

4.2.1 ICT and its Impact on Society

Information and Communication Technology (ICT) is ubiquitous in our daily life. Every aspect of life, whether economic or social, is significantly influenced by digital technologies (Kozma, 2005). The way we perform economic transactions, create and maintain social interactions, study, search for jobs, and entertain ourselves has been shaped by digital technologies (Palvia et al., 2018). Whether it is chatting with friends & family or shopping online; checking flight schedules or booking a stay anywhere; taking classes online or searching jobs on an online portal, and checking health-related information or doctor's consultation online, almost every activity is being performed online with the help of various digital technologies. (Gigler, 2014), discussed in his book that ICT plays a vital role in developing society, individual empowerment, and informational capabilities. Digital technologies affect individuals' lifestyles and transform societies' socio-economic landscape (Orlikowski & Iacono, 2001).

4.2.2 Mobile Technology and Social Media Use

Among all ICT developments, mobile technology has its unique value in the life of people owing to its omnipresent nature. Mobile technology has created the culture of "always on, " making it stick to people from morning till night. The most spread form of mobile technology is the smartphone, which is used for various purposes (Humphreys et al., 2018; Pinchot et al., 2011). For example, people use smartphones to check prices online while in a physical shop (Gustafson, 2014); check navigation to desired place whether on wheels or on foot (Wang & Ju, 2015); book a taxi or a ride-hailing service (Cohen & Kietzmann, 2014); read the news (Westlund & Färdigh, 2015); and use several social media apps for various purposes (Humphreys, 2007). Worldwide, over two billion social media users (Kemp, 2016). In the USA almost 50% of smartphone users' time is dedicated to social media networks and entertainment apps, in USA (Perrin, 2017). Social media is a web-based application used for social interaction and sharing user-generated content like photos and videos (Kaplan & Haenlein, 2010; Marengo et al., 2022). Social media groups a variety of apps like Facebook, Twitter, Instagram, Snapchat, WhatsApp, Viber and Tinder among the top.

4.2.3 Digital Divide

Rapid growth in mobile technology and its use have proven to benefit society. Unfortunately, because of the lack of sufficient digital infrastructure, this spread of technology is not equally distributed worldwide, which bi-furcated the society between 'haves' and 'have-nots', termed as the digital divide (Attewell, 2001). From 1995-2003, researchers and policymakers' primary concern was unequal ICT access (physical access), which was called the first level digital divide (van Dijk, 2005). With the proliferation of technology, researchers' focus shifted from physical access to digital skills and usage, which is called the second-level digital divide (Attewell, 2001; Hargittai & Hinnant, 2008; Valadez & Duran, 2007). In the book *The deepening digital divide*, van Dijk (2005) argues that access to digital technologies has deepened the digital divide because people need digital skills to use digital devices. The most recent digital divide research is a divide in the outcomes (benefits) that people gain compared to those who cannot, which is considered a third-level digital divide (Van & Helsper, 2015; Wei et al., 2011).

The resources and Appropriation model (van Dijk, 2005, 2020) has beeen primarily tested in several developed nations of the world. Furthermore, this model is tested partially for physical access (Van Dijk, 2017) and digital skills (Hargittai, 2002; Van Deursen, 2010). A complete model has not been tested with a few exceptions (Van & Helsper, 2015) and a study conducted on EU countries by Lamberti and his colleagues (Lamberti et al., 2021a), but it did not cover the outcome part of the model. Firstly, this model is not tested for developing countries; secondly, it's not entirely tested from attitude, physical access, digital skills, use, and outcome in one study; finally, the model has not been tested for the appropriation of social media. Therefore, our study aimed to answer the following research questions:

RQ1. To what extent doe RA theory explains the sequential process of social media appropriation in developing countries?

RQ2. To what extent does the country's digital development affect the RA model for the appropriation of social media in developing countries?

4.3 THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

The digital divide is a multidisciplinary research field with roots in psychology, communication, education, sociology, and economics. Psychological research provides a gateway to digital divide research through attitude. In contrast, the access and usage of digital media endow the individual with the ability and benefits of social communication. Educational research deals with digital knowledge, whereas sociology and economics focus on resource inequality and benefits. Today, the Resource Appropriation, RA, Theory has subsumed different theoretical approaches into a comprehensive theory. The studies conducted into the adoption of digital technologies used the Diffusion of Innovation Theory (DIT) (Rogers et al., 2008), the Technology Acceptance Model (TAM) (Davis, 1985), The Theory of Planned Behavior (TPB) (Ajzen, 1985) and many others have been integrated into a sequential model that explains the unequal social appropriation of digital technologies. DIT and TAM talk about how people adopt new technologies and grow their use, so RA theory has incorporated this aspect in terms of motivation and developing digital skills to use digital technologies. At the same time, RA theory adopted an attitude from TPB that people develop positive and negative attitudes before acquiring physical access and digital skills to use digital technologies. According to the RA theory, the Digital divide is not produced in a single step. Instead, it's a sequential process that starts from unequal attitudes and goes on to unequal physical access, digital skills, use, and benefit enjoyed by using digital technologies (van Dijk, 2005; Van & Helsper, 2015). In this study, we have adapted the RA theory to explain the unequal social media appropriation through smartphones instead of internet appropriation, leading to the 'social media divide'. In this study, RA model is extended by adding *Barriers to Motivation* as an antecedent to motivation to use digital technologies.

4.3.1 Barriers to Motivation (BM)

According to RA theory, Motivation is the key preliminary condition in determining the appropriation of digital technologies. In terms of attitude towards digital media, people evaluate the positive and negative aspects of digital technology to adopt it or not, respectively (Gonzales, 2016; Reisdorf & Groselj, 2017). Numerous factors create barriers to motivation

for the use of digital technologies. One most common barrier is technophobia which means people fear cybercrime and trust issues with digital media. Another issue found by Stanley (2001) states that people fear losing face-to-face communication if they use digital media. Therefore we argue that people who think smartphones and social media cause problems like identity theft and addiction and create hindrances in face-to-face communication would negatively affect their motivation (barriers to motivation) (van Dijk, 2005).

H1. Perceived Barriers to digital technologies are negatively associated with motivation to use digital media.

