# Modeling Trust in Consumer-to-Consumer

# **Sharing Platforms**

By

Anass Karzazi

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Supervisor: Dr. Yusaf H. Akbar

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Author: Anass Karzazi

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#### Abstract

**Purpose** – Led by pioneers such as Uber and Airbnb, *sharing economy platforms* (SEP) have disrupted several industries and redefined the boundaries of multiple businesses in the last decade. Despite the growing interest in studying the sharing economy adoption, quantitative research dedicated to determining the motives of sharing economy usage remain scarce. *Trust* is a multifaceted concept that has been widely recognized as one of the most determinant factors in the success of SEP. So far, however, there has been little quantitative analysis of trust in SEP. Also, most studies have examined only limited aspects of trust in SEP, focusing mainly on the consumer perspective. This dissertation seeks to investigate the role and importance of trust relative to other factors in the use of understudied consumer-to-consumer sharing platforms (C2CSP). The thesis also aims to confront different types and dimensions of trust in C2CSP and unveil its effects on usage from both supply and demand sides.

**Methodology** – In the first study, we develop a conceptual model grounded in the Theory of Planned Behavior (TPB) (Ajzen 1991) and examine the effects of 11 consumer factors on usage intentions of C2CSP. We surveyed an unprecedentedly diverse pool of 248 university students coming from 58 different countries and tested the hypotheses using partial least squares path analysis (PLS-SEM). The second study examines the interactions of different types (dispositional, institutional, interpersonal) and dimensions (ability, integrity-benevolence) of trust in ridesharing from riders' and drivers' perspectives, in a context characterized by the COVID-19 pandemic. A hierarchical model was designed based on the Interdisciplinary Model of Trust (McKnight and Chervany 2001) to answer the research questions. Data was collected from 474 users of a major ridesharing platform in Central and Eastern Europe and tested with PLS-SEM. **Findings** – Results of Study 1 provide empirical validation of TPB in the sharing economy and reveal the importance of trust-building factors in shaping C2CSP usage. Familiarity plays a major role in the model and acts as a shortcut leading to consumption behavior, while institutional and interpersonal trusts influence usage intentions through different mechanisms. Sustainability factors have significant effects dominated by environmental and economic factors, while social benefits show no impact on C2CSP usage. The findings of Study 2 position trust in the platform, through its integrity-benevolence dimension, as the main type of trust that influences engagement in ridesharing services for both riders and drivers. Also, we provide evidence of trust transfer in the ridesharing context as trusting the platform leads riders and drivers to trust each other. For riders, this transfer is due to both trust in the platform's ability (42%) and integrity-benevolence (58%) dimensions. For drivers, however, the transfer is solely caused by trust in the platform's ability. Results also show that propensity to trust affects drivers' intention to provide ridesharing services. Finally, both riders and drivers do not consider COVID-19 risk as an impediment to engaging in ridesharing services.

**Originality and value** – The present work is the first to empirically examine the role of different types and dimensions of trust together in the ridesharing context from demand and supply perspectives. Moreover, we contribute to the scarce European research on ridesharing and conduct the first quantitative studies that examine trust in C2CSP in the CEE region. The thesis also provides valuable recommendations to practitioners based on the results.

Keywords - Sharing economy, C2CSP, Trust, Motives, Ridesharing, PLS-SEM, COVID-19

In memory of my grandparents.

This thesis is dedicated to all the teachers who contributed to my education.

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## List of Abbreviations

AVE: Average Variance Extracted

B2C: Business-to-Consumer

CB-SEM: Covariance-Based Structural Equation Modeling

C2C: Consumer-to-Consumer

C2CSP: Consumer-to-Consumer Sharing Platforms

CEE: Central and Eastern Europe

CMV: Common Method Variance

HTMT: Heterotrait-Monotrait Ratio

PLS: Partial Least Squares

P2P: Peer-to-Peer

SEM: Structural Equation Modeling

SEP: Sharing Economy Platforms

SRMR: Standardized Root Mean Square Residual

TPB: Theory of Planned Behavior

VIF: Variance Inflation Factor

#### **CHAPTER 1**

#### Introduction

#### 1.1 Thesis motivations

While sharing is as old as mankind (Belk 2010), new forms of consumption described as part of the sharing economy have developed rapidly in the last decade. By leveraging the power of new internet technologies and the global spread of smartphones, sharing economy platforms (SEP) have spread in a wide range of sectors. On SEP, users get temporary access to underutilized assets for a monetary compensation or for free, depending on the adopted business model. Two companies lead the business: Uber in the mobility industry and Airbnb in accommodation services. Other sectors include finance (e.g., LendingClub, Zopa), human resources (TaskRabbit), consumer goods (Peerby), working spaces (WeWork), and energy (SolarShare). The global economic value of the sharing economy is predicted to reach US\$335 billion in 2025 compared to US\$15 billion in 2014 (PricewaterhouseCoopers 2015).

Research, nevertheless, is still attempting to keep up with the explosive development of SEP. As an illustration, there is still no consensus among scholars on a precise and unified definition of the sharing economy itself (Botsman 2013). The term is generally used as an umbrella for several other concepts like collaborative consumption, access-based economy, gig economy, or platform economy. Moreover, the sharing economy subsumes several consumption practices organized in various business models, sometimes cohabiting within the same platform (Curtis and Lehner 2019). A clear delimitation of the boundaries of a subset within the sharing economy is, therefore, a wise starting point for a focused analysis and a purposeful debate. Taking this into account, in this dissertation, we set out to investigate consumer-to-consumer sharing platforms (C2CSP), which we define as online systems where private resource seekers meet private resource owners to get access to underutilized goods and services for a monetary compensation.

Trust has been widely recognized in the literature as a major factor shaping the success of SEP (Hawlitschek, Teubner, and Weinhardt 2016). For instance, without trust, sleeping the night in a stranger's house after a few taps on a smartphone's application was still inconceivable for consumers until a few years ago. Trust is a complex and multifaceted concept linked to several other constructs like confidence, risk, uncertainty, and familiarity (Paliszkiewicz 2018). Recently, researchers have shown an increased interest in investigating trust in the sharing economy context. However, the quantitative works found in the literature have mainly focused on the consumer perspective and have examined only limited aspects of trust.

Therefore, the present thesis aims to investigate the role and importance of trust, relative to other factors in the use of C2CSP. This work also aims to confront different types and dimensions of trust in ridesharing, one of the most popular business categories in the sharing economy. By examining the differences regarding trust between riders and drivers, we provide an important opportunity to advance the understanding of trust in the sharing economy.

#### **1.2 Thesis structure and research questions**

As depicted in Figure 1, the thesis is structured into six chapters. Chapter 1, titled "Introduction", introduces the main motivations behind this research and presents the research questions. Further, Chapter 2, titled "Understanding the Sharing Economy", provides a literature review of the sharing economy and an overview of the terminology used in prior works to define it. We also expose the typology and classification of SEP and define Consumer-to-Consumer Sharing Platforms (C2CSP) as the type of focus of this dissertation. Chapter 3, titled "Understanding Trust", provides a thorough literature review of trust, clarifies some ambiguities related to trust, and highlights other concepts usually linked to trust. We also unveil the importance of trust in online environments and its particularities in the sharing economy context.

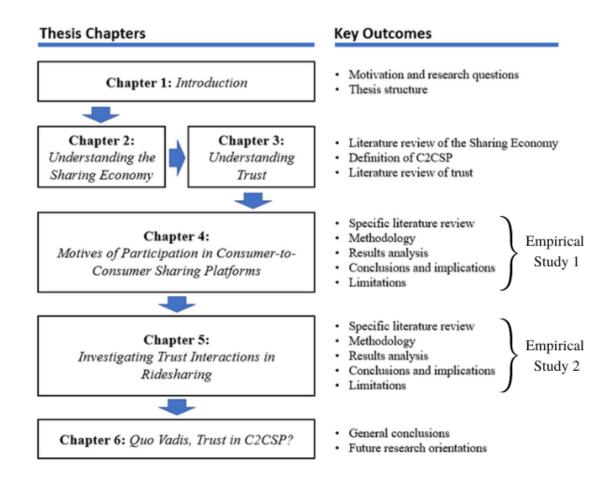


Figure 1 Structure of the dissertation

Chapter 4, titled "Motives of Participation on Consumer-to-Consumer Sharing Platforms" consists of an empirical study with the objective of shedding light on the main drivers behind

sharing economy adoption. By understanding users' motivations, sharing economy practitioners can focus on those factors that drive consumption and, thus, guarantee growth and success for their businesses. A growing body of literature has been studying the sharing economy following its growth and global spread in the last decade. Nevertheless, most of the research studies were undertaken in the last three years, a few of which only were quantitative studies dedicated to determining the motivations behind sharing economy usage. Scholars have widely recognized trust as a determinant factor in the success of sharing economy businesses. However, quantitative works on trust in C2CSP remain scarce. For instance, most of the quantitative studies found in the literature have considered small sets of motives that provide a limited assessment of trust importance compared to the rest of the motives. To make contributions to these research gaps, we propose the following research questions in Chapter 4:

*RQ1*: What is the set of user motives to participate in C2CSP?

*RQ2*: What is the importance of trust relative to other motives in using C2CSP?

After determining the motives behind user participation in C2CSP, and quantifying the importance of trust in such contexts, we focus in Chapter 5, titled "Investigating Trust Interactions in Ridesharing", on examining the differences between types and dimensions of trust in one of the most important business categories of the sharing economy. The literature review identifies the interdisciplinary model of high-level trust (McKnight and Chervany 2001) as one of the most cited frameworks. The model includes three levels of trust: dispositional, institutional, and interpersonal. Besides, in another major work, Mayer, Davis, and Schoorman (1995) define three dimensions that define trustees' trustworthiness: ability, integrity, and

benevolence. Interestingly, no prior research has studied trust in the ridesharing context in light of the abovementioned models together.

Moreover, most of the ridesharing empirical literature has examined trust from the consumer side. Therefore, relatively little is known about the differences in trust and its effects on ridesharing usage between drivers and riders. Finally, the outbreak and spread of the COVID-19 pandemic have created unprecedented conditions for consumers and providers alike. Although a growing body of literature has focused on studying the effects of the COVID-19 pandemic on the use of the sharing economy, academic works are still scarce in the ridesharing context. Therefore, in order to develop a better understanding of trust interactions between consumers and providers of ridesharing services and their effects on platform usage, Chapter 5 addresses the following research questions:

*RQ3:* How do trust interactions differ between riders and drivers on ridesharing platforms? *RQ4:* What types and dimensions of trust are most determinants in shaping usage of ridesharing platforms?

*RQ5:* To what extent do COVID-19 risk perceptions affect user participation on ridesharing platforms?

Finally, this thesis is concluded with Chapter 6, titled "Quo Vadis, Trust in C2CSP?". The chapter summarizes the answers to each of the research questions, as defined in the introduction, and provides a set of potential avenues for future research.

#### **CHAPTER 2**

### **Understanding the Sharing Economy**

#### 2.1 The blooming of a global phenomenon

Sharing platforms have developed rapidly in the last decade and have disrupted several industries and redefined the boundaries of multiple businesses. Although sharing economic assets is as old as humankind (Belk 2010), novel ways of sharing goods and services have recently emerged, driven by three key factors: (1) the exponential growth and use of digital platforms and devices, (2) the rising interest in more sustainable use of consumer goods and services, and (3) the changes in consumer behavior focusing on modes of consumption that involve personal interaction and community engagement – especially in urbanized environments (PricewaterhouseCoopers 2015).

Sharing platforms are active in numerous industries, including transportation, accommodation, goods rental services, neighborhood services, etc. Two companies stand out and lead the sharing economy market: Uber, the well-known carsharing platform connecting passengers to car owners willing to carry out rides for a fee, and Airbnb, a disruptive accommodation-sharing platform that enables guests to find property owners listing lodging for rent. Uber and Airbnb totalized market capitalizations, respectively of US\$60.89 billion and US\$109.74 billion in April 2022 (Yahoo Finance 2022). The global economic value of the sharing economy is predicted to reach US\$335 billion in 2025 compared to US\$15 billion in 2014 (PricewaterhouseCoopers 2015).

#### 2.2 Defining the sharing economy

There is no consensus among academics on an exact definition of the sharing economy (Curtis and Lehner 2019). Numerous formulations have been used in the literature: 'collaborative consumption', 'peer to peer economy', 'gig economy', 'access economy', 'the mesh', or 'uberization' have all been used, sometimes interchangeably, to define the sharing economy (Klarin and Suseno 2021). The sharing economy is generally used as an umbrella term for a wide range of consumption modes such as borrowing, renting, donating, exchanging, swapping, and even buying used, common, or idle goods (Botsman and Rogers 2010; Böcker and Meelen 2017; Curtis and Lehner 2019; Frenken and Schor 2017; Hawlitschek et al. 2018). Bardhi and Eckhardt (2017) claim that the sharing economy is part of what they conceptualize as "liquid consumption", a new dimension of consumption that is "ephemeral, access-based, and dematerialized" (Bardhi and Eckhardt 2017, 585). The following table resumes the main sharing economy definitions found in the extant literature.

#### Table 1

Authors	Definition	Key elements
Botsman (2013)	"An economic model based on sharing	Sharing
	underutilized assets from spaces to skills to	Underutilized assets
	stuff for monetary or non-monetary benefits."	Monetary
		Non-monetary

Main sharing economy definitions in the literature

Belk (2014)	"There are two commonalities in sharing and	Temporary access
	collaborative consumption practices: 1- use of	Non-ownership
	temporary access non-ownership models of	Utilization
	utilizing consumer goods and services, 2-	Goods and services
	reliance on the internet, and especially Web	Internet-based
	2.0. Differently to collaborative consumption,	No compensation
	in sharing activities there is no compensation	
	involved."	
Frenken and Schor	"Consumers granting each other temporary	Temporary access
(2017)	access to under-utilized physical assets ('idle	Idle capacity
	capacity'), possibly for money."	Possible compensation
Mair and	"We define the sharing economy as a web of	Web of markets
Reischauer (2017)	markets in which individuals use various	Various compensations
	forms of compensation to transact the	Resources
	redistribution of and access to resources,	redistribution
	mediated by a digital platform operated by an	Access
	organization."	Digital platform
Möhlmann (2015)	"Collaborative consumption, often associated	Organized systems
	with the sharing economy,	Networks
	takes place in organized systems or networks,	Sharing activities
	in which participants	
	conduct sharing activities in the form of	
	renting, lending, trading, bartering, and	

swapping of goods, services, transportation	
solutions, space, or money."	
ICT-enabled platforms for exchanges of	ICT-enabled platforms
goods and services drawing	Goods and services
on non-market logics such as sharing,	Non-market logics
lending, gifting and swapping	
as well as market logics such as renting and	
selling.	
	solutions, space, or money." ICT-enabled platforms for exchanges of goods and services drawing on non-market logics such as sharing, lending, gifting and swapping as well as market logics such as renting and

As shown on the table, there is a disagreement among researchers in defining the boundaries of the sharing economy. Botsman and Rogers (2010) who prefer the term "collaborative consumption" to refer to the sharing economy, define it as an online system where activities like swap trading, renting, lending, crowdfunding, and sharing all sorts of goods and services take place. Albinsson and Yasanthi Perera (2012) include non-monetary exchanges such as bartering, while Belk (2014) excludes exchanges that do not entail monetary compensation. Conversely, Botsman (2013) defines the sharing economy as "an economic model based on sharing underutilized assets from spaces to skills to stuff for monetary or non-monetary benefits." This reasoning implies that the sharing economy not only opens space for non-monetary transactions but more importantly restricts consumption to underutilized assets e.g., spare car seats shared on BlaBlaCar. On the other hand, Frenken and Schor (2017) restrict the sharing economy to underutilized *physical* assets. Based on this definition, platforms like Handy, where craftspeople share their skills and knowledge (thus, non-physical assets) to carry out a paid home cleaning or furniture assembling for individuals, are not part of the sharing economy.

The abundance of definitions calls for a synthesis of this debate. We identify three characteristics that are common to sharing economy platforms (SEP):

- They are digital systems that use **matchmaking** algorithms to allow transactions between users (Belk 2014; Botsman 2013; Frenken and Schor 2017; Hamari, Sjöklint, and Ukkonen 2016; Martin 2016);
- 2- They prioritize temporary access over ownership (Acquier, Daudigeos, and Pinkse 2017; Bardhi and Eckhardt 2017; Eckhardt and Bardhi 2016; Frenken and Schor 2017; Hawlitschek et al. 2018; Ranjbari, Morales-Alonso, and Carrasco-Gallego 2018);
- 3- They focus on underutilized resources (Gerwe and Silva 2020; Habibi, Davidson, and Laroche 2017; Harmaala 2015; Kumar, Lahiri, and Dogan 2018).