4.3.2 Motivation to use the Social Media (MOT)

The RA theory suggests that first step which determines the digital divide between the ones that have and the ones that have-nots is the divide between the ones that want and want-nots. This argument suggests that before acquiring access to digital technologies, people must have a positive attitude toward adopting these technologies. Otherwise, they may not own and use that digital technology. Attitude is a psychological construct that determines an individual's motivation based on positive or negative evaluation of anything to take action (Ajzen, 1985). Motivations to use social media vary in nature. According to the self-determination theory (Deci & Ryan, 1985), motivations could be intrinsic and extrinsic. Therefore, people are intrinsically motivated to use social media, like fun and relatedness (Kim & Drumwright, 2016), and extrinsic motivation, like earning opportunities (Choi & Behm-Morawitz, 2020). The motivation to use social media is also studied under the framework of Uses and Gratification Theory (UGT), which postulates that people use social media for the gratifications like interaction (Mäntymäki & Islam, 2016; Seidman, 2013) and information (Rae & Lonborg, 2015). People who think that mobile and social media provide them benefits (they are motivated), like social interaction and helpful information, will probably buy smartphones, develop skills to use various social media apps and gain benefits (Chen, 2013). Therefore, we propose that positive motivation towards the use of smartphones for social media would lead them to own a mobile (Physical Access), develop digital skills, use social media and gain benefit (Outcome); and vice versa (Fig 4)

H2a. Motivation towards smartphones for social media is positively associated with physical access.

H2b. Motivation towards smartphone for social media is positively associated with digital skills

H2c. Motivation towards smartphone for social media is positively associated with social media use

H2d. Motivation towards smartphone for social media is directly associated with outcomes.

4.3.3 Physical access (PA)

According to RA theory, once the people have positive attitude towards digital technology, they tend to access that digital media. Physical access can take any form like computer, laptop, smartphone, tablets, internet connection and game consoles (Huisman, 2020; Van Deursen & Helsper, 2015). Smartphones provide far more convenience than other home access devices (Mossberger et al., 2012). Literature on ICT postulates that smartphone is used for various activities and are considered 'metamedium' (Humphreys et al., 2018; Jensen, 2010). Smartphones are well suited especially for social media use (Humphreys, 2007; Van Deursen & Van Dijk, 2015) because they are a constant companion of everyone's daily life and keep people socially connected anywhere, anytime. In this vein, the literature suggests that a large proportion of smartphone usage is dedicated to social media networks (Stanley et al., 2022). Perrin (2017) says that smartphone users spend 50% of their time using the device on social media. Literature also shows that people often check their smartphones for social media comments and notifications daily (Rosen, Cheever, et al., 2013; Rosen, Whaling, et al., 2013). Another study found that people are so much addicted to the use of social media on smartphones that if they get away from the phone for some time, they get upset because they feel disconnected from their peers (Cheever et al., 2014). The study of the digital divide suggests that physical access help to develop medium and content-related digital skills (Van Deursen & Van Dijk, 2015). According to RA theory, people with higher physical access (internet/smartphone/social media) are likely to increase their digital skills to gain more favorable outcomes, which means they can access more information. There are opportunities to gain more favorable outcomes than those lacking physical access. Hence unavailability of physical access creates a digital divide. This study has incorporated smartphone (internet) use outcomes, like family cohesion, morality, civility, impact on children and local culture. Therefore, to gain positive outcomes from using smartphones, it requires digital skills to operate various features of social media.

Therefore, we hypothesize that:

H3a. Physical access positively influences digital skills

H3b. Physical access positively influences the use of social media

H3c. Physical access positively influences the outcomes.

4.3.4 Digital Skills (DS)

In most developed countries, the focus of policy makers and researchers is shifting from physical access to digital skills and usage, called second-level digital (Hargittai, 2002). The RA theory suggests that as the physical access gap is closed, there it will remain a digital skills gap (van Deursen & van Dijk, 2009a; van Deursen & van Dijk, 2011). That is why having digital skills plays an essential role in this context. Digital skills mean the ability of an individual to interact with digital media, navigate through it, find helpful information and/or perform any activity on a digital device to attain a specific goal (Hargittai & Hinnant, 2008; van Deursen & van Dijk, 2009a). Literature on the digital divide suggests that digital skills are essential in digital inclusion because lacking them would keep individuals on the disadvantaged side of society. Information skills like searching for information; sending messages; posting textual or visual content online is critical to benefit from digital technologies (van Deursen et al., 2014). In the context of social media appropriation, it is essential to have social skills like making new friends, engaging in online discussion, and uploading photos/videos (Helsper & Eynon, 2013).

Therefore, we propose that:

H4a: Digital skills are positively associated with social media use

H4b: Digital skills have influence on internet-use (social media) outcomes

4.3.5 Social Media Appropriation (Use) and its (Outcome)

The use of social media has grown by leaps and bounds in the last decade. As of 2015, almost 65% of Americans used social media (Perrin, 2015). The landscape of social media is getting very wide with the passing of time. Messenger app like WhatsApp is the most common platform used (Marengo et al., 2021; Rosen, Cheever, et al., 2013), followed by other social

platforms like Facebook, Instagram, Snapchat, Twitter, and Facebook, to name a few prominent players (Marengo et al., 2022). Despite negative concerns regarding the use of the Internet in general and social media in particular (Humphreys, 2007), it has proven to be beneficial in connecting people (Ellison et al., 2006; Ellison et al., 2007; Howard & Jones, 2004). Literature suggests that the Internet positively impacts children's socialization (Idwan et al., 2022).