#### 2.3 Classification and typology of sharing economy platforms

Prior works have described different types of SEP and used rationales ranging from simple and focused taxonomies to more complex and multidimensional classifications. For instance, Parente, Geleilate, and Rong (2018) describe the sharing economy as organizations that "connect users/renters and owner/providers through consumer-to-consumer (C2C) or business-to-consumer (B2C) platforms". Two business models are therefore described. B2C platforms provide shared goods and services for their customers. The assets, in this case, are totally owned by the platform, e.g., Bird (electric scooters), Share Now (cars), Freedom Boat Club (boats), and WeWork (co-working spaces) are all sole owners of the shared assets. On the other hand, on C2C platforms like TaskRabbit (home services), Zopa (microfinance), and DiDi (ridesharing),

goods and services belong to users, and the platform owner plays the role of a mediator that matches supply with demand.

Based on the way SEP combine "organizational and market coordination mechanisms" to create value, Constantiou, Marton, and Tuunainen (2017) propose four models of SEP, which they classify according to two dimensions: the intensity of *rivalry* (loose vs. tight) among users as they compete for profits through activities permitted by the platform, and the degree of *control* by the platform over users (low vs. high). Thus, the four SEP models are described as follows:

- *Franchisers:* characterized by high rivalry and tight control. In this model, SEP owners have total control over the services, including price setting. Uber is a typical example of a Franchiser. Uber uses algorithms to calculate prices in real-time and sets them centrally. The shared mobility company focuses on standardizing the service to increase profit and continuously pushes drivers to compete with each other, e.g., by changing ride fares according to demand.
- *Chaperones* (high rivalry loose control): act as watchdogs with lose control over users' activities. However, Chaperones motivate the supply-side users to innovate and compete with each other. A typical Chaperone is Airbnb, where hosts decide on the amenities they want to make available for their guests and set the price that most suits the value offer and stands out from the competition, based on market information communicated by the platform.
- *Principals* (low rivalry tight control): exert tight control over the services but, contrary to Franchisers, do not promote rivalry. For instance, prices are set by users in predefined

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categories. For example, on TaskRabbit, freelance workers are hired for home jobs like cleaning, running errands, furniture assembly, etc., and paid according to their skills and expertise.

*Gardeners* (low rivalry - loose control): the platform owner focuses on cultivating a community of users, hence the label, by orchestrating sharing activities and setting minimum standards only to guarantee quality and good user experience. BlaBlaCar, for example, organizes carpooling travels for its communities. Users share costs and do not make profits; therefore, they do not compete with each other.

Other authors classified SEP according to the types of transactions involved and the nature of assets shared (Gerwe and Silva 2020) and proposed:

- *Money-based* platforms, which allow supply-side users to generate profit (e.g., Lyft, Turo, Airbnb) or cover costs (e.g., BlaBlaCar), vs. *Non-money platforms* that promote free sharing of assets among users (e.g., Couchsurfing).
- *Capital platforms*, where assets shared are physical goods like vehicles, property, household appliances, and parking spaces (e.g., JustPark), vs. *Labor platforms* offering peer-to-peer task services (e.g., TaskRabbit, Handy).

In another major study covering 522 peer-to-peer SEP, Chasin et al. (2018) provide a comprehensive framework that defines 10 taxonomy dimensions. In addition to the type of resource shared and profit orientation discussed previously, the authors suggest the following dimensions:

- *Peer-to-peer sharing pattern:* describes the planning phase (time) needed for assets to be shared; it can be deferred, immediate, or recurrent.
- *Type of accessed object:* differentiates between functional assets accessed only for their pure usage and mixed ones provide that, in addition to functionality, offer a unique experience like socializing with fellow travelers in BlaBlaCar.
- *Resource owner:* private person vs. business.
- *Global integration:* local, regional, national, or global platforms.
- *Consumer involvement:* full-service where involvement or participation of demand-side users is limited (e.g., sitting in an Uber car) vs. self-service where supply-side users have a passive role (e.g., providing access to a parking space).
- *Money flow:* describes the way payment is processed and can be C2B2C, C2B, or free-of-charge.
- *Payment model:* users can be charged per transaction, per listing, or through membership.
- *Promotion of sustainable consumerism:* refers to the facets used by platforms to promote consumption, which can be ecological, economic, or social.

#### 2.4 Consumer-to-consumer sharing platforms

Within the scope of this dissertation, we set our focus on a specific subset of sharing platforms which we denote as Consumer-to-Consumer Sharing Platforms (C2CSP), and define them as follows:

"Online systems (website-based, mobile applications, or both) where private resource seekers meet private resource providers to get temporary access to underutilized goods and services for a monetary compensation."

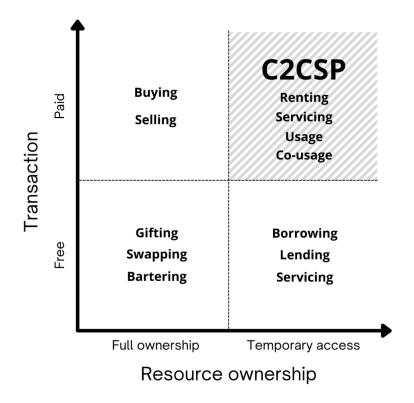


Figure 2 Consumer-to-Consumer Sharing Platforms (C2CSP) delimitations

In Figure 2, we propose delimitations of C2CSP that clearly distinguish it from other types of platforms. Transfer of ownership is a key difference between sharing platforms, where private users can temporarily access underutilized goods and services, and other types of digital platforms where private resource seekers fully own assets. Considering the nature of the involved transactions, we distinguish between monetized ones, e.g., buying and selling on platforms like Amazon and Alibaba, and non-monetized platforms, where assets are gifted, swapped, or bartered (Figure 2). Nowadays, C2CSP are active in several industries. Table 2 lists some of the most representative examples of C2CSP by category of activity.

#### Table 2

#### Examples of C2CSP by category

Category	C2CSP	Key activity
Transportation	-Uber, Didi, Ola, Careem	-Ride-hailing
	-BlaBlaCar	-Long-distance ridesharing
Accommodation	-Airbnb	-Shared lodging, entire lodging
	-Couchsurfing	-Shared lodging
Tools	Peerby, Fat Llama	Household tools rentals
Community building	Nebenan, Smiile	Neighborhood services, mutual
		assistance, information sharing
Home services	TaskRabbit, Handy	Household services, errands, local
		tasks
Finance	LendingClub, Lendico, Zopa	Peer-to-peer personal loans
Food	Eatwith, Travellingspoon	Private meals sharing, cooking
		classes
Fashion	Tulerie, Wardrobe	Peer-to-peer clothing and
		accessory rentals

The reasons behind the choice of C2CSP as the main subject of this dissertation are manifold. First, by doing so, we avoid confusion between different practices, sometimes overlapping, in the sharing economy and thus, prepare a ground for focused academic debate. Second, we believe that the ethos of the sharing economy is more reflected in C2CSP, where supply and demand belong to customers in a peer-to-peer relationship mediated by a platform. Third, compared to B2CSP, C2CSP may constitute a more fertile environment for the development of social interactions between users, and possibly even conflicts (Wittel 2011), which makes its investigation worthwhile. Finally, and more importantly, in a triadic relationship demandmediation-supply, trust and its interactions and formation become more complex and, thus, invite a meticulous examination which we provide in the following chapter.

#### **CHAPTER 3**

#### **Understanding Trust**

#### **3.1 Introduction**

Trust is an ambiguous and complex concept, linked to a myriad of other concepts and constructs. Trust is also a core notion that appears in most of human relationships like love, friendship, work, cooperation, and trade. Trust exists not only between humans, but also within and between organizations and institutions. It also appears in sentiments and cognitive processes, moral values, and cultural beliefs, which gives it a wide and interesting multi-faceted dimension (Paliszkiewicz 2018). There is a broad extant literature that has explored the meaning of trust and analyzed its role and function. Several disciplines have conceptualized trust. While at times contradictory, the literature has unveiled some important insights that we present in this chapter.

#### **3.2 Defining trust**

Our literature review yielded a plethora of definitions of trust (Table 3). This is due first to the multiple facets of trust and its nature of complex and vague concept involved in most human relations like love, friendship, work, cooperation, or trade. Second, due to its complex nature, trust has acquired a myriad of meanings depending on the context where it is involved. Researchers have defined the difference between trust and several other related concepts such as confidence and risk (Luhmann 1993), reputation (Zucker 1986), or reliability (Rotter 1967; Giddens 1990) which have been often cited with trust or even replaced it (Lewis and Weigert 1985). Another reason why definitions of trust are so wide is that each researcher sees it through the lenses of his/her discipline's epistemological stances and theoretical orientations.

Simmel (1950) was one of the first scholars to provide a theoretical framework for trust. Without providing an explicit and structural definition, Simmel made several interesting observations that inspired numerous researchers in this field. For instance, according to the German sociologist, trust is "one of the most important synthetic forces within society" without which society would "disintegrate" (Simmel 1950).

#### Table 3

Selection of definitions of trust with the emphasized constructs by corresponding authors and disciplines

Author	Discipline	Definition of Trust	Main Constructs
Deutsch	Psychology	"An individual may be said to have trust	Expectation
(1958)		in the occurrence of an event if he expects	Perception
		its occurrence and his expectation leads to	Negative motivational
		behavior which he perceives to have	consequences
		greater negative motivational	Positive motivational
		consequences if the expectation is not	consequences
		confirmed, than positive motivational	
		consequences if it is confirmed."	
Rotter (1967)	Psychology	"Interpersonal trust is an expectancy held	Expectation
		by an individual or a group that the word,	Promise
		promise, verbal or written statement of	Reliability
		another individual or group can be relied	
		upon."	
Giffin (1969)	Psychology	"Reliance upon the characteristics of an	Reliance
	-	object, or the occurrence of an event, or	Uncertainty
		the behavior of a person in order to	Risk

		achieve a desired but uncertain objective	
		in a risky situation."	
Luhmann	Sociology	"Trust is a mechanism that people use to	Complexity reduction
(1979)		reduce the complexity of the social life."	1 5
(1777)		reduce the comprentity of the social met	
Barber (1983)	Sociology	-"Trust is the expectation of the	Expectation
		persistence and fulfillment of the natural	Competence
		and social orders."	Performance
		-"Trust is the expectation of technically	Fiduciary obligation
		competent sole performance."	Moral obligation
		-"Trust is an expectation of fiduciary	Responsibility
		obligation and responsibility, that is, the	Concern
		expectation that some others in our social	
		relationships have moral obligations and	
		responsibility to demonstrate a special	
		concern for others' interests above their	
		own."	
Baier (1986)	Philosophy	"Accepted vulnerability to another's	Accepted vulnerability
		possible but not expected ill will (or lack	Ill will
		of good will) toward one."	
Gambetta	Sociology	"Trust (or, symmetrically, distrust) is a	Subjective probability
(1988)		particular level of the subjective	Action
		probability with which an agent assesses	Monitoring
		that another agent or group of agents will	Capacity
		perform a particular action, both before he	Independence
		can monitor such action (or independently	Context
		of his capacity ever to be able to monitor	Affect
		it) and in a context in which it affects his	
		own action."	

Loronz (1000)	Economics	"Trust can be defined as the independent	Iudaomont
Lorenz (1988)	Economics	"Trust can be defined as the judgement one makes on the basis of one's past interactions with others that they will seek to act in ways that favor one's interests, rather than harm them, in circumstances	Judgement Past interactions Interests
Giddens (1990)	Sociology	<ul> <li>that remain to be defined."</li> <li>"Confidence and reliability of a person or a system, regarding a given set of outcomes or events, where that confidence expresses a faith in the probity or love of another, or in the context of abstract principles."</li> </ul>	Confidence Reliability Outcome Faith
Dasgupta (1988)	Economics	"The expectation of one person about the actions of others that affects the first person's choice, when an action must be taken before the actions of others are known."	Expectation Action Affect Choice
Moorman, Deshpande, and Zaltman (1993)	Marketing	"The willingness to rely on an exchange partner in whom one has confidence."	Willingness Reliability Confidence
Fukuyama (1995)	Sociology	"The expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms, on the part of other members of that community."	Expectation Community Regular Honest Cooperative behavior Shared norms

Mayer, Davis,	Organizational	"Willingness of a party to be vulnerable to	Willingness
and	Behavior	the actions of another party based on the	Vulnerability
Schoorman		expectation that the other will perform a	Action
(1995)		particular action important to the trustor,	Ability
		irrespective of the ability to monitor or	Control
		control that other party."	
Hardin (1996)	Politics	"Trust is a set of expectations that depend	Expectation
		on rational assessments of the trustee's	Rational assessment
		motivations."	Motivation
Rousseau et	Organizational	"Psychological state comprising the	Intention
al. (1998)	Management	intention to accept vulnerability based	Vulnerability
		upon positive expectations of the	Positive expectation
		intentions or behavior of another under	
		conditions of risk and interdependence."	
Sztompka	Sociology	"Trust is a bet about the future contingent	Bet
(2000)		actions of others."	Future
			Contingent actions
Gills (2003)	Organizational	"Organizational trust is the organization's	Willingness
	Management	willingness, based upon its culture and	Vulnerable
		communication behaviors in relationships	Belief
		and transactions, to be appropriately	Competence
		vulnerable, based on the belief that	Openness
		another individual, group or organization	Honesty
		is competent, open and honest, concerned,	Reliability
		reliable and identified with common	
		goals, norms, and values."	
Dumouchel	Sociology	"To trust is to act in such a way that as a	Action
(2005)		result of one's action another agent gains	Result
		power over us."	Power

Most definitions of trust found in literature share three essential elements. First, scholars agree on an interdependence between trustor and trustee in a trust relationship. For instance, Moorman, Deshpande, and Zaltman (1993) theorize that trust is "the willingness to rely on an exchange partner in whom one has confidence." The same does Giddens (1990) when he considers trust as "confidence and reliability of a *person* or a system, regarding a given set of outcomes or events, where that confidence expresses a faith in the probity or love of *another*, or in the context of abstract principles." Other authors like Deutsch (1962) and Golembiewski and Mcconkie (1975) define trust as the choice of an ambiguous path made by a trustor and whose outcome depends on the trustee. This interdependence is more detailed in the definition suggested by Gambetta (1988) who describes trust as a "particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action, both before he can monitor such action and in a context in which it affects his own action."

The second element is the ability of trust to deal with risk and uncertainty, which are both considered as intrinsic notions in human relationships. For instance, trust has been described as a way to deal with uncertainty and risk, which are the result of the "ignorance about the others and their behavior" (Shklar 1984) but are also due to the natural time delay between the action of the trustor and the expected reaction of the trustee (Lane and Bachmann 1998). So, to reduce risk and uncertainty, the trustor needs to "bet about the future contingent actions" of the trustee (Sztompka 2000). Therefore, trust is vital in reducing the complexity of the world and is an "effective form of complexity reduction", a mechanism people use to simplify a "complex reality" (Luhmann 1979), and an alternative solution to the problem of uncertainty in social relations (Yamagishi 2011).

The third shared element among scholars in defining trust is the belief that the other party will not take advantage of our vulnerability when entering a trust relationship. For instance, Baier (1986) considers trust as the "accepted vulnerability to another's possible but not expected ill will (or lack of good will) toward one". In the same vein, Rousseau et al. (1998) define trust as the "intention to accept vulnerability based upon positive expectations", and Sabel (1993) argues that in the case of trust relationship there is a mutual confidence that "no party will exploit the other's vulnerability".

However, divergencies exist among scholars in defining trust and are mostly related to the grounds or social bases of the expectations. For example, trust is the "expectation of the persistence and fulfillment of the natural and social orders" according to Barber (1983), and a "confidence that expresses a faith in the probity or love of another", as theorized by Giddens (1990). Another difference in the definitions lays in the object of trust, also called target of trust, which can be individuals, objects, or abstract things like processes, norms or systems (Sztompka 2000). Some scholars, on the other hand, theorized trust regarding the social context in which trust relationship occurs. Thus, trust expands in radii, first from intimate relations between family members or friends, to its widest circle with people we don't know (Fukuyama 1995), the absent others (Beck, Giddens, and Lash 1994) with whom people share values or things in common, e.g. members of profession, fans of a sport team, members of a social media group or website, etc.

Finally, most scholars agree on trust being a multidimensional concept. However, the dimensions they use differ each time regarding the paradigms and the theoretical background of each researcher. For example, economists tend to combine a calculative or cognitive view with moral aspects of trust (Lorenz 1988; Dasgupta 1988). On the other hand, psychologists focus more on the personal traits of trust actors (Deutsch 1958; Rotter 1967; Giddens 1990), while another group of scholars, mainly but not exclusively from organization studies are more interested in the content of the expectation in a trust relationship (Rousseau et al. 1998; Mayer, Davis, and Schoorman 1995).

## **3.3 Characteristics of trust**

Due to the complexity of the concept of trust, it is common to confuse it with other notions usually linked to it like risk, confidence, familiarity, etc. This section is provided to clarify these ambiguities.