Furthermore, ICT has strengthened family members' bond (Williams & Merten, 2011). Regarding family cohesion, a study conducted in China suggests that internet use has a specific role in reviving intergenerational family unity by introducing new channels for mediated contact between parents and their children in mobile locations (Lam, 2013). Apart from social interaction on the internet, social media like Twitter is used as news media (Kwak et al., 2010) to be updated with political and social aspects of society. According to Correa (2016), the positive (expressive and informational) use of social media is directly associated with significant positive influence like social capital development; and political and civic participation of the people (Gil de Zúñiga et al., 2012; Valenzuela, 2013). In this vein, the literature suggests that the use of smartphones (social media) has a significant influence on morality, civility, education, and political engagement (Cho et al., 2003; Hargittai & Hinnant, 2008; van Deursen & van Dijk, 2011) . The positive influence of ICT on various aspects of life is in accordance with the RA theoretical framework (van Dijk, 2005) used by this study

Therefore, we hypothesize that:

H5: The higher the use of social media, the greater the benefits enjoyed from social media

4.3.6 Cross-country Digital Divide

The appropriation of technology depends on various factors within a country, but the digital development of a country also plays a vital role in determining the use of technology. The general development level of a country determines its socioeconomic structure, education level, and digital policies, which directly or indirectly affect the appropriation of the technology (Chen & Wellman, 2004; Cueto et al., 2018; Kos-Łabędowicz, 2017; OECD, 2001). For example, countries with a sound economic position could develop digital infrastructure, devise technology-friendly and provide access to the masses at affordable

prices. Therefore, people from countries with comparatively advanced digital infrastructure could get more opportunities of using it and get benefitted as compared to those living in less digitally developed countries (van Dijk, 2005; Huisman, 2020).

Literature on the digital divide suggests that the diffusion of digital technology has reached its maturity by reducing the gap in physical access in developed nations, but this problem persists in developing countries despite the mobile technology spread (Cho et al., 2003; Donner & Walton, 2013; Lamberti et al., 2021a; Van & Helsper, 2015).

Affordability is another crucial challenge in appropriating digital technologies in developing countries. This factor is also rooted in the country's digital infrastructure because there are a handful of players in the market, and they have the power to set the price; hence, only a rich segment of that country has access to digital technologies.

Furthermore, the usage patterns of the countries also vary depending on the nation's development level. In this vein, Correa (2016) found that countries with less development use digital technologies only for less beneficial tasks like conversation and entertainment, whereas countries with relatively higher development use technology more productively. Hence, we propose that:

H6. The more digitally advanced a country, the more the effect of (H6a) Motivation, (H6b) Physical Access, (H6c) Digital Skills, and (H6d) Use of Social Media on the outcomes.

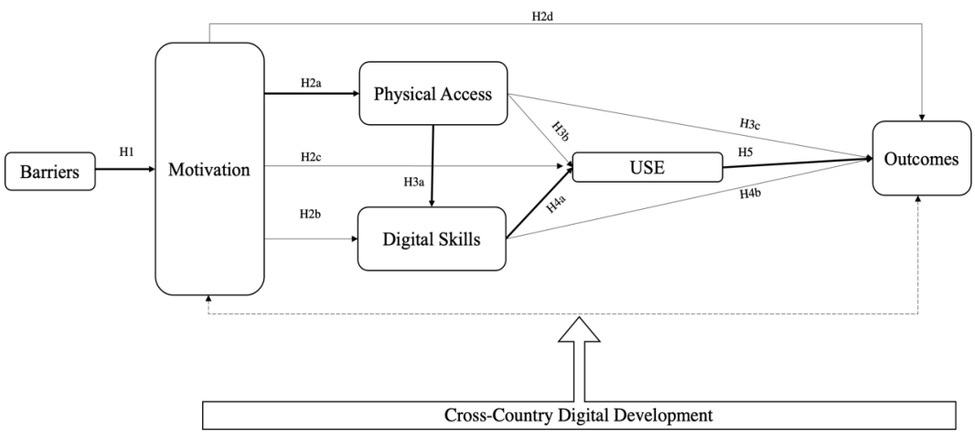

Figure 4 Theoretical Framework of Social Media Appropriation

4.4 RESEARCH DESIGN

4.4.1 Data

Pew Research Center has provided data for this study. Pew Research Center is a nonpartisan entity that conducts public surveys in the USA and the rest of the world. The main focus of this organization is to conduct polls regarding the global public attitude, values, behavior, technological trends, and demographic structure. The data for this study is the chain of their international technological trends, conducted in eleven (11) countries: India, South Africa, Colombia, Mexico, Philippines, Vietnam, Jordan, Venezuela, Lebanon, Tunisia and Kenya. Data is multistage probability design collected through face-to-face interviews from 28122 adults (18+ years) belonging to mentioned countries in 2018 (Pew, 2018) (Table 18).

4.4.2 Measures

Following the theoretical framework in Fig 4, we used items from the survey "mobile technology and its social impact" provided Pew Research Center. The measurement scale is based on the sequential appropriation process, starting from motivation, followed by physical access, digital skills, usage, and outcomes. In some cases, items like smartphones, use of social media, and general internet access are used as proxies to represent the use of social media, specifically in the Outcomes (OC). Since the survey lacks specific items related to the outcomes of social media, this study has used the outcomes of internet/smartphone use as a proxy which represents the use of social media as studies suggest that a large proportion of smartphones usage is dedicated to social media networks (Stanley et al., 2022). Additionally, literature suggests that smartphone users spend 50% of their time using the device on social media (Perin, 2017). Detailed information of theoretical constructs is given in (Table 18).

Motivation (MOT): Four items for the motivation construct are selected based on the internet attitude scale (Durndell & Haag, 2002). It represents the people's attitude towards smartphones and social media, where respondents are asked what they think about the impact of smartphones and social media on individuals and society. These items are measured on three levels (Bad-Neither-Good) coded as 1-2-3. Similarly, for Barrier construct, six items are used which represent the risks or concerns regarding the use of smartphones. Respondents are asked how concerned they feel about various risks posed by using smartphones on three

levels (Not Concerned-Somewhat Concerned-Very much concerned) and coded as 1-2-3, respectively.

Physical Access (PA): Items for Physical Access construct are taken based on scale provided by Van Dijk and his colleagues, which comprises of different forms of digital devices like computers, laptops, tablets, smartphones, internet, and so on. Thus, four Physical access items are used, showing that people have desktop/laptop, smartphone, and internet. These items are binary (Yes/No) and coded as 1/0, respectively.

Digital Skills (DS): The construct for digital skill is measured based on the scale (van Deursen et al., 2016; Ferrari, 2012). It comprises ten (10) dichotomous items related to information, communication, social media, content creation, and strategic skills. The respondents were asked to provide binary responses (Yes/No) regarding the activities they performed on smartphones, coded as 1/0, respectively.

Use Social Media (USE): In this study, we have adopted usage from RA theory as Social media use because our study aims to understand the appropriation of social media on smartphones. Therefore we have used seven (7) dichotomous items based on the scale given in the book Digital Divide (Van Deursen & Van Dijk, 2015), reflecting whether they use different types of social media applications on smartphones.

Outcomes (OC): Finally, we have used nine (9) items to measure the outcome construct of RA theory, reflecting the perceptions of the influence of the internet on various aspects of society, like morality, civility, education, politics, family cohesion, culture, physical health and so on. In these items, respondents are asked whether the use of the internet and mobile has Bad influence-No Influence-Good influence on society, coded as 1-2-3, respectively.

Table 18 Theoretical Constructs

Variable	Items	Scale
Motivations (**MOT**)	Overall, when you add up all the advantages and disadvantages of (ITEM), would you say (ITEM) have mostly been a good thing or a bad thing for society? And how about (NEXT ITEM)? MT1-Mobile phones MT2-Social media Overall, when you add up all the advantages and disadvantages of (ITEM), would you say (ITEM) have mostly been a good thing or a bad thing for you? And how about (NEXT ITEM)? MT3-Mobile phones MT4-Social media	1 Bad thing 2 Neither good nor bad 3 Good thing
Barriers (**BM**)	Let's think for a moment about some experiences that might happen to people when they use their mobile phones. Do you think people should be concerned about (ITEM) or not? [IF CONCERNED] And is that very concerned or only somewhat concerned? [Interviewer Instructions: Repeat "And do you think people should be concerned about (ITEM) or not?" ONLY as needed] DM1-Identity theft DM2-Harassment or bullying DM3-Exposure to false or incorrect information DM4-Mobile phone addiction DM5-Losing the ability to communicate face-to-face DM6-Children being exposed to immoral or harmful content	1 Not concerned 2 Only somewhat concerned 3 Very concerned
Physical Access (**PA**)	PA1- Can your mobile phone connect to the internet PA2- Is your mobile phone a smartphone or is it not a smartphone PA3- Do you currently use the internet	1 Yes 0 No
Digital Skills (**DS**)	In the past 12 months, have you used your mobile phone to (ITEM) – yes or no? [Interviewer Instructions: Repeat "And have you used your mobile phone to (ITEM)?" DS1-Send text messages DS2-Learn something important for work or school DS3-Look up information about government services DS4-Look up information about health and medicine for you or your family DS5-Get news and information about politics	1 Yes 0 No
Use Social Media (**USE**)	Do you currently use (ITEM) – yes or no? USE1-Facebook USE2-Twitter USE3-Instagram USE4-SnapChat USE5-WhatsApp	1 Yes 0 No
Outcome (**OC**)	Has the increasing use of the internet had a good influence, a bad influence, or no influence at all on (ITEM)? OC1-Morality OC2-Family cohesion OC3-Civility OC4-Physical health OC5-Children in our country OC6-Our local culture	1 Bad influence 2 No influence at all 3 Good influence

4.5 ANALYSIS

The data is analyzed in two stages: First, the measurement model, which is aimed at assessing the reliability and validity of the measurement model, and second, the assessment of the structural model (Chin, 1998).

4.5.1 Measurement Model

4.5.1.1 Exploratory Factor Analysis

Due to the lack of valid scales in literature, it was necessary to adapt the initial scales (Table 19). To extract factors from the given battery of 42 items, we conducted exploratory factor analysis (EFA) through *mirt* package (Chalmers, 2012) in The R environment for statistical computing (R Development Core Team, 2004). The Kaiser confirmed the suitability of the data for EFA–Meyer–Olkin (KMO=0.84) and Bartlett's test (p-value: 0.00). As the result of EFA , six factors were extracted, having eigen value greater than 1(Hair et al., 2010); and it was equally supported by scree plot test. According to Stevens (1986) the items with cross loadings and factor loadings <0.4 were removed except USE1(Facebook) and USE4 (WhatsApp) because of their relevance with the construct theoretically, as suggested by the literature.

***4.5.1.2** Reliability and Validity Assessment*

Unidimensional IRT (Item Response Model) was used for the reliability and validity of the latent constructs of our model, which is best suited for ordinal data (Bock et al., 1988; Darrell Bock & Lieberman, 1970; Immekus et al., 2019; Whittaker & Worthington, 2016).

The results of factor analysis confirm the reliability and convergent validity of the latent constructs as Cronbach's alpha (α >0.70) except USE construct (α >0.60) which is acceptable (Churchill, 1979) and composite reliability (CR> 0.7) exceeded the recommended value suggested by (Bagozzi & Yi, 1988; Nunnally, 1994) and factor loading are higher than 0.6 which is the acceptable value suggested for convergent validity (Hair et al., 1995, 2017) (Table 19. Measurement Model). The Average variance extracted (AVE) exceeds the value 0.5 to prove convergent validity further, and the square root of AVE is greater than the

Table 19 Measurement Model

Factors	Items	EFA	CFA	Composite Reliability	Cronbach's alpha
MOT				0.81	0.77
	MT1	0.818	0.804		
	MT2	0.830	0.856		
	MT3	0.858	0.818		
	MT4	0.827	0.820		
BM				0.81	0.79
	DM1	0.806	0.794		
	DM2	0.793	0.788		
	DM3	0.771	0.757		
	DM4	0.731	0.734		
	DM5	0.652	0.652		
	DM6	0.728	0.717		
PA				0.89	0.85
	PA1	0.992	0.991		
	PA2	0.936	0.906		
	PA3	0.887	0.933		
	~~*PA4*~~	0.511	<0.6		
DS				0.75	0.75
	DS1	0.674	0.722		
	DS2	0.814	0.802		
	DS3	0.813	0.712		
	DS4	0.727	0.744		
	DS5	0.749	0.791		
	DS6	0.645	<0.6		
	DS7	0.590	<0.6		
USE				0.71	0.67
	USE1	0.836	0.903		
	USE2	0.754	0.623		
	USE3	0.884	0.759		
	USE4	0.760	0.643		
	USE5	0.646	0.783		
	~~*USE6*~~	0.575	<0.6		
	~~*USE7*~~	0.696	<0.6		
OC				0.79	0.78
	OC1	0.798	0.805		
	OC2	0.753	0.765		
	OC3	0.752	0.749		
	OC4	0.657	0.660		
	OC5	0.722	0.717		
	OC6	0.657	0.619		
	~~OC7~~	0.545	<0.6		
	~~OC8~~	0.530	<0.6		
	~~OC9~~	0.594	<0.6		

correlation of the construct with other latent variables, which proves discriminant validity (Fornell & Larcker, 1981) (Table 20).