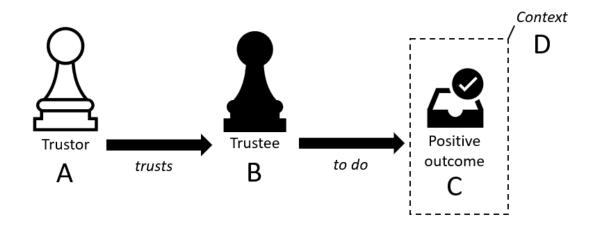


Figure 3 Main elements of a trust relationship

## 3.3.1 Trust actors

Most scholars agree that in a relation of trust there must exist at least two parties: a *trustor* (the one that trusts) and a *trustee* (the party to be trusted) (Wang and Emurian 2005). The third element to include in this relationship is the outcome of trust as pointed out by Baier (1986) and Luhmann (1979) who theorized it as follows: A trusts B to do C (Figure 3). Nevertheless, Hardin

(2002) sees the context as an essential element in trust relationships and defines the relationship as follows: A trusts B to do C in a context D.

## 3.3.2 Trust and risk

Researchers agree on the presence of risk whenever trust is involved. Thus, trusting behaviors typically involve risk (Hardin 2002). Luhmann (1993) considers trust and risk as "normal aspects of life" where trust inherently supposes a situation of risk and offers a solution for the problem of risk (Luhmann 1988). In the context of trust, risk is also seen as the result of human choices and describes the unknown and threatening future (Sztompka 2000). For example, there will always be a car accident risk for travelers, but this risk is relevant only if they choose to travel by car.

# 3.3.3 Trust and confidence

Confidence is often an important element related to trust. Simmel (1950) was among the first researchers to investigate the tight relationship between trust and confidence. One of his main claims is that confidence is what separates one's ignorance from knowledge about others. Reacting to a passionate debate on trust conducted by some of his contemporary scholars (especially Barber (1983) and Giddens (1990)), Luhmann (1993) provides a clear distinction between the concepts of trust and confidence. He explains, for instance, that when we trust we intentionally choose one of the available alternatives. Conversely, in a situation of confidence, alternatives are not considered. Luhmann (1979) also highlights the importance of *self-confidence* as an inner mechanism which serves for the reduction of complexity.

Nevertheless, Giddens (1990) suggests that trust is a particular type of confidence rather than something distinct from it. In his remarkable analysis of the development of modern society, Giddens observed that social relationships shift from familiar and taken-for-granted confidence that things will remain unchanged, to a more bestowed or actively granted trust. For instance, Giddens distinguishes between an early phase, called "simple modernity" where society has confidence in science and experts for example, and a "late modernity" phase where there is rather an "active trust" that is not taken for granted but has to be won (Giddens 1990).

## 3.3.4 Trust and familiarity

Familiarity is a precondition of trust (Luhmann 1979). Trust actors build trust when their mutual behaviors happen as they favorably expected. People usually trust others whose trustworthiness has been tested (Sztompka 2000) and who received kinds of 'trust ratings'(Coleman 1990) (Coleman 1990) before reaching an acceptable level of 'cognition-based trust' (McAllister 1995).

Familiarity supposes knowledge and understanding of each other's roles and actions in a trust relationship. For example, in trade transactions, familiarity would be that the buyers know the contacts of the sellers, i.e., where, when, and how to find them; they also know each other's procedures and understand them. Familiarity here is gained through information made available by each party and is reinforced by repeated transactions.

In many fields, we face unfamiliar situations, and that is where trust intervenes (Luhmann 1979). Although orientated toward the future, trust uses the past information that one gets through familiarity and takes the risk of defining the future and expectations. Familiarity and trust have, therefore, a complementary role in reducing complexity (Luhmann 1979). By way of illustration, familiarity with Airbnb would be the knowledge of how to search for a room or entire house for rent, find information about the host, and how to book a stay on the platform for desired dates. By using familiarity, users reduce the risk of renting strangers' homes and enter a trust relationship with positive expectations in mind.

## **3.4 Trust typology**

There have been several research attempts to categorize trust and differentiate between its distinct forms. The typology of trust depends, again, on the discipline and paradigms followed by the authors. In the context and scope of this dissertation, the following typologies seem to be the most relevant:

- Interpersonal Trust vs Systems of Trust: where trust between individuals is contrasted with trust towards social systems or institutions (Simmel 1950; Luhmann 1979; 1988; Barber 1983; Zucker 1986; Giddens 1990);
- *Societal Trust*: refers to trust as a result of norms and societal codes that can be observed in communities (Fukuyama 1995) and organizations or institutions (Zucker 1986).

Within interpersonal trust, the following forms of trust have also been identified in the extant literature:

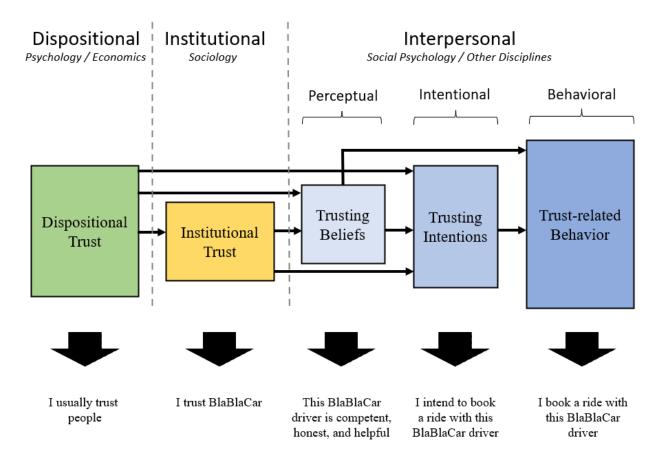
• *Deterrence-based Trust*: observed when people do what they say because they fear the consequences of not doing so (D. L. Shapiro, Sheppard, and Cheraskin 1992);

- Affective Trust vs Calculative (or cognitive) Trust: Refer to the source of trust whether it comes from emotions and sentiments or cognitive capabilities (Lewis and Weigert 1985; Williamson 1993; McAllister 1995);
- *Knowledge-based Trust*: The more information we know about the others, the better we can predict their future acts and thus trust them (D. L. Shapiro, Sheppard, and Cheraskin 1992);
- *Identification-based Trust*: Trustor and trustee not only share knowledge about each other's repeated transactions and experiences but share the same needs, choices, and values. At this level of trust, one party can act confidently on behalf of the other (Lewicki and Bunker 1995).

Finally, within institutional trust, *Procedural trust* is worth underlining. This type of trust is the result of the general belief people have in certain institutionalized practices. Procedural trust occurs when procedures are considered as legitimate by all the actors. For example, users of TaskRabbit accept to provide their real addresses to seek for an available handyman in their area. By doing so, users have confidence in the platform's procedure and expect that their personal data would be protected.

# 3.5 Trust modeling

As previously mentioned, the typology of trust has been theorized from different perspectives according to the authors' disciplines. However, McKnight and Chevrany (2001) were the first to propose a comprehensive set of constructs that captures the meaning of trust across different disciplines (Figure 4).



*Figure 4* Interdisciplinary model of trust with sentence formulations in the sharing economy Note. Adapted from (*McKnight and Chervany 2001*)

Based on an extensive literature review, (McKnight and Chervany 2001) provided an interdisciplinary model of trust with a list of measurable trust sub-constructs. The model distinguishes between three major types of trust:

 Dispositional trust (DT): constitutes the first level in the model and is mainly derived from trait psychology. DT describes the general propensity of one to rely on others. For instance, some people are generally more disposed to trust others.

- 2. *Institution-based trust (IT):* refers to the confidence one has in an environment, context, or organization, and her belief that favorable conditions are in place will lead to a positive experience.
- Interpersonal trust (IP): describes trust formed due to interactions between individuals. At a first level, trust is initiated as perception or beliefs, which lead to trusting intentions, before resulting in the desired trust-related behavior.

Researchers have reserved consistent efforts to define the factors and conditions that lead to trust. The model proposed by Mayer, Davis, and Schoorman (1995) is one of the most cited in the literature (Lu et al. 2010). The model considers the following dimensions as precursors of trust:

- *Ability:* the skills, knowledge, and competencies that make a trustee trustworthy. For example, one would trust a BlaBlaCar driver because he/she is skillful in driving, knows the city well, knows shortcuts, etc.
- *Integrity:* indicates the degree to which the trustee would stick to rules and norms that are important to the trustor. For example, hosts on Airbnb guarantee that reserved rooms or homes are available on the selected dates and conform to the information provided beforehand. Likewise, Uber drivers are believed to take riders to agreed destinations for the price shown on the application.
- *Benevolence:* the belief that the trustee, although interested in making profit, would also do what is good for the trustor without economic considerations. For example, some Airbnb hosts offer to pick up their guests for free from the airport in the case of late

arrivals. Moreover, most of them provide valuable local information, seeking a good experience for their guests rather than solely thinking of economic profit.

#### **3.6 Digital trust**

Although digital trust shares most of the characteristics of offline trust, some particularities are worthwhile to be mentioned and taken into consideration when studies focus on trust in online environments. According to (Wang and Emurian 2005), four distinctions can be outlined: 1- *The nature of trust actors*. The notions of trustor and trustee are also valid in the online world. However, the trustor is usually a consumer who is searching for information, products, or services on web browser or mobile applications. Trustee, on the other hand, is usually a digital merchant providing those products and services using different technologies.

2- *Vulnerability*. The nature and complexity of online interactions may increase the feeling of uncertainty, especially among trustors. Most of the transactions online like booking a flight for summer break, transferring money to a relative, or ordering food take place virtually without human-to-human exchange. This anonymity of interactions may lead to certain unpredictable behaviors from trustees, especially that consumers may not be aware of all the privacy and security consequences those transactions entail, even when they are only searching for information online (Gefen 2002). This situation of vulnerability increases the need of trust-building techniques that would reduce uncertainty and guarantee safe transactions without the loss of money and privacy, considered as the main trust violations in online environments (Friedman, Khan, and Howe 2000).

3- *Produced actions*. Usually, consumers interact with a merchant in a two-steps process. First, they may only search for the goods and services they are interested in, learn about products,

make comparisons, or just get information about the merchant. In a second step, they decide to make the transaction regarding the selected product or service and will often have to provide personal information like email, identity, address for delivery, and credit card number. Therefore, trust is supposed to cover both steps as they are inter-related.

4. *Subjective and contextual trust.* Several contextual factors contribute to trust online being a subjective matter for consumers. People may require distinct levels of trust for the exchanges to occur. Their knowledge and experience in using digital devices and technologies may also affect online trust relationships.

Like in offline environments, digital trust has also been described as multi-dimensional. The facets of ability, integrity, and benevolence as described earlier in this chapter have also been proved as antecedents of digital trust by prior research (Gefen 2002). In the same vein, other authors like Ang, Dubelaar, and Lee (2021) describe the three dimensions respectively as (1) the ability of the digital merchant (website or platform) to provide the products and services as promised to customers in terms of their nature and quality, (2) its willingness to honor commitments and rectify when consumers' satisfaction is altered, and (3) the assurance to customers that their privacy and personal information would be protected and respected.

#### **3.7 Trust particularities in C2CSP**

Three levels of trust can be clearly distinguished in the case of C2CSP: dispositional trust (or propensity to trust), which is related to the personality of each user; institutional trust, which refers to confidence users have in the platform; and inter-personal trust that describes the trust taking place between users as a result of their human interactions using C2CSP services.

However, some particularities of trust on C2CSP, compared to offline trust, are worth to be highlighted.

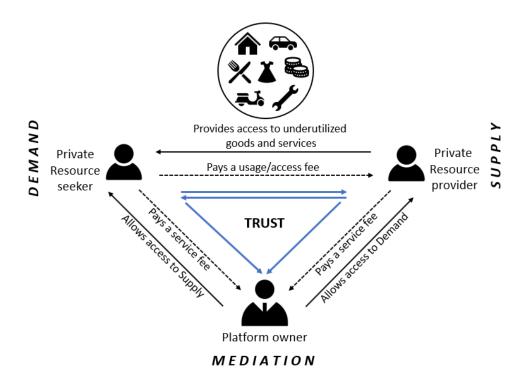


Figure 5 Interactions flows on consumer-to-consumer sharing platforms

First, trust on C2CSP is more complex than on B2CSP (e.g., Zipcar, Share Now) because it is shared between **three actors** (Figure 5): the platform owner, the resource provider (supply), and the resource seeker (demand). The situation becomes even more complex as sometimes resource providers and seekers may interchange roles. For instance, an Uber driver may also book a ride on the platform, and an Airbnb host may also travel and book an accommodation using the platform's services. It is important to note that the platform owner seems to have the most critical role in C2CSP as he/she is the one behind the creation of the platform, its management, and

development. The platform owner acts as a mediator between supply and demand and thus may be trustworthy or not.

Second, the use of **technology** is key in C2CSP, and interactions are usually initiated through a mobile application or a website. Therefore, trust formed on C2CSP is also the result of humanmachine interactions. Moreover, practitioners make use of several technological solutions to build trust in their platforms and among the community of users. For example, reputation systems allow Uber riders to rate drivers based on their satisfaction regarding the driving experience. Similarly, Uber drivers are also given the opportunity to rate their passengers after the completion of the trip. Reputation and review systems not only provide users with trustful measures that reduce the risk perception of transacting with a stranger, but also allow platform owners to carry out a regulatory role by excluding supply and/or demand users who do not satisfy a minimum level of reputation or positive reviews (Tiwana 2014). Technology is also essential in users' identity and background checks (Amirkiaee and Evangelopoulos 2018) to guarantee a safe environment for monetary transactions. Sometimes, however, trust-building technology that is made available to users on C2CP may lead to contradictory results. For instance, prior research has shown that trustworthy photos of Airbnb guests allow them to set higher prices of their listings and increase its probability of being trusted and chosen (Ert, Fleischer, and Magen 2016). On the other hand, other authors like Edelman and colleagues (2017) demonstrated how prospective guests with African American profile names had significantly lower chance of having their booking requests accepted on Airbnb. Therefore, platform owners must guarantee the right usage of technology in a way that it leads to trusting behavior on C2CSP and not to unwanted outcomes.

Third, a lot of **data** is displayed, collected, stored, and processed on C2CSP. Both supply and demand rely on several types of information to build trust online. For example, one could hardly imagine guests successfully booking rooms on Airbnb without accurate descriptions of the accommodations with quality photos and relevant information about the hosts. Similarly, hosts also seek for trust signals, like personal photos and self-descriptions, in the information shared by prospective guests that would dispel the fear of opening their properties to complete strangers. Data is also crucial for platform owners to track and anticipate dubious behaviors and guarantee a trustful environment for users. Personal data is usually required before the transaction takes place (e.g., name, address, phone number, credit card number) or for the account to be created and verified (e.g., name, photo, driving license). Data may be collected even if one is only searching for information without the intention to make a transaction. Thus, personal data misusage is always a risk that may deter customers from using C2CSP, e.g., false identities and data sharing with thirds without users' approval. In the absence of a common standard that regulates its usage, data shared on C2CSP will continue to have a crucial impact on the consumption of sharing economy services and the role of platform owners is key, again.

Finally, as mentioned earlier, transactions between strangers on C2CSP entail **risk**. Prior research classifies risk into two types, *performance risk* and *physical risk*. Performance risk refers to the perception of remorse consumers or suppliers may have after realizing the discrepancy between what was promised on the platform (expected value) and what they actually got (actual value) (Hong, Kim, and Park 2019). Often, sharing economy services are criticizes for lacking the professionalism of traditional businesses (e.g., Airbnb property vs. hotel, Uber car vs. taxi) which increases the possibility of performance risk (Hong et al. 2019). On the other

hand, physical risk describes the probability that a shared asset endangers user's physical and mental health (Kaplan, Szybillo, and Jacoby 1974). For example, Uber's US Safety Report shows 20 fatal physical assaults that were reported between 2019 and 2020, of which 75% were committed against riders, while a total of 3,824 sexual assaults were reported on the Uber app in the same time period (Uber Technologies, Inc. 2022). However, it is important to bear in mind that risk may substantially depend on the nature of goods and services shared on C2CSP. Borrowing a board game on Peerby is naturally much less risky than taking a ride with stranger driver on Uber. Risk also depends on the duration of the sharing encounter e.g., consumers generally last more time in an Airbnb accommodation than in an Uber car. Finally, the existence of high social interactions (through reviews and direct communication) between hosts and guests before the booking query is accepted, and later during the stay, is a factor that may reduce uncertainty, especially when the lodging is shared. This interaction is also possible during a shared ride, but remains generally weak (Mittendorf et al. 2019).