Discriminant validity was further verified by newly proposed approach of the heterotrait–monotrait ratio (HTMT), which is the ratio of correlations criterion. Suppose the value of HTMT is below .90. In that case, it establishes the discriminant validity between the constructs, and for our model, this ratio is well below the given threshold, so the discriminant validity of the measurement model is established (Henseler et al., 2015) (Table 20).

Table 20 Discriminant Validity

	BM	MOT	PA	DS	USE	OC	AVE
BM	**0.741**						0.55
MOT	-0.185	**0.824**					0.68
PA	-0.017	0.091	**0.943**				0.891
DS	-0.025	0.133	0.657	**0.754**			0.57
USE	-0.005	0.028	0.937	0.654	**0.748**		0.561
OC	-0.062	0.337	-0.25	0.053	-0.208	**0.721**	0.521

HTMT Ratio

BM	1					
MOT	0.107	1				
PA	0.087	0.081	1			
DS	0.11	0.138	0.599	1		
USE	0.099	0.059	0.686	0.601	1	
OC	0.21	0.193	0.223	0.038	0.172	1

4.5.1.3 Structural Model

A structural equation modelling (SEM) is performed by using a Diagonally Weighted Least Square (DWLS) approach through *lavaan package* (Rosseel, 2014) in the R environment for statistical computing (R Development Core Team, 2004) . We used this approach because the data of our study is categorical, collected through ordinal measures as suggested in the literature (Finney & DiStefano, 2013; Savalei & Rhemtulla, 2013). SEM is a statistical technique that helps to understand the complex relationship of multiple independent and dependent variables (Ullman & Bentler, 2012).

The effect of the country-level digital development on the appropriation of social media is analyzed through multigroup parametric test (Rosseel, 2014). This statistical technique is used when researchers aim to understand the difference in estimates between two or more categorical groups. In our case, we divided the countries into two groups based on the ICT development index (IDI) provided by ITU (2017). The ITU (International Telecommunication Union) is the UN's specialized body focusing on information and communication technologies (ICTs). IDI is the combined score of internet access, digital skills, and internet use by a particular country. Developed countries have the highest IDI scores and are considered leaders. However, our data is from the developing countries, so we have split countries into two groups based on the mean IDI scores: Leaders (Above Average) and Followers (Below Average). This classification concerns developing countries and is not compared to developed nations.

4.6 RESULTS

RQ1. To what extent RA theory explains the sequential process of social media appropriation in developing countries?

Results for the sequential model for social media appropriation are presented in (Table 21)

Our study found that barriers like technophobia have a negative effect on the motivation to use social media (β = -0.185***). According to the RA model study found that motivation has a positive influence on getting physical access (β = 0.091***), digital skills (β = 0.074***) and the greater extent to outcomes (β = 0.356***). Furthermore, we found that physical

access has a paramount effect on digital skills (β = 0.651***), use of social media (β = 0.768***) but a negative effect on outcomes of internet use on society (β = -0.758***). The study also found that digital skills assert a statistically significant influence on the use of social media (β = 0.076***) and a greater extent on the outcomes (β = 0.284***). Finally, it was also found that the use of social media positively influences the outcomes of the internet (β = 0.284***).

Table 21 Structural Equation Model Result

Hypothesis: Path	Standardized coefficients	p-value
H1: Barriers ➔ Motivation	-0.185	***
H2a: Motivation ➔ Physical Access	0.091	***
H2b: Motivation ➔ Digital Skills	0.074	***
H2c: Motivation ➔ Use	-0.063	***
H2d: Motivation ➔ Outcomes	0.356	***
H3a: Physical Access➔ Digital Skills	0.651	***
H3b: Physical Access➔ Use	0.893	***
H3c: Physical Access➔ Outcomes	-0.758	***
H4a: Digital Skills ➔Use	0.076	***
H4b: Digital Skills ➔Outcomes	0.318	***
H5: Use ➔Outcome	0.284	***
Goodness of fit:	RMSEA	0.047
	SRMR	0.067
	Comparative Fit Index (CFI)	0.97
	Tucker-Lewis Index (TLI)	0.97

The findings of our study support our first hypothesis regarding the negative relationship between barriers and motivation (H1). Furthermore, our study strongly supports the sequential process of internet appropriation (social media) from Motivation to Physical Access (H2a); Physical Access to Digital Skills (H3a); Digital Skills to Use (H4a); and finally, from Use to Outcome (H5) (van Dijk, 2020) (See bold paths in Fig 5 Framework Result).

In summary, the RA model based on the appropriation of social media provides evidence that the social media divide (digital divide) persists in the countries of this study. Our study's findings suggest a digital gap between people in developing countries who “want” and “do not want” based on their motivation to use the internet. Furthermore, the second digital divide deepens as there is a big gap between “haves” and “have-nots” which causes a six-fold effect on acquiring digital skills compared to the motivation-physical access gap, in absolute terms. Empirical evidence from our study also supported the third-level digital divide related to use and outcome of internet use.

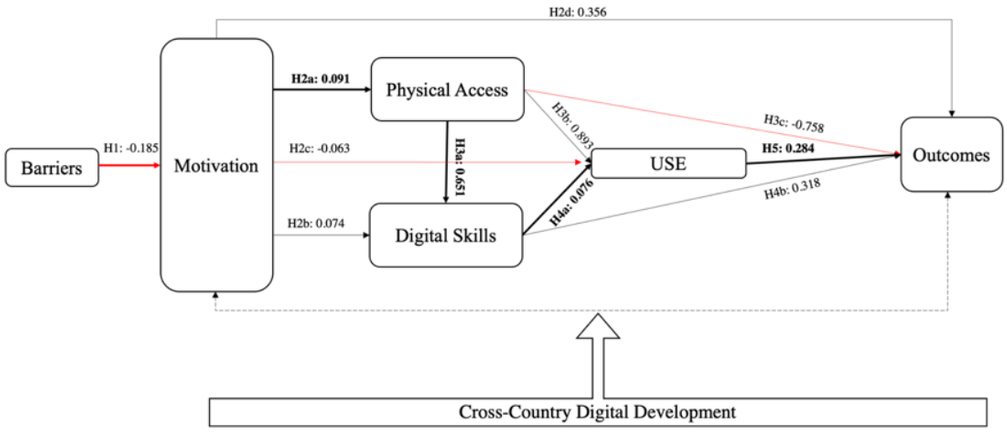

Figure 5 Results: Theoretical Framework of Social Media Appropriation

RQ2. To what extent does the country's digital development affect the RA model for the appropriation of social media in developing countries?

After validating the initial model, the entire structural model is examined to explore if differences in the structural relationships result from different groups of developing countries (Henseler et al., 2016). The structural relationship between various factors of social media appropriation in the previous section is generalized without considering the effect of the country. However, this sequential process from motivation to use social media, physical access, digital skills, usage, and outcome is greatly influenced by the country's digital development, as discussed in the literature. Therefore, we conducted a multi-group analysis to the understand the differential impact of country-level digital development on the social media divide and results are presented in (Table 22. SEM Multigroup Analysis). As mentioned earlier in analysis section, countries were divided into two groups for multigroup analysis based on the ICT development Index (IDI) developed by ITU (2007). According to IDI, countries digital development is ranked on 10 point scale, 10 being the highest and 1 being the lowest. Therefore, this study split the countries into two groups on mean IDI score, resulting in above-average countries labelled as Leaders and below-average countries termed Followers. The significance of the differences between groups is checked with the method provided by (Satorra & Bentler, 2010).

Table 22 Multigroup SEM Analysis

Sequential Path	Leaders		Followers		Significance of Difference
Barriers ➔ Motivation	-0.138	***	-0.192	***	Significant
Motivation ➔ Physical Access	0.175	***	0.142	***	Significant
Physical Access ➔ Digital Skills	0.656	***	0.641	***	Significant
Digital Skills ➔ Use	0.106	***	0.100	***	Not Significant
Use ➔ Outcome	0.334	***	0.397	***	Significant

Results show that motivation plays a relatively greater role for leader countries in acquiring physical access than follower countries. In this vein, it's also important to note that barriers

significantly affect people from less digitally developed countries. Physical access is strongly associated with developing digital skills in leader countries. At the same time, the differential impact of digital skills on the Use of social media is not statistically significant. Surprisingly, in countries classified as followers, the impact of social media use the outcome was higher than among the leading countries.

4.7 DISCUSSION

Since the study is unique, direct comparison with previous studies was impossible. However, the results generalized for the eleven developing countries show support for sequential process from Motivation, physical access, digital skills, use and outcomes of digital technologies (van Deursen et al., 2014; Hargittai, 2002; Van & Helsper, 2015; Van Dijk, 2017). The results of our study show that motivation has a positive impact on physical access. In sequence, physical access has a positive impact on digital skill development, leading to using social media to gain benefits. Therefore this supports the appropriation of digital technologies (in our case, social media appropriation) (van Dijk, 2005, 2020). The findings show empirical support for all the sequential path hypotheses of RA theory in the context of social media appropriation. Results show that if people have a positive attitude (Motivation) towards mobile technology and social media, they are more likely to get physical access (H2a), develop digital skills (H2b), and gain outcomes (H2d). This supports the argument that using social media apps helps people gain social capital, which leads them to acquire access and use them (Chen, 2013).

Furthermore, results also confirms that people with physical access like smartphone and internet connections will tend to develop more digital skills (H3a) (Lamberti et al., 2021a; Van Deursen & Van Dijk, 2015) and use more social media apps (H3b) (Humphreys et al., 2018; Perrin, 2015; Stanley et al., 2022). It means that physical access is of paramount importance to reduce the digital gap in developing countries because it strongly affect the digital skills and use of social media directly . Thus it confirms that developing countries still face challenges of first level digital divide because they lack resources to provide physical access throughout the country. In this vein, findings also suggest that digital skills affect the use of social media apps (H4a) relatively less and affect the outcomes (H4b) at greater extent. The effect of digital skill on use of social media is relatively low which justifies that the people in developing countries tend to use it just for social interaction and entertainment purpose Correa (2016) which does not require complex digital skills. Finally, use of social

media will lead to gain more outcomes (H5) (Chen, 2013; van Deursen et al., 2014). This implies that if people have more digital skills, they can utilize it for more productive and beneficial activities.

Findings partially support the hypotheses developed concerning the effect of digital development of the countries on the sequential process of social media appropriation. In this study, the RA theory has been extended by incorporating negative concerns (barriers) as an antecedent of motivation. Results show that these barriers have stronger adverse effects on motivations in less developed countries, which supports our hypothesis (H6). This finding is also supported by the Theory of Planned Behavior (Ajzen, 1991). This study also provides strong evidence that digitally developed countries have a stronger effect of motivation on acquiring physical access as compared to follower countries. This shows the support for the hypothesis (H7a), and its also supported by (Huisman, 2020). Furthermore, the sequential process from Physical skills to acquiring digital skills is also stronger for digitally advanced countries hence support (H7b), but the difference in the effect of Digital skills on the Use of social media is not statistically significant. Hence H7c is not supported by this study. Finally, the effect of the use on the outcomes is slightly stronger for follower countries as compared to leader countries.

4.8 POLICY IMPLICATION

Significant policy consequences stem from the digital divide in social media usage in poorer nations. The supply and demand side elements contributing to the divide must be addressed to close the gap. Governments and private sector participants must concentrate on expanding access to technology and enhancing digital infrastructure in underserved areas on the supply side. This can entail promoting inexpensive gadgets, boosting broadband access, and funding instructional projects to raise digital literacy.

Policymakers must address the socioeconomic and cultural hurdles that keep some groups from accessing and using social media platforms on the demand side. This can entail actions like enhancing digital education programs to guarantee that everyone has the knowledge and abilities to use social media effectively and promoting social inclusion policies to guarantee that underserved communities have the tools and assistance they need to participate fully in the digital economy.

The significant role that social media may play in fostering economic development and progress must also be acknowledged by policymakers. This may entail actions like encouraging social media use as a tool for entrepreneurship, job creation, and small business development.