#### **CHAPTER 4**

# **Motives of Participation on Consumer-to-Consumer Sharing Platforms**

# 4.1 Introduction

In response to the growth of the sharing economy, scholars have been actively studying its emergence. For instance, prior works on the sharing economy have been identified in multiple disciplines including business and management (Belk 2014; Ert, Fleischer, and Magen 2016; Zervas, Proserpio, and Byers 2017), hospitality and tourism (Gutiérrez et al. 2017; Tussyadiah 2016; Tussyadiah and Pesonen 2018), environmental sciences (Curtis and Mont 2020; Frenken and Schor 2017; Martin 2016), economics (Edelman, Luca, and Svirsky 2017; Horn and Merante 2017; Fang, Ye, and Law 2016), law (Calo and Rosenblat 2017; Miller 2015), sociology (Arcidiacono, Gandini, and Pais 2018; Germann Molz 2013), and information systems (Hamari 2013; Hamari et al. 2016; Hawlitschek et al. 2018).

Based on our search on the Web of Science database, literature on the sharing economy is still new as more than 80% peer-reviewed research articles have been published between 2018 and 2021. Furthermore, quantitative studies that focus on consumers' motives to adopt and use SEP remain scarce. We strongly believe that understanding what motivates users to participate on C2CSP is vital for platform owners and determinant in the growth and success of the services they provide. Therefore, the study we describe in this chapter addresses the aforementioned research gaps and seeks to examine the following:

#### *RQ1*: What is the set of user motives to participate in C2CSP?

RQ2: What is the importance of trust relative to other motives in using C2CSP?

The chapter is organized as follows. Section 4.2 introduces the theoretical background of the study and describes the corresponding hypotheses for empirical testing. Data collection and the measurements are exposed in section 4.3, followed by an analysis of the empirical results in section 4.4. Further, section 4.5 discusses the empirical findings and suggests implications for C2CSP owners and policymakers. Finally, the study concludes in section 4.6 with limitations and directions for future research.

## 4.2 Theoretical background and conceptual model

The conceptual framework (Figure 6) is grounded in the Theory of Planned Behavior (TPB) (Ajzen 1991), one of the most prominent theories in psychology that has been widely used in research in several disciplines to predict human behavioral intentions. TPB has been applied in more than 4,000 empirical studies by April 2020 (Bosnjak, Ajzen, and Schmidt 2020).

TPB posits that a person's behavior comes essentially from her behavioral intention, which is determined by three main antecedents: attitude, subjective norms, and perceived behavioral control. This study argues that the intention to use C2CSP is the result of the attitude towards C2CSP, in addition to subjective norms derived from societal pressure and perceived behavioral control which captures non-volitional behaviors.

Understanding user's behavioral intentions is crucial for C2CSP owners as it provides valuable information on how to attract and retain customers. In TPB, attitude constitutes the main factor that determines behavioral intention. The more a person has a positive attitude about a certain behavior, the more likely she is to perform the behavior (Ajzen 1991). Further, subjective norms refer to the pressure of society leading individuals to perform certain behaviors (Ajzen 1991), while perceived behavioral control refers to "the perceived ease or difficulty of performing behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles" (Ajzen 1991, 188).

Drawing on TPB, the conceptual framework used in this study is built on a set of three compounds of factors:

- *Utilitarian and hedonic factors*, i.e., constructs that reflect the usefulness and enjoyment one perceives while using C2CSP,
- *Sustainability factors*, which refer to user's perceptions regarding economic, environmental, and social impacts of C2CSP,
- *Trust-building factors*, which capture the forces that form and promote trust among users on C2CSP.

The rationale behind the choice of the constructs and their role in the conceptual model is detailed in the following section.

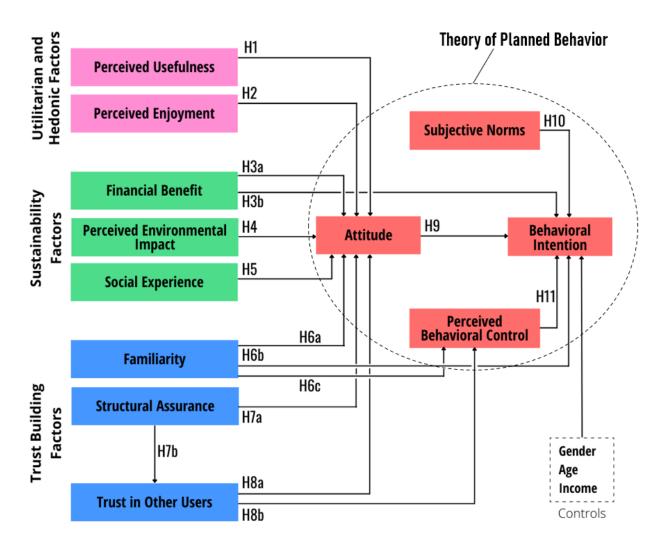


Figure 6 Conceptual model

## 4.2.1 Utilitarian and hedonic factors

This compound finds its sources in the consumer research literature, particularly the work of Holbrook and Hirschman (1982) who conceptualized the utilitarian and hedonic product values as separate and distinct motivations of consumption. It was this work that led later to the inclusion of perceived usefulness and perceived enjoyment in human-computer interaction theory (Davis 1989; Davis, Bagozzi, and Warshaw 1992; Venkatesh, Thong, and Xu 2012).

According to Holbrook and Hirschman (1982), most consumer researchers see the consumption of common goods and services through the lenses of rationality. Consumers are, in this case, motivated by the utilitarian value of a product and seek its useful and practical characteristics. However, some products are purchased for their symbolic meaning and the entertainment they provide to the consumer, like leisure activities and the arts, for example. In this case, consumers are more attracted by the hedonic attributes of a product, i.e., its joyful and pleasant facet that appeals to the consumer's senses (Holbrook and Hirschman 1982).

Perceived usefulness has been shown to be an antecedent of users' attitude toward Airbnb (Wang and Jeong 2018). Also, Arteaga-Sánchez et al. (2020) have demonstrated the positive impact of perceived usefulness on the satisfaction and continuous behavioral intention to use carpooling platform BlaBlaCar.

Several studies identified enjoyment as an important predecessor of the behavioral intention to use various information technology services (Ha, Yoon, and Choi 2007; Liaw and Huang 2003; Liu and Li 2011; Lu, Zhou, and Wang 2009; Thong, Hong, and Tam 2006). Enjoyment has also been proven to be important on SEP. For instance, Hamari et al. (2016) and Ianole-Calin, Druica, Hubona, and Wu (2020) showed that intrinsic motivations such as enjoyment have strong positive effects on the attitude toward collaborative consumption. Hamari et al. (2016) inferred that some users might participate on SEP just because of the fun it provides. Similarly, enjoyment has been shown to be important in the formation of users' attitude toward Airbnb (S. Yang and Ahn 2016). Therefore, we include usefulness and enjoyment in the conceptual model and suggest the following hypotheses: *H1: User perceived usefulness of C2CSP has a positive effect on user attitude toward C2CSP H2: User enjoyment of C2CSP has a positive effect on user attitude toward C2CSP* 

## 4.2.2 Sustainability factors

The sharing economy has long been seen as a more sustainable mode of consumption relative to ownership-based models of consumption. This perspective asserts that the sharing economy incentivizes the creation of new businesses (Bernardi and Diamantini 2018), permits the exchange of goods and services with reduced costs (Botsman and Rogers 2010). (Hawlitschek, el al. 2018) found that financial benefit have a positive impact on attitude toward peer-to-peer sharing platforms, (Hamari et al. 2016) provided evidence of financial benefit being a precursor of sharing economy usage. Thus, the following hypotheses:

H3a: Financial benefits accruing to C2CSP users have a positive effect on user attitude toward C2CSP

H3b: Financial benefits accruing to C2CSP users have a positive effect on the behavioral intention to use C2CSP

The sharing economy has also the notoriety of promoting the use of underutilized goods and services (Botsman and Rogers 2010; Möhlmann 2015; Hamari et al. 2016), and helping in the empowerment of social communities and the building of social ties (Schor 2014; Frenken and Schor 2017). Other scholars even posit that the sharing economy is "a potential new pathway to sustainability" (Heinrichs 2013, 228). It is therefore expected that participation on sharing economy platforms may be influenced by attitudes regarding its benefits to the environment and society in general. The following hypotheses are thus suggested:

H4: Perceived positive environmental impact from using C2CSP has a positive effect on user attitude toward C2CSP

H5: Positive social experience from using C2CSP has a positive effect on user attitude toward C2CSP

## 4.2.3 Trust-building factors

Trust-building relates to the formation of trust in C2CSP. Luhmann (1979) suggests that familiarity complements the role of trust in reducing complexity in society. Consumers may be hesitant in using a C2CSP because of the transaction costs it incurs or because they lack experience in it (Möhlmann 2015). Familiarity relies on previous experiences and leads to understanding current actions (Gefen 2000). For example, on a ridesharing platform, familiarity would mean that users know how to search and pay for a ride and where to find information about the driver. Users gain this familiarity through the information made available by all parties (e.g., the ridesharing platform and drivers) and reinforce it through repeated transactions. Prior studies found that familiarity has a favorable impact on the intention to purchase in e-commerce environments (Gefen 2000; Lee and Kwon 2011), while Tussyadiah and Pesonen (2018) found that users were unwilling to use peer-to-peer shared accommodation if they lack information on how the system works. Also, Hawlitschek et al. (2018) reported a positive effect of familiarity on perceived behavioral control in the peer-to-peer context, and Möhlmann (2015) found that familiarity influences the likelihood of choosing accommodation sharing again. Therefore, users would be more favorable to familiar platforms and more likely to use a sharing solution they know about, or that is less complex and easy to handle. Thus, the following hypotheses are suggested:

H6a: User familiarity with a C2CSP has a positive effect on user attitude toward C2CSP H6b: User familiarity with a C2CSP has a positive effect on user behavioral intention to use C2CSP

*H6c: User familiarity with a C2CSP has a positive effect on user perceived behavioral control* 

Structural assurance is a sub-construct of institutional trust (McKnight and Chervany 2001) and refers to the degree to which guarantees, technical safeguards, legal procedures, and regulations are put in place by C2CSP owners to enhance trust and platform use. McKnight and Chervany (2001) see structural assurance as an antecedent of trust in others. Also, findings of (E. Y. Li, Yen, and Liu 2013) indicate the important role of structural assurance in affecting trust beliefs and attitudes toward online shopping. Therefore:

H7a: Structural assurance has a positive effect on user attitude toward C2CSP H7b: Structural assurance has a positive effect on user trust in other C2CSP users

Trust in other users refers to the degree to which resource seekers consider resource providers to be trustworthy. Several studies point to the positive impact of trust on the use of sharing platforms (Guttentag 2015; Hawlitschek et al. 2018; Mittendorf 2018; Tussyadiah and Pesonen 2018). Luhmann (1979) argues that trust plays an important role in complexity reduction. Unlike familiarity, trust goes beyond current actions and risks defining unknown future actions of others (Gefen 2000) by reducing risk to an acceptable level (Gruber 2020). Moreover, the more users trust other users of C2CSP, system's complexity becomes easier to handle. Thus, the following hypotheses are formulated: H8a: User trust in other C2CSP users has a positive effect on user attitude toward C2CSP H8b: User trust in other C2CSP users has a positive effect on user-perceived behavioral control

## **4.2.4 TPB constructs**

Prior studies have also reported the significance of TPB constructs in the context of the sharing economy. For instance, (Bucher, Fieseler, and Lutz 2016) reported the positive effects of monetary, moral, and social motives on attitudes toward the sharing economy, which in turn impacts sharing intentions. (Hawlitschek et al. 2018) investigated trust in peer-to-peer platforms using TPB as main theoretical framework and provided evidence of positive effects of attitude, subjective norms, and perceived behavioral control on the intention to use peer-to-peer sharing platforms. Similar findings were brought out by (Mao and Lyu 2017; Wang and Jeong 2018) in the context of accommodation sharing. Thus, the following hypotheses:

H9: User attitude toward C2CSP has a positive effect on user behavioral intention to use C2CSP

H10: Subjective norms have a positive effect on user behavioral intention to use C2CSP H11: Perceived behavioral control has a positive effect on user behavioral intention to use C2CSP

Our conceptual model also includes three control variables: gender, age, and household income. Prior research has uncovered a difference in online behavior between men and women (Sheehan 1999). Schoenbaum (2016) observes that women may be more concerned than men about the use of sharing platforms because gender identity becomes more relevant as transactions taking place on platforms become more personal, intimate, and risky (e.g., sharing an Airbnb flat with strangers or taking an Uber ride alone at night).

Besides, there is an assumption in the literature that millennials' preferences have moved from ownership to access in the last years (Godelnik 2017). Hsiao, Moser, Schoenebeck, and Dillahunt (2018) have further found that older users were less willing to pay for future shared goods and services than younger people.

Lastly, users with higher income are more likely to use sharing platforms according to Tussyadiah (2015). Table 4 summarizes the hypotheses used in this study and outlines the abbreviations that will be used in the results and discussion that follow.

#### Table 4

## Hypotheses overview

Category	Hypothesis	Abbreviation
Utilitarian &	H1: Perceived usefulness $\rightarrow$ Attitude toward C2CSP	PU→ATT
Hedonic	H2: Perceived enjoyment $\rightarrow$ Attitude toward C2CSP	ENJ→ATT
Sustainability	H3a: Financial benefits $\rightarrow$ Attitude toward C2CSP	FIN→ATT
	H3b: Financial benefits $\rightarrow$ Behavioral intention to use C2CSP	FIN→BI
	H4: Perceived environmental impact $\rightarrow$ Attitude toward C2CSP	ENV→ATT
	H5: Social experience $\rightarrow$ Attitude toward C2CSP	SOC→ATT
Trust-	H6a: Familiarity $\rightarrow$ Attitude toward C2CSP	FAM→ATT
building	H6b: Familiarity $\rightarrow$ Behavioral intention to use C2CSP	FAM→BI
	H6c: Familiarity $\rightarrow$ Perceived behavioral control	FAM→PBC

	H7a: Structural assurance $\rightarrow$ Attitude toward C2CSP	STA→ATT
	H7b: Structural assurance $\rightarrow$ Trust in other C2CSP users	STA→TRU
	H8a: Trust in other C2CSP users $\rightarrow$ Attitude toward C2CSP	TRU→ATT
	H8b: Trust in other C2CSP users $\rightarrow$ Perceived behavioral control	TRU→PBC
TPB	H9: Attitude toward C2CSP $\rightarrow$ Behavioral intention to use C2CSP	ATT→BI
	H10: Subjective norms $\rightarrow$ Behavioral intention to use C2CSP	SN→BI
	H11: Perceived behavioral control $\rightarrow$ Behavioral intention to use	PBC→BI
	C2CSP	

#### 4.3 Data collection, sampling, and measurement

The questionnaire used in this study (Appendix A) was developed with Qualtrics Research Suite software (Qualtrics, Provo, Utah). It contained 23 questions referring to 12 constructs, sociodemographic data, and control variables. All constructs have been derived and adapted from previous research published in reputable journals (Table 5). Each construct was measured by three reflective items expressed in a 5-point Likert scale (1= strongly disagree to 5= strongly agree).

In the introduction to the questionnaire, respondents were informed about the objectives of the research, the way information is collected, treated, and presented, and privacy assurance statements following university ethical research guidelines. A clear definition and typology of C2CSP were provided, with examples of well-known global and local platforms, to avoid misunderstandings that may affect the accuracy of collected data. A screening question where respondents indicated whether they have carefully read the introduction and understood the

definition of C2CSP was also included. Data about respondents' use and frequency of five categories of C2CSP: a) Transportation, b) Accommodation, c) Renting services, d) Neighborhood services, and e) Peer-to-peer money lending, was collected. Four independent judges with familiarity with SEP assessed the face validity of the questionnaire before its distribution.

# Table 5

## Measurement scales

Variable Code – Scale	Source
Perceived usefulness (PU) PU_1 – C2CSP make it easier to get the desired product or service than other classic sources	Y. Yang et al. (2020)
<b>PU_2</b> – The use of C2CSP enables me to access genuine products and services more economically	
<b>PU_3</b> – The use of C2CSP allows me to get more fitted products and services with more attractive conditions	
<i>Perceived enjoyment (ENJ)</i> ENJ_1 – Using C2CSP is an enjoyable alternative for acquiring goods and services	Davis, Bagozzi, and Warshaw (1992); Alalwan et al. (2018); Shen (2012)
<b>ENJ_2</b> – Using C2CSP is entertaining	Sheh (2012)
$ENJ_3 - I$ have fun using C2CSP	
<i>Financial benefit (FIN)</i> FIN_1 – Using C2CSP help me lower my expenditures	Tussyadiah (2016)
$FIN_2 - C2CSP$ offer access to more affordable goods and services	
<b>FIN_3</b> – C2CSP benefit me financially	
Perceived environmental impact (ENV) ENV_1 – C2CSP help in saving natural resources ENV_2 – C2CSP provide a sustainable mode of consumption ENV_3 – C2CSP are environmentally friendly	Barnes and Mattsson (2017); Hamari, Sjöklint, and Ukkonen (2016)

Social experience (SOC)	Bucher, Fieseler, and
$SOC_1$ – Being on C2CSP is a good way to meet new people	Lutz (2016)
SOC_2 – Through C2CSP I can meet like-minded people	
<b>SOC_3</b> – C2CSP make me feel part of a community	
<i>Familiarity (FAM)</i> FAM_1 – I am familiar with C2CSP	Mittendorf (2018)
$FAM_2 - I$ am familiar with searching for goods and services on C2CSP	
$FAM_3 - I$ am familiar with inquiring about goods and services on C2CSP	
Structural assurance (STA) STA_1 – C2CSP have enough safeguards to make me feel comfortable while using it to transact goods and services	McKnight, Choudhury, and Kacmar (2002); Barnes and Mattsson
$STA_2 - I$ feel assured that legal and technological structures adequately protect me from problems on C2CSP	(2017)
<b>STA_3</b> – In general, C2CSP are now robust and safe environments in which one can transact goods and services	
<i>Trust in other users (TRU)</i> TRU_1 – I trust that the displayed goods and services on C2CSP will be available as expected	Möhlmann (2015)
$TRU_2$ – The other users of C2CSP are truthful in dealing with one another	
TRU_3 – The other users of C2CSP will not take advantage of me	
Attitude (ATT) ATT_1 – Using C2CSP to transact goods and services is a wise idea	Taylor and Todd (1995); Sands et al.
$ATT_2 - I$ like the idea of using C2CSP	(2020)
ATT_3 – Using C2CSP is meaningful	
<ul> <li>Subjective norms (SN)</li> <li>SN_1 – I use C2CSP because my close friends do that</li> <li>SN_2 – I use C2CSP because members of my family do that</li> <li>SN_3 – People who are important to me would agree if I used C2CSP</li> </ul>	Venkatesh, Thong, and Xu (2012); Herrero Crespo and Rodríguez del Bosque (2008); Cheung and To (2017)
<b>Perceived behavioral control (PBC)</b> <b>PBC_1</b> – I am able to use C2CSP	Taylor and Todd (1995)
<b>PBC_2</b> – Using C2CSP is entirely within my control	
<b>PBC_3</b> – I have the resources and the knowledge, and the ability to make use of C2CSP	
<b>Behavioral intention (BI)</b> <b>BI_1</b> – I have strong intentions to use C2CSP in the future	K. Yang and Kim (2012); Groß (2018)
<b>BI_2</b> – I'm considering using C2CSP	
<b>BI_3</b> – I will recommend C2CSP to others	

Email invitations to the survey were sent to 1,156 students enrolled in 45 bachelor's, master's, and doctoral programs at Central European University. Participation was incentivized by a price raffle which offered 13 Amazon gift cards with a total value of  $\notin$ 200 (8x $\notin$ 10, 4x $\notin$ 20, and 1x $\notin$ 40). The survey remained active for twenty days in December 2020 and January 2021 and yielded 321 responses, of which 265 were fully completed. Responses from participants identified as straightliners were excluded, which sets the final sample to 248 valid observations (Table 6).

The sample (N = 248) meets the minimum size requirements as confirmed by different methods. First, an a priori analysis was performed before the survey distribution using G\*Power 3.1.9.7 software (Faul et al. 2009). Setting the effect size to a moderate level of  $f^2 = 0.15$ , Type-I error probability to  $\alpha = 0.05$ , power to 80% as recommended by Cohen (1988), and the number of predictors to 8, i.e., the total arrows pointing to the main dependent variable of the study (Figure 6), the resulting minimum sample size was 109. Our final sample provides therefore a statistical power at an acceptable level. Second, several researchers recommend a sample-to-item of not less than 5-to-1, meaning one item needs five respondents. The model has 36 items and requires, therefore, at least 180 respondents (Gorsuch 1983; Suhr 2006). Third, the sample also fits the stricter and generally adopted guidelines of Hair et al. (2018), who prefer a ratio of 15 – 20 respondents per independent variable, setting the minimum size to 165 – 220 respondents. The sample size 248 is therefore adequate for the purpose of the study.

The response rate was 27.8%, with a completion rate of 82.5%, which we consider satisfactory considering the context of the COVID-19 pandemic during which the survey was performed. In fact, all university programs had switched to online courses before the survey was distributed,

which increased the burden on students' email boxes. Furthermore, the yielded response rate falls into the acceptable range of 25-30% reported by Kittleson (1995) for most e-mail surveys without follow-up e-mail. Finally, all respondents stated that they carefully read the introduction and understood the definition of C2CSP.

# Table 6

		Frequency	Percentage
Gender	Female	141	56.9%
	Male	107	43.1%
Age	18-25	96	38.7%
	26-33	127	51.2%
	34-40	25	10.1%
Education level	BA	9	3.6%
	MA	170	68.6%
	PhD	69	27.8%
Net household Income	€499 or less	47	19.0%
	€500 to €999	50	20.2%
	€1,000 to €1,499	69	27.8%
	€1,500 to €1,999	27	10.9%
	€2,000 to €2,499	22	8.9%
	€2,500 to €2,999	12	4.8%
	€3,000 to €4,999	15	6.0%
	€5,000 or more	6	2.4%
Continent	Europe	164	66.1%
	Asia	43	17.3%
	America	31	12.6%
	Africa	9	3.6%
	Australia	1	0.4%
Previous use of C2CSP	Yes	238	96%
	No	10	4%

Demographic characteristics of survey respondents (N = 248)

Experience in using C2CSP	perience in using C2CSP < 1 month		
	1 to 3 months	13	5.2%
	4 to 6 months	8	3.2%
	6 to 12 months	10	4.0%
	1 to 2 years	43	17.3%
	More than 2 years	157	63.3%

This study focuses on young users following findings in literature defining this consumer category as the most important and influential on the use of sharing economy services (Hwang and Griffiths 2017; Mittendorf 2018; Godelnik 2017; PricewaterhouseCoopers 2015). Age ranges of 26-40 for generation Y and 11-25 for generation Z were used following McCrindle and Wolfinger (2009). The sample consists of a very diverse pool of graduate and undergraduate students from 58 countries and studying in 45 different programs. Participants are gender balanced (56.9% female and 43.1% male) with age ranging from 18 to 40 years and mean and median of 27 years. C2CSP usage frequencies show the popularity of transportation and accommodation platforms among participants (Table 7).

# Table 7

C2CSP Category	Never	Less than once a year	Around once a year	Several times a year	Around once a month	Several times a month	Every week
Transportation	29	24	34	62	46	28	25
	(11.7%)	(09.7%)	(13.7%)	(25.0%)	(18.5%)	(11.3%)	(10.1%)
Accommodation	31	41	73	89	9	5	0
	(12.5%)	(16.5%)	(29.4%)	(35.9%)	(03.6%)	(02.0%)	(00.0%)
Renting	136	39	31	33	4	3	2
Services	(54.8%)	(15.7%)	(12.5%)	(13.3%)	(01.6%)	(01.2%)	(00.8%)

C2CSP usage frequencies (N = 248)

Neighborhood	190	14	19	11	7	5	2
	(76.6%)	(05.6%)	(07.7%)	(04.4%)	(02.8%)	(02.0%)	(00.8%)
Peer-to-Peer	201	6	8	15	5	10	3
Money Lending	(81.0%)	(02.4%)	(03.2%)	(06.0%)	(02.0%)	(04.0%)	(01.2%)

# 4.4 Data analysis

A variance-based Partial Least Squares–Structural Equation Modeling (PLS-SEM) technique was applied to analyze the data using SmartPLS 3 software (Ringle, Wende, and Becker 2015). PLS-SEM combines principal component analysis and regression analysis to investigate complex conceptual models with multiple constructs and paths. PLS-SEM was preferred over covariancebased methods (CB-SEM) for its appropriateness for relatively small sample sizes and complex models with multiple constructs and paths (Cassel, Hackl, and Westlund 1999; Chin 1998; Hair, Hult, Ringle, and Sarstedt 2017). PLS-SEM is also preferable when the research aim is to develop theories and explain key target constructs (Hair et al. 2017; Rigdon 2012).

# Table 8

Evaluation process of PLS-SEM results

Step 1: Evaluation of the	e Measurement Model
Case a: Reflective Measurement Model	Case b: Formative Measurement Model
1- Internal consistency (Cronbach's	1- Convergent validity
alpha, composite reliability)	2- Collinearity between indicators
2- Convergent validity (indicator	3- Significance and relevance of outer
reliability, average variance extracted)	weights
3- Discriminant validity	

- 4- Coefficients of determination (R<sup>2</sup>)
- 5- Predictive relevance (Q<sup>2</sup>)
- 6- Size and significance of path coefficients
- 7-  $f^2$  effect sizes
- 8-  $q^2$  effect sizes

Note. Adapted from Hair et al. (2017)

The model is composed of two parts: (1) a measurement model (also called the outer model), which describes how latent variables (i.e., constructs) are connected to measures (or indicators), and (2) a structural model (also called inner model), which displays the relationships between latent variables. The evaluation process of PLS-SEM results follows two steps (Table 8). It starts with the assessment of the measurement model, followed by the evaluation of the structural model (Jörg Henseler, Ringle, and Sinkovics 2009).

#### 4.4.1 Measurement model evaluation

The goal of measurement model evaluation is to ensure the reliability and validity of the measuring instrument. As the model is composed only of reflective indicators (i.e., causal arrows going from latent variables to observed measures), consistent PLS algorithm was used, following Dijkstra and Schermelleh-Engel (2014) and Dijkstra and Henseler (2015), with 5,000 subsamples and stop criterion of seven (Hair et al. 2017).

During measurement model evaluation, four items (PU\_1, PU\_2, SN\_1, and SN\_2) were removed due to low factor loadings (<0.600) (Hair et al. 2017). All remaining items had loadings higher than 0.600 and were, thus, retained. The results show that all items are interrelated and

measure the similar latent constructs to which they are connected. The loadings and crossloadings of all measurement items are provided in Appendix B. Cronbach's alpha and composite reliability (CR) were used to test the constructs' reliability. As displayed in Table 9, both measures were higher than the recommended value of 0.700 for all constructs (Hair et al. 2017), supporting the model's internal consistency. The average variance extracted (AVE) for all constructs was above the threshold of 0.500, supporting the convergent validity of the model (Chin 1998; Hair et al. 2017).

# Table 9

# Measurement model results

Construct	Indicator	Loading	Са	CR	AVE
Perceived usefulness	PU_3	1.000	1.000	1.000	1.000
Perceived enjoyment	ENJ_1	0.797	0.845	0.845	0.646
	ENJ_2	0.814			
	ENJ_3	0.799			
Financial benefit	FIN_1	0.606	0.852	0.847	0.655
	FIN_2	0.927			
	FIN_3	0.859			
Social experience	SOC_1	0.802	0.845	0.841	0.641
	SOC_2	0.681			
	SOC_3	0.903			
Perceived environmental impact	ENV_1	0.935	0.923	0.922	0.799
	ENV_2	0.859			

	ENV_3	0.886			
Familiarity with C2CSP	FAM_1	0.814	0.909	0.909	0.771
	FAM_2	0.878			
	FAM_3	0.937			
Structural assurance	STA_1	0.761	0.883	0.883	0.717
	STA_2	0.881			
	STA_3	0.891			
Trust in other users	TRU_1	0.825	0.815	0.815	0.595
	TRU_2	0.769			
	TRU_3	0.717			
Attitude toward C2CSP	ATT_1	0.797	0.849	0.850	0.653
	ATT_2	0.842			
	ATT_3	0.785			
Subjective norms	SN_3	1.000	1.000	1.000	1.000
Perceived behavioral control	PBC_1	0.788	0.782	0.785	0.552
	PBC_2	0.619			
	PBC_3	0.808			
Behavioral intention to use C2CSP	BI_1	0.789	0.821	0.824	0.612
	BI_2	0.672			
	BI_3	0.873			

Note.  $C\alpha$  = Cronbach's  $\alpha$ ; CR = Composite reliability; AVE = Average variance extracted

Discriminant validity was assessed using the Fornell-Larcker criterion. For instance, the square root of the AVE of each construct should be larger than the correlation loadings with the other constructs (Fornell and Larcker 1981; Hair et al. 2017; Henseler et al. 2009). The findings satisfy

this criterion for each variable, as shown in Table 10, and demonstrate that the constructs used in this study are independent of each other.

Discriminant validity was also examined using the more rigorous heterotrait–monotrait (HTMT) ratios method, following Henseler et al.'s (2015) recommendations. Results show values below the threshold of 0.850 (Vinzi, Chin, Henseler, Wang 2010) for all the HTMT ratios, suggesting discriminant validity of the model.

# Table 10

# Fornell-Larcker criterion analysis

	PU	ENJ	FIN	ENV	SOC	FAM	STA	TRU	ATT	SN	PBC	BI
PU	1.000											
ENJ	0.492	0.804										
FIN	0.344	0.273	0.809									
ENV	0.189	0.458	0.364	0.894								
SOC	0.172	0.556	0.221	0.509	0.801							
FAM	0.264	0.220	0.167	0.046	0.063	0.878						
STA	0.327	0.376	0.171	0.225	0.198	0.226	0.847					
TRU	0.235	0.324	0.304	0.180	0.256	0.196	0.622	0.771				
ATT	0.406	0.630	0.343	0.619	0.541	0.233	0.438	0.468	0.808			
SN	0.061	0.192	0.069	0.092	0.111	0.153	0.044	0.103	0.107	1.000		
PBC	0.355	0.280	0.286	0.189	0.043	0.474	0.332	0.363	0.430	0.122	0.743	
BI	0.461	0.532	0.428	0.404	0.278	0.463	0.378	0.315	0.673	0.232	0.585	0.783

Note. The square roots of AVE on diagonal; factor correlations off diagonal

Further, Standardized Root Mean Square Residual (SRMR) assessed the model's goodness of fit. SRMR values of 0.041 in the saturated model and 0.058 in the estimated model are well below the limits of 0.10 and 0.80, respectively, hence the good fit of the model (Henseler et al. 2016; Hu and Bentler 1998).

### 4.4.2 Common method variance bias

Three methods were applied to assess common method variance bias (CMV), and all indicate that CMV is not of a major concern in this study. First, Harman's single-factor test was performed by applying an unrotated principal component analysis on the latent variables of the model. The resulting first factor accounted for 24.50% of the total variance, which is below the threshold of 50% (Podsakoff, MacKenzie, and Lee 2003). Second, the correlation matrix of the investigated variables (Appendix C) revealed that all values were below the cut-off of 0.90 (Bagozzi, Yi, and Phillips 1991; Pavlou, Liang, and Xue 2007). Third, the full collinearity test with a consistent PLS algorithm revealed that all inner variance inflation factors (VIF) were equal to or lower than the limit value of 3.3 (Kock 2015).

### 4.4.3 Non-response bias

Finally, non-response bias was assessed following the extrapolation method proposed by Armstrong and Overton (1977). Of the total 248 final sample, 181 (73%) participants who responded in the first two days of each distribution phase were marked as "early respondents", while the remaining 67 (27%) participants who responded later than two days of each period were labeled as "late respondents". Levene's test for homogeneity of variances revealed no significant differences between the means of the two groups for each variable (p > 0.05), which attests to the absence of non-response bias in the dataset (Armstrong and Overton 1977).

# 4.4.4 Structural model evaluation

The structural model reflects the paths hypothesized in the research framework and displays data permitting assessment of the relationship between latent variables. The structural model is assessed based on the coefficient of determination  $R^2$ , Stone-Geisser's  $Q^2$ , and the significance of path values  $f^2$  (Table 11). Statistical significance of the research framework was obtained using a bootstrapping procedure based on analyzing 5,000 subsamples of the dataset at a 0.05 significance level.

The goodness of the model is determined by the strength of each structural path reflected in  $R^2$  values for the dependent variables (Hair et al. 2017), namely attitude toward C2CSP (ATT), behavioral intention to use C2CSP (BI), trust in other users (TRU), and perceived behavioral control (PBC). The model provides strong explanations of the variance of the behavioral intention to use C2CSP (64.6%) and attitude toward C2CSP (63.3%). On the other hand, the coefficients of determination of TRU and PBC display moderate values of respectively 0.387 and 0.300 (Table 11). Furthermore, the predictive accuracy of the theoretical framework was assessed in SmartPLS by conducting a blindfolding analysis. As a result, all  $Q^2$  values are greater than 0 ( $Q^2_{ATT} = 0.370$ ,  $Q^2_{BI} = 0.337$ ,  $Q^2_{TRU} = 0.201$ , and  $Q^2_{PBC} = 0.140$ ) indicating that the model is able to predict the four dependent variables (Hair et al. 2017; Geisser 1974).