In general, tackling the supply and demand side variables contributing to the digital gap in social media usage in developing nations necessitates a comprehensive strategy. Policymakers can assist in bridging the divide and make sure that everyone has access to the advantages of social media and the digital economy by increasing access to technology, enhancing digital infrastructure, and tackling socioeconomic and cultural barriers to digital inclusion.

4.9 LIMITATIONS AND FUTURE RESEARCH

The most significant limitation relates to the secondary data used because data does not provide items specific to study objectives. This is why proxy items are used in a few constructs because exact items were not available, as given by Van Deursen & Van Dijk (2015). Another limitation is that data contains the branched questions in survey which brought systematic missing data problem because removing all missing values also caused the removal of some good observations. The recommendation provided by this study is not concretely shown in the findings because the data did not ask for any suggestions from the respondents. Sharing Economy in the context of the digital divide has broader future research scope. In the future, researchers should collect primary data and study various types of digital skills and their effect on behavioral intention. A qualitative study may also be incorporated while studying people's motivations to use digital economies like Uber.

4.10 CONCLUSION

In conclusion, social media sites like Facebook, Twitter, and Instagram have become ubiquitous in contemporary society by giving users access to information and enabling cross-cultural and geographic communication. Social networks offer several benefits, from job searching to staying current with the news. As not everyone has equal access to these platforms and the internet, the digital gap continues to be a severe problem.

Our findings also support the digital divide argument van Deursen & van Dijk, (2019) that developing countries are still at first digital divide because of a lack of digital infrastructure. Existing socioeconomic disparities may be exacerbated by this gap, which may also restrict prospects for those without access. Concentrating on granting all people, regardless of their socioeconomic status, equitable access to technology and digital literacy instruction is critical. To close this gap and guarantee that everyone can access the advantages that social media and the internet offer, governments, non-profit groups, and commercial businesses can cooperate. In the long run, closing the digital divide can support increased equality, social cohesiveness, and economic growth.

5 CHAPTER FIVE: CONCLUSION

5.1 INTRODUCTION

The concepts of digital platforms and the digital divide are still emerging but are essential for academicians, practitioners, and policymakers. Digital platforms like Uber and social media have exerted a heavy influence on the daily activities of people. These technologies have brought many opportunities for the betterment of society. However, at the same time, these digital technologies have challenged existing businesses and created a social divide in society.

The literature on digital platforms like Uber and social media; and the digital divide is also at an infant level because most studies conducted on shared economies like Uber are associated with motivations and hindrances. The literature on the digital divide is also concentrated on general internet use and tested only in developed countries (Lamberti et al., 2021b; van Deursen & van Dijk, 2019).

Therefore, this thesis aims to provide scientific evidence regarding the factors which affect people's motivation regarding the use of Uber. Furthermore, this study has established a connection between the use of digital economies and the digital divide theory and extended the literature on RA theory in social media.

Considering the objectives of the thesis, a quantitative approach was used in all three studies. In the first study (chapter two), initially, EFA was used to identify different types of motivations, where we found economic and social motivations. Later, latent class regression was used to identify different economic and social motivations for using Uber. Finally, social factors were used to see how the motivations differed systematically, and customer profiling was also established. In the second study (chapter three), logistic regression was applied to the RA model to analyze the appropriation of digital economies like Uber. This study's factor scores for motivation, physical access and digital skills were extracted from PLS-SEM and used in logistic regression as explanatory variables. In the final study (chapter four), the Resources and Appropriation theory was extended in two ways: 1) Theory of the digital divide is used for social media appropriation for the first time. 2) The antecedent to

motivation (barriers) to use was also introduced. This study used SEM with Diagonally Weighted Least Square (DWLS) to measure the sequential appropriation process. Furthermore, the multigroup analysis was also conducted to understand the implications of digital development of various countries.

Two different data sets were used for the given studies. The data was drawn from the PEW Research Centre. Data for the first two studies (chapters two and three) was related to the attitude of US people regarding digital technologies, whereas data for the third study (chapter four) was related to technology and society collected from eleven countries.

This chapter summarizes the three empirical studies conducted as part of the thesis to understand better why people use social media and Uber and how these digital technologies can be used to explain the appropriation process. The contribution, managerial and policymakers implications, limitations, and future research directions are given below.

5.2 CONTRIBUTION

Studying people's behaviour in the context of a shared economy such as Uber was a starting point for this thesis. In the past, only motivation and barriers to participation in a shared economy have been included in the literature on shared economies. However, factors that affect their motivation still need to be included. By looking at this gap, this study extended the scope of shared economy literature by studying the factors affecting motivation. Furthermore, this study offered the first segmentation of motivations by employing latent class regression for the first time in digital economies. Additionally, the customer profiles were also established by using social factors.

The contribution of the third chapter is manifold. Firstly, this chapter has incorporated the Resources and Appropriation Theory in digital economies for the first time because earlier studies had only incorporated the Theory of Planned Behavior, Social Exchange Theory, and Technology Acceptance Model. By doing this, the thesis has added value not only in the field of digital economies but also extended the literature on RA theory in the field of the shared economy. In previous studies, the RA theory has only been applied to general internet use, but this study has extended its use to digital economies (Uber). Furthermore, applying the RA theory in the shared economy provided new angles of the digital divide: how people with

digital resources and skills can gain more benefits than those without access and digital skills, widening the digital gap in society.

Furthermore, the mediation effect of physical access and digital skills on motivation and use of Uber is also pioneered in this thesis. Finally, a methodological contribution is also added by this study in the field of shared economies. Instead of EFA's scores, this study utilized the scores obtained from PLS-SEM to measure explanatory variables in subsequent analysis (Logistic Regression).

The fourth chapter of this thesis extends the application of RA theory further in the context of social media use. At the time of this study, there were multiple gaps in the literature on the digital divide. The appropriation process of digital technologies was either covered partially (Van & Helsper, 2015; Van Deursen, 2010; van Deursen & van Dijk, 2014) or applied only in digitally developed countries (Lamberti et al., 2021). So this study covered the whole process from motivation, physical access, digital skills, use and outcome for the first time and extended RA theory by including antecedents to motivation. These antecedents highlight that if people have any negative concerns about digital technology, like cybercrime, online harassment, addiction, and the motivation of people would be negatively influenced, this is also strongly supported by the TBH (Theory of Planned Behavior) (Ajzen, 1985). This study has widened the scope of the digital divide by applying RA theory to eleven countries that were never studied before in the context of Resources and Appropriation theory. The results of this part offer many insights for policymakers to reduce the social gap by providing digital infrastructure to deprived areas. Furthermore, RA theory’s domain is also extended to social media, unlike earlier studies, which were restricted to internet use.