Perceived environmental positive impact ( $\beta = 0.377$ , p < 0.001), perceived enjoyment ( $\beta = 0.217$ , p = 0.020), and trust in other users ( $\beta = 0.225$ , p = 0.021) all show significant positive effect on attitude toward C2CSP. Therefore, H4, H2, and H8a are supported. The analysis returned a medium effect size for perceived environmental positive impact (0.243) and a small effect size for both perceived enjoyment (0.062) and trust in other users (0.076) (Cohen 1988). On the other hand, perceived usefulness ( $\beta = 0.120$ , p = 0.067), financial benefit ( $\beta = -0.015$ , p = 0.844), social experience ( $\beta = 0.138$ , p = 0.107), familiarity with C2CSP ( $\beta = 0.074$ , p = 0.229), and structural assurance ( $\beta = 0.051$ , p = 0.572) have no significant effect on attitude toward C2CSP due to *p*-values above 0.05. Therefore, hypotheses H1, H3a, H5, H6a, and H7a were rejected (Table 11).

### Table 11

#### Structural model analysis results

	β	SD	<i>t</i> - stat.	<i>p</i> -value	2.5 %	97.5 %	$f^2$	$R^2$	$Q^2$
DV: Attitude toward C2CSP								0.633	0.370
H1: PU→ATT	0.120	0.065	1.831	0.067	-0.006	0.250	0.026		
H2: ENJ→ATT	0.217	0.093	2.334	0.020	0.038	0.339	0.062		
H3a: FIN→ATT	-0.015	0.076	0.197	0.844	-0.160	0.136	0.000		
H4: ENV→ATT	0.377	0.069	5.469	0.000	0.241	0.507	0.243		
H5: SOC→ATT	0.138	0.086	1.611	0.107	-0.036	0.302	0.031		
Нба: FAM→ATT	0.074	0.061	1.203	0.229	-0.043	0.200	0.013		
H7a: STA→ATT	0.051	0.090	0.565	0.572	-0.131	0.226	0.004		
H8a: TRU→ATT	0.225	0.097	2.351	0.021	0.034	0.414	0.076		

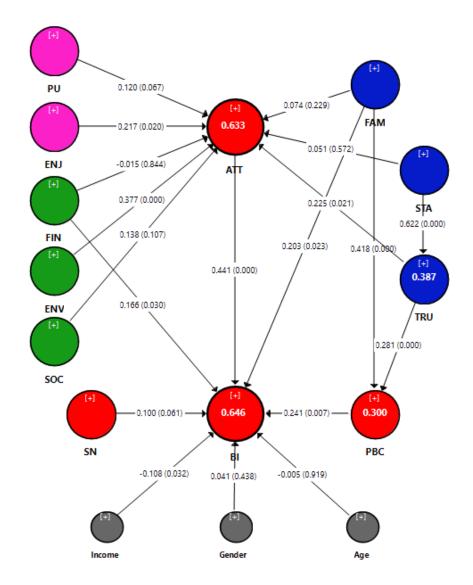
DV: Behavioral intention to use C2CSP								0.646	0.335
H3b: FIN→BI	0.166	0.076	2.171	0.030	0.018	0.316	0.066		
H6b: FAM→BI	0.203	0.089	2.279	0.023	0.012	0.371	0.088		
H9: ATT→BI	0.441	0.076	5.819	0.000	0.292	0.591	0.404		
H10: SN→BI	0.100	0.053	1.875	0.061	0.001	0.210	0.025		
H11: PBC→BI	0.241	0.089	2.701	0.007	0.072	0.421	0.104		
DV: Trust in other users								0.387	0.201
H7b: STA→TRU	0.622	0.053	11.644	0.000	0.508	0.712	0.632		
DV: Perceived behavioral control								0.300	0.140
Н6с: FAM→PBC	0.418	0.077	5.463	0.000	0.257	0.558	0.241		
H8b: TRU→PBC	0.281	0.067	4.174	0.000	0.146	0.409	0.109		

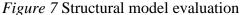
Note. DV = dependent variable, SD = standard deviation

Further investigation showed that all predictors of behavioral intention to use C2CSP have a significant and positive effect with ATT ( $\beta = 0.441$ , p < 0.001) having the highest effect size of 0.404, followed by perceived behavioral control ( $\beta = 0.241$ , p = 0.007), familiarity with C2CSP ( $\beta = 0.203$ , p = 0.023), and financial benefit ( $\beta = 0.166$ , p = 0.030). Thus, hypotheses H3b, H6b, H9, and H11 are supported. The analysis shows a *p*-value of 0.061 (> 0.05) for SN $\rightarrow$ BI, which suggests the rejection of H10. However, as the corresponding bias corrected confidence interval [0.001, 0.210] does not contain zero, H10 has been accepted (Table 8).

Results also show a positive and significant impact of structural assurance on trust in other users ( $\beta = 0.622, p < 0.001$ ) with an effect size of 0.632. Both familiarity with C2CSP ( $\beta = 0.418, p < 0.001$ )

0.001) and trust in other users ( $\beta = 0.281$ , p < 0.001) have significant and positive effects on perceived behavioral control with effect sizes respectively of 0.241 (medium effect) and 0.109 (low effect). Consequently, hypotheses H7b, H6c, and H8b are supported. Finally, only income ( $\beta = -0.108$ , p = 0.032) among control variables shows a significant and negative effect on BI. Graphical results of bootstrapping are presented in Figure 7.





Note. Consistent complete bootstrapping algorithm with 5000 subsamples; bias-corrected and accelerated bootstrap; significance level of 0.05;  $R^2$  values in the circles;  $\beta$  values on the paths; *p*-values between parentheses.

### 4.4.5 Mediation analysis

In many cases, cause-effect relationships in PLS-SEM are not occurring solely and directly between exogenous and endogenous variables. Mediation is the situation when a third variable (or a mediator) intervenes between two related variables and governs the nature of their relationship. Verifying the existence of mediation in a model and its analysis provide a better understanding of the mechanisms underlying the causal relationships (Hair et al. 2017). To check for mediation in the conceptual model, the approach proposed by Zhao, Lynch, and Chen (2010) has been followed (Appendix D). For this purpose, the path coefficients of indirect and total effects of the model's constructs have been checked after bootstrapping algorithm with 5000 subsamples using SmartPLS3. Table 12 displays the total effects of motives (i.e., the sum of direct and indirect effects) on the behavioral intention to use C2CSP. Results reveal a predominance of trust-building motives in shaping the use of C2CSP with a cumulative total effect of 0.630, followed by attitude (0.440), sustainability motives (0.325), and enjoyment (0.096) (Table 9). Overall, attitude, familiarity with C2CSP, trust in other users, perceived environmental impact, financial benefit, structural assurance, and enjoyment are the most important factors influencing the behavioral intention to use C2CSP.

Results of bootstrapping show also a significant indirect effect of FAM  $\rightarrow$  PBC  $\rightarrow$  BI ( $\beta = 0.101, p = 0.020^*$ ), suggesting a complementary partial mediation of PBC in the relationship between FAM and BI (Hair et al. 2017). Therefore, the effect of FAM on the use of C2CSP is both direct and indirect through PBC.

# Table 12

Category	Path	Total effect	SD
Trust-building	$FAM \rightarrow BI$	0.337***	0.067
	$TRU \rightarrow BI$	0.167**	0.051
	$STA \rightarrow BI$	0.126***	0.031
	Cumulative total effect	0.630	
Attitude	ATT→ BI	0.440***	0.075
Sustainability	$ENV \rightarrow BI$	0.166***	0.041
	$FIN \rightarrow BI$	0.159*	0.078
	Cumulative total effect	0.325	
Hedonic	$ENJ \rightarrow BI$	0.096*	0.047
Control	Income $\rightarrow$ BI	-0.108*	0.050

### Total effects on the Behavioral Intention to use C2CSP, by category

Another interesting finding in the mediation analysis is the complete mediation of TRU between STA and ATT, as the indirect effect STA  $\rightarrow$  TRU  $\rightarrow$  ATT was found to be significant ( $\beta = 0.140$ ,  $p = 0.026^*$ ), while the direct effect STA  $\rightarrow$  ATT is nonsignificant. We conclude that although structural assurance has no significant direct effect on attitude, it still has a contribution that passes indirectly through trust in other users.

### 4.4.6 Importance-Performance Map Analysis

To clarify the differences between the motives affecting behavioral intention to use C2CSP, we used Importance-Performance Map Analysis (IPMA), an advanced approach in PLS-SEM that sheds more light on the findings (Hair et al. 2017). In addition to path coefficients measurement (importance), IPMA plots a new dimension, called *performance*, by calculating the average values of the latent constructs scores rescaled in a range of 0 - 100%. IPMA helps identify and

improve those predecessors of the target construct that show a high importance value but a lowperformance value on the map (Hair et al., 2014).

Following (Streukens, Leroi-Werelds, and Willems 2017), the IPMA map was divided into four quadrants using the mean values of importance and performance. According to Ringle and Sarstedt (2016), managers of sharing platforms should give priority to factors located in Quadrant 1 (i.e., the lower right zone), followed by Quadrant 2 (i.e., the upper right zone), then Quadrant 3 (i.e., the lower left zone), and, finally, Quadrant 4 factors (i.e., the upper left zone). By doing so, they seek to improve important and low performing constructs first.

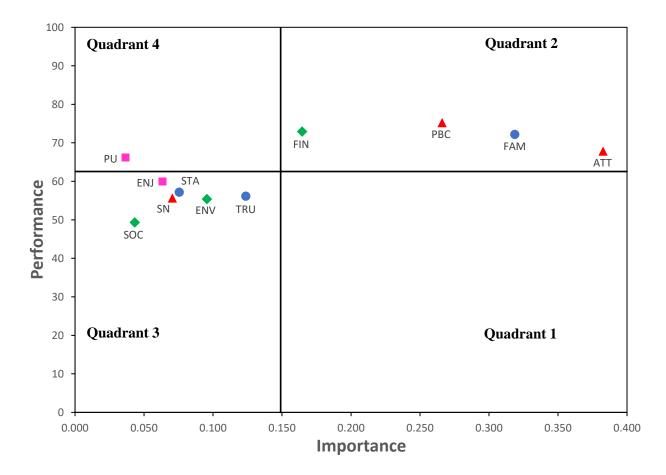


Figure 8 Importance-Performance Map

The IPMA for behavioral intention to use C2CSP is presented in Figure 8. As no constructs fall within Quadrant 1, practitioners should focus first on factors located in Quadrant 2, which represent constructs doing well in shaping behavioral intention to use C2CSP. For instance, priority should be given to attitude toward C2CSP, which has the highest importance on the map (0.383) and performance of 67.847, followed by familiarity (0.319, 72.180), perceived behavioral control (0.266, 75.238), and financial benefit (0.165, 72.905). For instance, a one-unit increase in the performance of attitude toward C2CSP would increase the performance of behavioral intention to use C2CSP by 0.383. To do this, practitioners should focus on the most important predecessors of attitude toward C2CSP, as it was shown in the structural model analysis, namely perceived positive environmental impact ( $\beta = 0.377^{***}$ ), trust in other users ( $\beta = 0.225^{*}$ ), and enjoyment ( $\beta = 0.217^{*}$ ).

It is essential to highlight the particularity of FAM in Quadrant 2 as it is the only variable among the four located in this quadrant, exerting a direct and significant effect on another variable from the group (FAM $\rightarrow$ PBC:  $\beta = 0.418$  \*\*\*). In other words, improving the performance of familiarity leads to a better performance score of perceived behavioral control, which, in turn, enhances the performance of BI. If resources are available, managers of sharing platforms might consider improving Quadrant 3 constructs, i.e., TRU, followed by ENV. Finally, there is no evident interest in improving perceived usefulness as respondents seem to consider C2CSP to be useful enough (Quadrant 4).

# 4.5 Discussion and implications

This study contributes to consumer behavior research in significant ways. First, a validated model with survey-based data explains the role and impact of trust-related constructs on the attitude toward and behavioral intention to use C2CSP. The data set represents a diverse sample of respondents from 58 countries studying in 45 graduate and undergraduate programs covering many disciplines. This level of diversity is unprecedented in sharing economy and digital trust research to date.

Second, the model offers empirical validation of TPB in the context of the sharing economy as all paths between its constructs were statistically significant. The study also extends TPB with the inclusion of perceived enjoyment, thus confirming the importance of hedonic factors as a motive for using sharing platforms.

Third, the research contributes to the sustainability literature by examining components of the sustainability triad as predictors of C2CSP participation. Results indicate important, though different, effects of perceived positive environmental impact and financial benefit, respectively, on attitude toward C2CSP and behavioral intention to use C2CSP. At the same time, social experience showed no significant effect in the study.

The model includes a compound of three constructs related to the formation of trust in C2CSP: familiarity, trust in other users, and structural assurance. The study shows the importance of this compound in defining the use of C2CSP. Two dimensions of trust have been used in the study: structural assurance, referring to institutional trust, and trust in other users representing

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interpersonal trust. Results show that the former positively affects the latter, which is in line with prior research (McKnight, Choudhury, and Kacmar 2002). Interpersonal trust proved important in affecting C2CSP usage by influencing the attitude toward these services, with a higher effect than institutional trust.

Moreover, although its direct effect on attitude was nonsignificant, institutional trust is also essential as it affects usage indirectly through interpersonal trust. This finding may be explained by the fact that experienced users, which is the case in this study, might take the necessary institutional safeguards on C2CSP for granted due to repeated use and transactions (D. L. Shapiro, Sheppard, and Cheraskin 1992). Therefore, we claim that in C2CSP, both interpersonal and institutional trusts are important, although the mechanism of their influence on usage is different.

The study's findings suggest that C2CSP owners should reserve enough resources to build trust between users and trust in their platforms. We provide examples of interpersonal and institutional trust-building techniques in sharing platforms that have been studied or reported in academic research (Table 13).

CEU eTD Collection

Our study also reveals the salient role of familiarity in shaping behavioral intention to use C2CSP (Figure 8), only surpassed by attitude toward C2CSP. Indeed, familiarity acts like a shortcut in the adoption of C2CSP and complements the action of institutional and interpersonal trust. The results of this study support Möhlmann (2015), who found familiarity to be a predecessor to the likelihood of choosing a SEP again. Our findings also provide empirical

evidence of Luhmann (1979), who theorized that trust and familiarity act together to reduce complexity.

Inexperienced users may find C2CSP complex. They must deal with several processes, e.g., creating an account on the platform, understanding the platform's jargon, searching for the right good or service, accessing resource provider's information, paying transaction fees, etc. Therefore, it is beneficial for C2CSP owners to ease the formation of familiarity with their platforms. Familiarity can be used by C2CSP designers as a strategic alternative to trust, especially in early-stage development when critical mass is needed for the platform to succeed. As trust takes more time to build, it would be efficient to work on a satisfactory exposure of C2CSP, e.g., through social media, by educating customers and making processes easy to understand and use.

# Table 13

Selected trust-building techniques in sharing platforms

Interpersonal trust-building techniques	References
Reputation system	Abrahao et al. (2017)
Reviews	Xu (2020)
Chat and communication between users within the platform	Bhappu and Schultze (2018); Thierer et
	al. (2016)
Self-regulation among users rewarded with a credit-scoring	Lan et al. (2017)
system	
Users rating drivers	Zhu, Li, and Zhou (2018)
	Zhu et al. (2018)

Reward-punishment system for drivers infringing internal	
regulations	Zloteanu et al. (2018)
Trust and reputation related information available in the	
user' profile	Bhappu and Schultze (2018); Xie and
Award badges for desirable behavior	Mao (2017)
Super-host badge	Mikołajewska-Zając (2018)
Institutional trust-building techniques	References
Institutional trust-building techniques Secure payment systems	References         Barnes and Mattsson (2017)
Secure payment systems	Barnes and Mattsson (2017)
Secure payment systems	Barnes and Mattsson (2017) Hawlitschek, Teubner, and Gimpel

Note. Adapted from Räisänen, Ojala, and Tuovinen (2021)

It is also recommended to C2CSP owners to use processes generally known by users. For instance, adopting website and application organization, design, and layout used in the mainstream C2CSP effectively increases familiarity among users. Moreover, as familiarity is closely linked to displayed information, C2CSP owners should use visuals and easy-to-read text, especially in those sections related to trust. Storytelling techniques are widely used in web design and content creation as they ease the assimilation of information and contribute to the emotional connection between users and brands (Polyorat, Alden, and Kim 2007). Apart from their technical performance effects, flat and minimalist designs are preferred web design techniques that C2CSP managers should explore to increase users' familiarity with platforms.

Regarding environmental considerations, results are in line with Hamari et al. (2016) and Hawlitschek et al. (2018), but in contrast to Möhlmann (2015) and Tussyadiah (2016). The sharing economy has long been considered beneficial to the environment (Belk 2010; Botsman and Rogers 2010). For instance, most sharing platforms promote their solutions using sustainability jargon (Voytenko Palgan, Zvolska, and Mont 2017) alongside the media, policymakers, and academics (Hassanli, Small, and Darcy 2019; Martin 2016). However, following the emergence of Uber and Airbnb, several scholars have started questioning the sustainable nature of the sharing economy. For example, Airbnb has been identified as a threat to the economic sustainability of the hotel industry (Akbar and Tracogna 2018; Varma, Jukic, Pestek, Shultz, and Nestorov 2016). Further criticism points out that the sharing economy operates in a context of unregulated economic practices, leading to threatening labor rights and occupation of public spaces (Vith, Oberg, Höllerer, and Meyer 2019). several researchers pointed out some negative impacts of the sharing economy on the environment (Kathan, Matzler, and Veider 2016; Muñoz and Cohen 2018). This study's results support the positive view of the impact of sharing economy on the environment. It is therefore recommended to C2CSP owners to explicitly reveal the environmental facets of their platforms by informing users how their solutions are more sustainable means of consumption relative to traditional ownershipconsumption methods.

As expected, perceived financial benefits from the use of C2CSP are confirmed. This result corroborates previous findings in the literature (Bardhi and Eckhardt 2012; Hamari et al. 2016; Hawlitschek et al. 2018; Lamberton and Rose 2012; Nisar et al. 2019). By contrast, perceived usefulness was not found as a statistically significant explanation for the adoption of C2CSP.

Most research works based on the Technology Acceptance Model (Davis 1986) highlighted the direct impact of usefulness on intention (Klopping and McKinney 2004; Möhlmann 2015; Venkatesh and Davis 2000; Venkatesh 2000). However, recent studies have shown the salient role of hedonic factors in the sharing economy. For instance, Tsou et al. (2019) found that the hedonic value (i.e., joy and fun) of services offered by an electric scooter sharing company in Singapore had a much stronger effect on the intention to use the services than their utilitarian value (i.e., usefulness and practicality). Lee and Kim (2018) have also shown how hedonic value positively impacts user loyalty to Airbnb, while utilitarian value has no significant effect on loyalty to Airbnb. The findings in the present study are aligned with this latter view, as it demonstrated that enjoyment is one of the predictors of user attitude to use C2CSP, in line with (McMillan, Hwang, and Lee 2003; Richard 2005; Richard and Chebat 2016; Sung, Kim, and Lee 2018). Sharing platforms can include narratives that communicate joy, fun, and entertainment to users. C2CSP designers may adopt techniques like gamification as it has been successfully used in peer-to-peer rental accommodation (Liang et al. 2017). The use of flow methodologies (Csikszentmihalyi 1990) that address users' pleasure and emotions for a better attitude toward platforms could also be a valid path to explore.

Finally, this research study also showed a significant and negative income effect on the behavioral intention to use C2CSP. In other words, as income increases, users tend not to choose C2CSP as a mode of transportation. This finding may be explained by the theory of status consumption (Veblen 1899) which stipulates that people signal their wealth, social status, power, and esteem by consuming conspicuous products. In the same vein, (Simmel 1904) adds that, in conspicuous consumption, each class attempts to imitate the category above. Therefore, an

increase in users' income would lead them to prefer more expensive services like booking a room in a hotel or taking a taxi rather than using Airbnb's or Uber's services. Furthermore, wealthy users may privilege classic and more regulated modes of consumption to avoid risky transactions with strangers, like in C2CSP.

### 4.6 Study limitations and directions for future research

There are some limitations to this study. First, while the sample population used in this study has an unprecedented diversity of cultural backgrounds and a large spectrum of fields of study, the dataset is nevertheless restricted to a pool of graduate and undergraduate students. Future research covering other demographic segments of C2CSP users may contribute to the replicability of the results.

Second, the study focused on TPB in the design of the theoretical framework. While TPB is of common use in consumer behavior research and has performed well in modeling behavior and predicting user intentions, a strand in the extant literature criticizes this theory. For example, some authors question TPB's focus on rational reasoning that neglects the effects of emotions, like fear or mood, and previous experiences on user behavior (Sheeran, Gollwitzer, and Bargh 2012; Sniehotta, Presseau, and Araújo-Soares 2014).

Third, the study did not include several economic and societal aspects that may be of considerable influence on the participation on C2CSP. For instance, aspects related to demand fluctuations and need for sharing services have not been considered. Further, the lack or inefficacity of regulations regarding the sharing economy, not only in developing societies, but

also in developed countries, may create negative attitudes about the sharing economy among a certain category of people. Therefore, the findings should be interpreted taking into consideration these limitations.

Forth, this study has a design limitation because it uses cross-sectional data. It should be noted that cross-sectional studies only provide understanding of a phenomenon in a specific point of time. Longitudinal research is therefore encouraged to expand knowledge about the motives of participation on sharing economy platforms.

Finally, the study focused on C2CSP as a more complex business model regarding the multiplicity of interactions and the importance of trust for its success. Differences between sharing business models, e.g., Uber (ride-hailing) and BlaBlaCar (ridesharing), may entail different user perceptions. Further research could also explore the replicability of the findings in other sharing business models such as business-to-consumer sharing platforms (B2CSP) or business-to-business sharing platforms (B2BSP).

### **CHAPTER 5**

# **Investigating Trust Interactions in Ridesharing<sup>1</sup>**

# **5.1 Introduction**

After having identified trust as one of the most influential motives in adopting C2C sharing platform, we focus in this chapter on examining the multiple facets of trust in the sharing economy context. More concretely, we investigate the interactions between different types and dimensions of trust and their impact on using one of the most important C2C sharing activities: ridesharing.

The growth of ridesharing solutions has caught the interest of several researchers/ and questions have been raised about the role of trust in such contexts. Prior studies have focused mainly on examining trust in ridesharing from a riders' perspective (X. Cheng, Su, and Yang 2020) and relatively little is known about the interactions of trusting beliefs (Mayer et al. 1995) in the ridesharing context. The outbreak and spread of the COVID-19 pandemic and the adoption of lockdowns and social distancing measures have considerably reduced ridesharing usage in many parts of the world. These developments heightened the need to understand the effects of COVID-19 risk perceptions among ridesharing users.

<sup>&</sup>lt;sup>1</sup> This study was presented at the International Society for Professional Innovation Management Conference (ISPIM), Valencia, Spain, 29 November – 1 December 2021, under the title "Riders' and Drivers' Trust in Ride Sharing Platforms during Covid-19 Pandemic"

Considering the complexity of trust as a concept, and the need for updated research in ridesharing in light of the COVID-19 pandemic, this study seeks to answer the following research questions:

RQ3: How do trust interactions differ between riders and drivers on ridesharing platforms? RQ4: What types and dimensions of trust are most determinants in shaping usage of ridesharing platforms?

*RQ5:* To what extent do COVID-19 risk perceptions affect user participation on ridesharing platforms?

To explore these research questions, we first develop a hierarchical model drawn from the extant literature and propose corresponding hypotheses. We test the latter using PLS-SEM based on data collected from an online survey. Section 2 presents our literature review, followed by the theoretical framework and the hypotheses in section 3. Sections 4 and 5 describe the methodology, the data analysis, and the discussion of findings. Lastly in section 6, we conclude with theoretical and practical implications and limitations and suggestions for future research.

### **5.2 Literature review**

# 5.2.1 The ridesharing industry

Ridesharing is a transportation practice where owners of private vehicles offer paid ride services to the public (Ma et al. 2019). In ridesharing, drivers pool travelers into common trips and make stops along the route to drop off passengers and pick other ones (Chan and Shaheen 2012). French-owned BlaBlaCar, now a global company serving 22 countries in the world, is one of the major firms in this industry. Ridesharing should not be confused with other shared mobility solutions like ride-hailing and carsharing. For instance, in ride-hailing, drivers are engaged by customers for private rides using online platforms. Common ride-hailing examples include Uber, Lyft, DiDi, and Ola. Usually, ride-hailing drivers do not necessarily go in the direction of riders and have, therefore, to adjust their routes to meet riders' needs. However, several ride-hailing companies also provide ridesharing services, e.g., Uber's UberX Share (formerly UberPool) and Lyft's Lyft Shared (formerly Lyft Line).

On the other hand, Carsharing refers to short-term rentals of vehicles like in the case of Zipcar. We have noted that the terms "ridesharing" and "ride-hailing" or "e-hailing" were sometimes used interchangeably in the literature (Aw et al. 2019; Fauzi and Sheng 2020; C. K. H. Lee and Wong 2021; Zhu, Li, and Zhou 2018). Also, we noticed a lack of charts or tables that make a clear distinction between the different categories of shared mobility services and explain their main characteristics. Therefore, we propose Figure 9 to tackle this issue.

On a ridesharing mobile application or website such as BlaBlaCar, customers input their destination and date and search for available seats advertised by registered drivers. The platform then displays the price of each ride and provide several data about the drivers, like their name, photo, rating, reviews, number of completed rides, etc. Once a driver accepts the query, both parties exchange necessary information, e.g., time and pick-up location, using the platform's communication system. When the trip is completed, customers pay the previously indicated price, including a service fee to the platform. Other services like UberX Shared adopt a different method and have a complete control over the matching process through their algorithm, and both

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riders and drivers have access to their mutual information (names, photos, plate number) only when the car is approaching the agreed pick-up location.

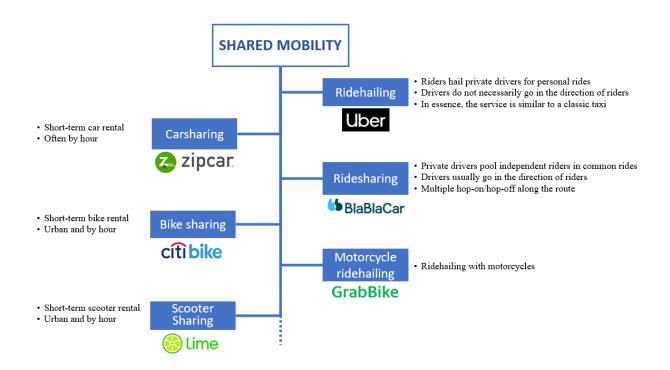


Figure 9 Main shared mobility categories with platforms examples

Ridesharing has witnessed fast growth in the last two decades. Several platforms are active in the five continents, with major players being Uber, Lyft, DiDi, Ola, and BlaBlaCar. The service is attractive due to the low rates adopted compared with licensed taxis, the ease of use of the applications making rides just a screen touch away, and the flexibility of the operations (Jiang and Lau 2021). However, since the outbreak and spread of the COVID-19 pandemic, the industry has had to deal with an unprecedented disruption characterized by sharp global decreases in bookings due to lockdowns and social distancing measures. For example, Uber's revenue decreased from \$US13.00 billion in 2019 to \$US11.14 billion in 2020 (Uber Technologies Inc. 2020) while Lyft's revenue dropped from \$US3.61 billion to \$US2.36 billion

in the same period (Lyft 2020). Likewise, only 50 million passengers traveled with BlaBlaCar globally in 2020 compared to 70 million in 2019 (BlaBlaCar 2020). Nevertheless, the ridesharing industry has recovered since the end of the first lockdown periods and particularly since the first vaccination campaigns. For instance, Uber announced on August 2, 2022, that its second quarter's "gross bookings reached an all-time high of US\$29.1 billion, up 33% year-over-year" (Uber Technologies Inc. 2022). Moreover, reports project the ridesharing market to grow from \$US76.48 billion in 2020 to \$US242.73 billion in 2028 (Fortune Business Insights 2021).

### 5.2.2 Trust in ridesharing

There is an increasing interest in studying the importance and impact of trust in ridesharing environments. However, this body of research is still in its infancy as we found only 25 studies that dealt with trust in ridesharing, and the oldest article was published in 2018 (see Table 14). Previous research has examined trust across a range of issues. A first and most dominant stream of studies focused on the effects of trust on ridesharing considering dependent variables such as the behavioral intention to use, continuance intention, willingness to share, intention to engage, as well as the discontinuance of usage intention (H.-J. Lee and Cha 2022; A. Chen, Wan, and Lu 2021; Wong, Walker, and Shaheen 2021; Raza, Asif, and Ayyub 2021; Ma et al. 2019). Other studies focused on outcomes like word of mouth (Ruiz-Alba et al. 2021; Shao et al. 2022), loyalty (Mas-Machuca et al. 2021; Hou, Cheng, and Cheng 2020), and trust in the service (Vaclavik et al. 2020).

The majority of the articles included in the literature review were conducted in Asian countries (around two-thirds), with DiDi being the most investigated platform (9 times). Only four studies

focused on the European context and were all undertaken in Western European countries. For instance, based on data collected from 501 Londoners Uber customers, Ruiz-Alba et al. (2021) showed how trust in Uber as a platform positively influences customer satisfaction. Moreover, the impact of trust on customer satisfaction was higher for older users compared to the young ones.

Similar findings were revealed by the study of Arteaga-Sánchez et al. (2020) that investigated the motivations of satisfaction and usage continuance of BlaBlaCar services based on data collected from 258 users in Spain. Results showed the highest positive effect of trust on user satisfaction compared to other motives like service quality, social value, perceived usefulness, environmental impact, and service quality. However, the direct effect of trust on usage continuance was found nonsignificant by this study.

In the third study, Mas-Machuca et al. (2021) examined the mediating role of trust between quality, satisfaction, and loyalty toward on-demand ridesharing among 429 customers in four southern European countries (France, Spain, Portugal, and Italy). The findings indicate that trust in the platform has an influence on satisfaction about drivers, i.e., the more riders trust the platform, the more likely they are to be happy with their ride trips and hence they are satisfied with the drivers. Moreover, the study highlights the impact of trust in the platform on trust in the drivers, which is in line with previous research that examined trust transfer in the context of the sharing economy (Möhlmann 2015).

Finally, Bachmann et al. (2018) investigated carpooling behavior of 161 drivers and 181 riders in Switzerland by applying a model based on TPB and the theory of normative conduct normactivation model (NAM) (Schwartz 1977). Surprisingly, findings show that attitude is not a precursor of carpooling intentions neither for riders nor for drivers. The authors explain that in a situation of infrequent behavior like carpooling, people's intention may be more likely to be affected by their personal moral values and the actions of their social environment than by attitude. Dispositional trust was the only type of trust investigated in this study and had an indirect influence on the intention to carpool through perceived behavioral control, for both drivers and riders. This means that people who tend to trust strangers in general are more inclined to use carpooling.

The riders' view is by far the dominant perspective in previous research, while only three studies examined trust in ridesharing from the drivers' view (Guo, Lin, and Li 2021; Wong, Walker, and Shaheen 2021; Cheng, Su, and Yang 2020). Although we found three studies that included both perspectives, they did not consider in their conceptual models the three types of trust as theorized in McKnight's and Chervany's typology presented in Chapter 3. For instance, in addition to Bachmann et al. (2018) discussed previously, Raza, Asif, and Ayyub (2021) examined the effects of a pool of motives, including trust, on the intention to engage in ridesharing. Based on a data collected from 220 riders and 170 drivers of Careem and Uber in Pakistan, the authors found that drivers' trust in riders was strongly associated with their intention to provide ridesharing services; a finding that is in line with Cheng et al. (2020). Contrastingly, there was no significant effect of riders' trust in drivers on the intention to use the service. Finally, Mittendorf et al.(2019) investigated trust implications on the intention to engage in Airbnb and

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Uber from customer and service provider perspectives. By analyzing data of 917 participants, the authors found that trust matters more in those sharing platforms that involve more social interaction, longer duration, and greater monetary transaction, as it is the case on Airbnb compared to Uber. Furthermore, trust in the platform was more determinant for customers than providers in their intention to engage in the sharing service.

Methods used in prior research have also been examined in the literature review. Quantitative studies based on field surveys are by far the most dominant method in studying trust in ridesharing. Two exceptions: Chen et al (2021) used an experiment of three prototype apps of ridesharing services to test the effects of two response strategies in repairing consumers' violated trust, and Cheng et al. (2020) adopted a qualitative method to analyze interviews of ridesharing drivers with the objective of understanding the effects of drivers' trust in riders on the intention to provide the shared service. Furthermore, none of the 25 studies has included all three types of trust as defined by McKnight and Chervany (2001), i.e., dispositional, institutional, and interpersonal. Also, except for the qualitative study of Cheng, Su, and Yang (2020), no prior quantitative work has examined dimensions of trust following the ability-integrity-benevolence model (Mayer, Davis, and Schoorman 1995) in the ridesharing context. Regarding data analysis techniques, the review identified SEM as the most popular with 22 that used this method out of 25 studies, 14 of which used PLS-SEM and 6 opted for CB-SEM, while two other studies used logistic and linear regressions.

Finally, the potential of hierarchical conceptual models is still underexplored in this body of research as only three studies have used such models (Chen et al. 2021; He et al. 2021; Lee et al.

2018). In hierarchical models, researchers plot "multidimensional constructs that refer to several distinct but related dimensions treated as a single theoretical concept" (Edwards 2001, 1). Several authors advocate for the use of multidimensional constructs and argue that they provide holistic representations of complex phenomena, allow researchers to link multiple predictors with related latent variables on the same level of abstraction, and increase explained variance (Hanisch, Hulin, and Roznowski 1998; Edwards 2001; Johnson et al. 2012; Wetzels, Odekerken-Schröder, and van Oppen 2009).