5.3 MANAGERIAL IMPLICATIONS

The first study's results (chapter two) indicate that word of mouth dramatically influences people's attitudes and behaviours toward the Sharing Economy. It genuinely arises from peer experience. Thus, managers should concentrate on improving positive user experiences on the platform and work to lessen negative user experiences because lousy word of mouth has a higher impact on all demographic groups, especially young, male and educated segments of society. Furthermore, managers should ensure that online reviews and ratings are genuine and shared by all real users because they are crucial in how people build their attitudes. Managers should make the Uber user interface as straightforward as possible and offer visual tutorials on the app and offline media because digital skills and familiarity with the Sharing Economy are essential components in lowering people's technological anxiety. Additionally, offer free Uber trials to familiarize people with this online service to lessen their negative perceptions of technology and encourage them to use it frequently in the future.

According to the second study's findings (chapter three), managers should be careful about people's attitudes towards Uber. They need to keep informing their users and potential customers through their commercial messages about how they can save time and money by using Uber because these are highly influencing factors directly linked to the use of Uber. A second important factor directly associated with using digital economies like Uber is the availability of physical access, which means a smartphone with a data subscription. In order to solve this issue of physical access, ride-hailing service companies like Uber should install digital touch points like digital booths in various places where users can order Uber. Furthermore, ride-hailing services like Uber may partner with telecommunications service providers so that users may not require data to use the Uber app; in this way, Uber can attract a large pool of potential customers. Another recommendation would be to install various Uber hotspots in various locations that Uber’s registered customers can only access, and these hotspots can only be used for the Uber app. As far as the customer segments of Uber are concerned, Uber should pay more attention to people aged 18-49, with college education and singles, because these segments have a high affinity to use Uber services, as per the findings of this study. The first study's results (chapter two) indicate that word of mouth dramatically influences people's attitudes and behaviours toward the Sharing Economy. It genuinely arises from peer experience. Thus, managers should concentrate on improving positive user

experiences on the platform and work to lessen negative user experiences because lousy word of mouth has a higher impact on all demographic groups, especially young, male, and educated segments of society.

Furthermore, managers should ensure that online reviews and ratings are genuine and shared by all real users because they are crucial in how people build their attitudes. Managers should make the Uber user interface as straightforward as possible and offer visual tutorials on the app and offline media because digital skills and familiarity with the Sharing Economy are essential components in lowering people's technological anxiety. Additionally, offer free Uber trials to familiarize people with this online service, lessen their negative perceptions of technology, and encourage them to use it frequently in the future.

5.4 IMPLICATION FOR POLICY MAKERS

In order to close the digital divide in developing nations, multiple strategies must be used. Increasing access to cheap broadband is one of the critical steps. Governments can collaborate with telecommunications firms to bring broadband services to places without much Internet access, particularly in rural or isolated locations. Efforts might also be taken to guarantee that broadband services are accessible in public institutions like hospitals, schools, and other public buildings.

For people to engage in the digital economy and use the internet to access information and services, they must become digitally literate. Governments can fund educational initiatives covering basic computer skills, making digital media, and internet safety. Both students and adults may benefit from these activities, which can be available through libraries, community centers, and schools. In addition, governments may enable people and communities to take advantage of digital opportunities by making digital skills training accessible.

Internet usage can rise in less developed nations by promoting local content creation. Governments can seek to promote local content to a broader audience and give cash and resources to help local content creators and platforms. This can entail assisting in creating apps and websites that address regional requirements or marketing content in local languages. In addition, governments can aid in removing linguistic and cultural obstacles that can prevent individuals from utilizing the internet by encouraging local content.

Access to reasonably priced digital devices like smartphones and tablets can aid in closing the digital divide. Governments and manufacturers can collaborate to provide affordable gadgets for low-income households. Governments can also offer low-income households subsidies to purchase digital equipment, notably for educational purposes. Because of expanded access to digital devices, people can now access digital resources and content that were previously out of their reach.

Public-private partnerships can broaden the scope and effect of initiatives for digital inclusion. For example, governments can collaborate with private businesses to create and carry out digital inclusion projects, such as giving underprivileged areas internet access or donating electronic equipment to community centers and schools. In addition, governments can use private enterprises' resources and skills to expand internet access and advance digital literacy by collaborating with them.

Some developing nations may have significant infrastructure gaps, such as more energy or internet connectivity. Governments can close these gaps by funding infrastructure initiatives like installing fiber optic lines and constructing electricity grids. In addition, governments may increase digital access and ensure that people and communities have everything they need to engage in the digital economy by investing in better infrastructure.

In order to boost economic growth and create new jobs in emerging nations, it is essential to promote the expansion of digital entrepreneurship. Governments can develop rules that assist the expansion of digital firms and provide funds and resources to entrepreneurs. In addition, governments may provide individuals and communities with chances to engage in the digital economy and stimulate economic growth by encouraging digital entrepreneurship.

5.5 LIMITATIONS AND FUTURE RESEARCH

The first shortcoming of our study is that secondary data is used, which creates issues related to data suitability for statistical analysis. For example, items were not strictly following the Likert scale, and the number of items needed to measure one construct could sometimes have been increased. This is why proxy items are used instead of exact items in a few constructs, as given by (Van Deursen & Van Dijk, 2015). Another area for improvement is that the data

contains the branched questions in the survey, which caused systematic missing data problems because removing all missing values also removed some excellent observations. Finally, the recommendation provided by this study needs to be concretely shown in the findings of this study because the data did not ask for any suggestions from the respondents.

The Sharing Economy in the context of the digital divide has broader future research scope. In future, researchers should collect primary data and study various types of digital skills and their effect on behavioural intention. RA model can be used to explain people's behaviour in the context of other digital economies like Airbnb. Furthermore, a comparison of developing and developed countries could be used to determine the digital divide in the context of the Sharing Economy. From a methodology point of view, a qualitative approach should also be applied to understand the motivations and barriers to using digital technologies at a deeper level.

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