To conclude, the evidence presented in this section suggests interesting gaps to be addressed in this study. In fact, ridesharing platforms owners not only need to know the importance and role of trust in the usage of their services but also to unveil which type and dimension of trust have more influence on ridesharing usage, for both riders and drivers.

# Table 14

# Literature overview of trust in ridesharing

Authors	Year	Platform /	Method	Sample size /	SM		Prs	р.	Tru	ıst T	ypes		TD	DV	HM	DA
		Industry	s i e	- Country	р	np	R	D	d	i	р					
This study		Oszkár	•	380/94 Hungary		•	•	•	•	•	•		•	Intention to use	•	PLS-SEM
Lee and Cha	2022	Uber & Ola	•	253 US 266 India		•	•			•	•			Intention to use		CB-SEM
Shao <i>et al</i> .	2022	DiDi	•	270 China		•	•			•				Continuance intention Positive word of mouth		PLS-SEM
Chen et al.	2021	DiDi	• •	238/245 China		•	•			•				Continuance usage	•	PLS-SEM
Guo et al.	2021	DiDi	•	307 China		•		•		•		•		Intention to participate		PLS-SEM
He et al.	2021	DiDi	•	335 China		•	•			•				Continuance intention	•	PLS-SEM
Jiang and Lau	2021	DiDi	•	458 China		•	•			•	•			Continuance intention		CB-SEM
Mas-Machuca <i>et al.</i>	2021	Ridesharing	•	125 Spain 105 Portugal 100 Italy 99 France		•	•			•	•			Loyalty		CB-SEM
Raza et al.	2021	Uber & Careem	•	220/170 Pakistan		•	•	•			•			Intention to engage		CB-SEM
Ruiz-Alba et al.	2021	Careem	•	501 UK		•	•			•				e-Word of mouth		PLS-SEM
Tsai <i>et al</i> .	2021	Carpooling	•	409 Thailand		•	•		•	•				Intention to use		PLS-SEM
Wong et al.	2021	Shared mobility	•	226/284 US		•		•			•			Willingness to share a ride		Logistic Regression

Arteaga- Sánchez <i>et al</i> .	2020	BlaBlaCar ●	258 Spain • • •	Continuance intention	PLS-SEM
Cheng et al.	2020	Ridesharing	92 China • • •	Sharing intention	Qualitative
Hou et al.	2020	Ridesharing •	443 China • •	e-Loyalty	PLS-SEM
Shao <i>et al</i> .	2020	DiDi •	307 China • • •	Continuance intention	PLS-SEM
Vaclavik, et al.	2020	Ridesharing •	485 Brazil • • • •	Trust in the service	Linear Regression
Wu and Neill	2020	DiDi •	242 China • •	Behavioral intention	CB-SEM
Aw et al.	2019	Grab & Uber ●	280 Malaysia • • •	Continuance intention	PLS-SEM
Boateng et al.	2019	Uber •	500 Ghana • • •	Usage behavior	CB-SEM
Ma et al.	2019	DiDi 🛛 🕒	443 China • • • •	Discontinue usage intention	PLS-SEM
Mittendorf et al.	2019	Uber •	202/243/286/186	Intention to engage	CB-SEM
Shao and Yin	2019	DiDi •	307 China • • • •	Continuance intention	PLS-SEM
Amirkiaee and Evangelopoulos	2018	Ridesharing •	300 US • • •	Participation intention	PLS-SEM
Bachmann et al.	2018	Carpooling •	181/161 • • • •	Carpooling behavior	CB-SEM
Lee et al.	2018	Uber •	295 Hong Kong • • •	Intention to participate	PLS-SEM

Note. Method: s = survey = interviews, e = experiment; SM = sampling method: p = probability, np = non-probability; Prsp. = Perspective: R = riders, D = drivers; Trust Types: = dispositional, i = institutional, p = interpersonal, o = other; TD = Trust dimensions (ability-integrity-benevolence); DV = dependent variable; HM = hierarchical model; DA= data analysis method)

# 5.3 Research model and hypotheses development

# 5.3.1 Research model

This study investigates the differences between several types of trust and their effects on the intention to use or provide ridesharing services. For this reason, we adopt one of the most cited models in the trust literature: the interdisciplinary model of high-level trust (McKnight and Chervany 2001), and consider, therefore, three types of trust: dispositional, institutional, and interpersonal. Furthermore, to examine the role and importance of different dimensions of trust, we adopt the integrative model of organizational trust theorized by Mayer, Davis, and Schoorman (1995). The model proposes three dimensions that define trustees' trustworthiness: ability, integrity, and benevolence (Figure 10). *Ability* refers to the skills, knowledge, and competencies that enable a party to gain trust in a specific field. *Integrity* reflects the trustee's fairness, honesty, and openness to trustor. *Benevolence* represents the voluntary willingness of the trustee to be good to the trustor irrespective of selfish motives (Mayer, Davis, and Schoorman 1995).



Figure 10 Dimensions of trust, adapted from (Mayer et al. 1995)

COVID-19 risk perception construct is included to the model to examine the effects of the pandemic on ridesharing usage intention. Thus, the theoretical framework we advance to model trust interactions in ridesharing usage intentions integrates five latent concepts drawn from the extant literature (Figure 11). The model is designed in two views, riders' and drivers', and contains two higher-order constructs, trust in peers (riders and drivers) and trust in the platform, which enclose two lower-order components related to the dimensions of trust discussed earlier. Three other constructs complete the model: behavioral intention to use or provide ridesharing services, propensity to trust, and COVID-19 risk perception.

To account for extraneous sources of variation in ridesharing usage, we included some demographics based on findings in prior research. For instance, female consumers were found to have a fewer ridesharing continuance behavior compared to males (Chen et al. 2021). A finding that contrasts with Shao et al. (2020) who reported that female users were more likely to continue using ridesharing. Also, Acheampong et al. (2020) found that 18-39 year-olds' were more likely to use ride-hailing services. In the same vein, the adoption of ridesharing services was higher among highly-educated users and older millennials (Alemi et al. 2018). Further, Malichová et al. (2020) found that medium city residents were more likely to participate in ridesharing. We therefore included gender, age, education level, and the degree of rurality as control variables in the model. Drawing on findings of Study 1, income and experience were also included in the pool of controls.

The next section presents in more details each of the constructs used in the theoretical model, the rationale behind their inclusion, and the corresponding hypotheses.

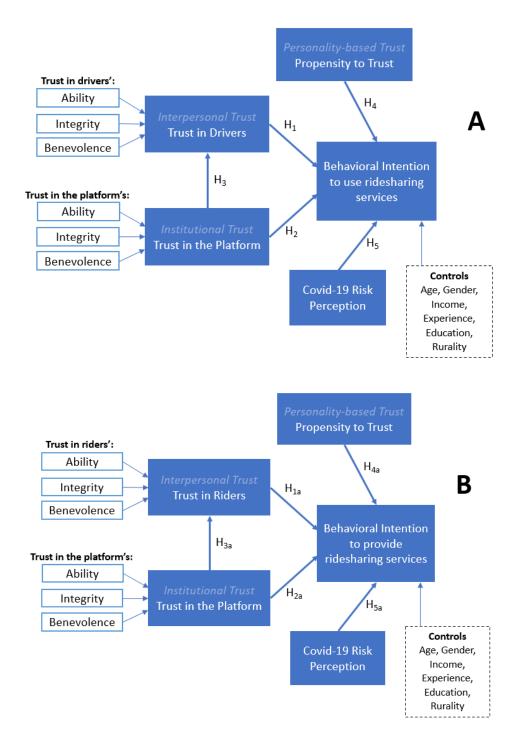


Figure 11 Conceptual framework with (A) Riders' view, and (B) Drivers' view

# 5.3.2 Hypotheses development

### 5.3.2.1 Trust in peers

Trust plays an important role in interpersonal relationships, generally subject to risk, uncertainty, and interdependence (McKnight and Chervany 2001). In the e-commerce context, several authors have highlighted a correlation between trust in vendors and transaction intentions (Gefen 2000; 2002; McKnight and Chervany 2001; Pavlou and Gefen 2004). Prior studies have identified trust in peers as a significant antecedent of the intention to engage in accommodation sharing (Mittendorf, Berente, and Holten 2019; Park and Tussyadiah 2020) and ridesharing (Hawlitschek, Teubner, and Weinhardt 2016; Shao and Yin 2019). Although most of the literature on trust in the sharing economy has focused on the users' perspective, some studies also demonstrated the impact of trust in users on providers' intention to engage in peer-to-peer sharing (Raza, Asif, and Ayyub 2021). We thus propose that in the ridesharing context, riders would be more likely to book rides if they believe that drivers drive safely, reach destinations accurately and promptly, are open to passengers, and are keen to provide assistance when needed. By extension, drivers would also be willing to drive with the platform if they believe that riders are reliable, show up for the rides they book on time, and know how to provide excellent ratings and reviews for drivers. Therefore, this study hypothesizes that:

H1: Riders' trust in drivers has a positive effect on the riders' behavioral intention to use ridesharing services

H1a: Drivers' trust in riders has a positive effect on the drivers' behavioral intention to provide ridesharing services

# 5.3.2.2 Trust in the platform

Unlike interpersonal trust that is based on social relationships between individual actors, institutional trust builds upon formal regulations, guarantees, and procedures from institutions and organizations (Zucker 1986; Shapiro 1987). Institutional trust is particularly important for interpersonal trust because it provides the rules that allow individual actors to share common expectations (Möllering 2006). It then becomes crucial for the conclusion of transactions between strangers for whom interpersonal trust is not easy to form like in online environments.

In the e-commerce context, Pavlou and Gefen (2004) consider the marketplace as the intermediary organization that provides a reliable institutional context that guarantees the rights of the buyers and prevent from the violation of the rules and norms agreed in the community. In the sharing economy context, there is a consensus among researchers that institutional trust plays a crucial role in adopting and using sharing platforms. For instance, the platform has a central role in C2C sharing transactions and users rely on it to get information about the sharing peers, to protect themselves from transgressions that may happen between users, or even damages their shared personal assets may incur (Lu, Wang, and Zhang 2021).For instance, Hawlitschek, Teubner, and Weinhardt (2016) and Mittendorf, Berente, and Holten (2019) reported an influence of trust in the platform on the intention to use accommodation sharing services. Furthermore, Shao et al. (2020) and Guo, Lin, and Li (2021) found a positive impact of trust in the platform on the continuance intention to use the Chinese ridesharing solution DiDi. Likewise, Lee and Cha (2022) showed that trust in the platform leads to the intention to use Uber and OLA in the United States and India.

Gefen (2002) observed that trust in the platform is also reflected in the dimensions of ability, integrity, and benevolence of a website or e-commerce vendor. In the ridesharing context, ability could refer to the skills of the platform in delivering a safe environment for transactions, knowledge in developing reliable matchmaking algorithms, and experience assisting riders and drivers. Further, platform's integrity and benevolence could be understood as its honesty in handling users' personal data, adoption of fair regulations for all categories of users, and goodfaith efforts in addressing users' concerns.

Trust can also be formed through a "transference process" (Doney and Cannon 1997, 37) from a trusted party to another with which one has little interaction and previous experience. Various authors have reported empirical evidence of trust transfer from sharing platforms to users, for instance, in peer-to-peer lending (Chen, Lai, and Lin 2014), accommodation sharing (Möhlmann 2016), and ridesharing (Mas-Machuca, Marimon, and Jaca 2021). We conclude from the above that riders and drivers will be more likely to engage in the service if they believe that the ridesharing platform is competent, reliable, and guarantees a secure environment for transactions. Furthermore, a trustworthy ridesharing platform would reduce the uncertainty that resides in the relationships between strangers, as is the case of riders with drivers leading to trust among its users. Hence, we hypothesize that:

H2: Riders' trust in the platform has a positive effect on their behavioral intention to use ridesharing services

H2a: Drivers' trust in the platform has a positive effect on their behavioral intention to provide ridesharing services

H3: Riders' trust in the platform has a positive effect on their trust in drivers

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H3a: Drivers' trust in the platform has a positive effect on their trust in riders

# 5.3.2.3 Propensity to trust

Propensity to trust is considered as a stable trait of one's personality that leads to trusting others (Mayer, Davis, and Schoorman 1995). It comprises two facets, faith in humanity and trusting stance (McKnight and Chervany 2001). Faith in humanity refers to the assumption that people are generally trustworthy and can be counted on to do what they are expected to do. On the other hand, trusting stance indicates a calculative type of trust where people strategically choose to trust others to obtain the best results unless they show reasons not to (Gefen 2000; McKnight and Chervany 2001). Several studies in the literature have reported a direct link between propensity to trust and targeted behavioral intentions in online environments. For instance, (Alharbey and Van Hemmen 2021) found that investors' disposition to trust affects their intention to invest using equity crowdfunding platforms. Examining the relationships between trust and satisfaction in three different online-booking hotel platforms, (Nugroho and Hati 2020) reported disposition to trust being an antecedent of repurchase and switching intention. Other authors also showed that disposition to trust affects purchasing intention on e-commerce platforms (Gefen and Heart 2006; Tikhomirova et al. 2021). Thus, the following hypotheses are proposed:

H4: Riders' propensity to trust has a positive effect on their behavioral intention to use ridesharing services

H4a: Drivers' propensity to trust has a positive effect on their behavioral intention to provide ridesharing services

## 5.3.2.4 COVID-19 risk perception

Several studies in the literature have revealed the direct link between risk perceptions and travel intentions. For instance, a study conducted in Germany, Austria, and Switzerland demonstrated that the risks perceptions related to the COVID-19 pandemic have a high impact on the intention to travel (Neuburger and Egger 2021). Likewise, Bae and Chang (2021) have examined South Koreans' risk perception of the coronavirus pandemic and revealed that travelers tend to cancel or avoid travel if they perceive it as risky or endangering their health. In the same vein, Perić, Dramićanin, and Conić (2021) identified COVID-19 risk perceptions as predictors of the intentions and destinations of travel, while previous research has also reported a positive impact of the perceived risk associated with other pandemics such as Ebola on Americans' domestic travel avoidance (Cahyanto et al. 2016).

Ozbilen, Slagle, and Akar (2021) demonstrated that users find shared modes of transportation riskier than individual forms. Some studies have also indicated that perceived risk negatively affects users' participation in the sharing economy (Hawlitschek, Teubner, and Gimpel 2016; Lee et al. 2018) and ridesharing (Y. Wang et al. 2019). Likewise, Zhang and Liu (2022) found that the perceived health threat of the COVID-19 had a negative impact on the intention to adopt ridesharing services. Consequently, we hypothesize that:

H5: COVID-19 risk perception has a negative effect on riders' behavioral intention to use ridesharing services

H5a: COVID-19 risk perception has a negative effect on drivers' behavioral intention to provide ridesharing services

#### 5.4 Research methodology

#### **5.4.1 Platform selection**

To evaluate the conceptual model, we conducted an online survey. We targeted the user population of Oszkár, a major ridesharing platform in Central and Eastern Europe (CEE) and the largest sharing economy firm in Hungary, with over 915,000 users (Oszkár 2022). The reasons behind the choice of this platform are threefold. First, Oszkár has a sharing-economy ethos, i.e., its business model promotes the sharing of travel costs between riders and drivers while using idle space rather than a pure focus on profit making as it is the case of global ridesharing platforms like Uber and DiDi. Referring to the typology provided in section 2.3 of this dissertation, Oszkár is considered a *Gardener* platform because it focuses more on building a community of users. Oszkár exerts therefore a loose control on drivers as they are allowed to fix their own rates. Besides, the platform does not use surge pricing to promote rivalry between drivers. Also, the matching of supply with demand is totally left to users, i.e. riders search for advertised trips and make their choice, and drivers confirm the reservations. Thanks to this business model, and also to the fact that the company's operations are only inter-cities, Oszkár could avoid the strict regulation on on-demand transportation services resist and grow in Hungary This makes the investigation of Oszkár more interesting and relevant. Second, no previous studies have explored trust in ridesharing in the CEE region as revealed by the literature review (Table 14). Finally, the company is one of the pioneers in the region as it was founded in 2007 (two years before Uber) and has resisted the introduction of big players such as BlaBlaCar and Uber in the Hungarian market and managed to remain the most popular SEP platform in the country.

## 5.4.2 Questionnaire design

A preliminary interview with the company's management was performed to understand the functioning of the platform, collect relevant facts about users and company culture, and get familiarized with the platform's jargon. The interview revealed the existence of a consistent category of users who were both riders and drivers. Therefore, a screening question was included at the beginning of the questionnaire to filter respondents by their status on Oszkár (i.e., "only rider", "both rider and driver", "only driver", and "never used Oszkár"). The following section was then revealed depending on the screening answer. The questionnaire consists of 21 questions organized into three parts. The first section had 18 questions split equally into two parts, "Riders' view" and "Drivers' view", with questions related to *Platform usage, Trust in drivers/riders*, and Trust in the platform. The second section (3 questions) asked respondents about Behavioral intention to use/drive with Oszkár, their Propensity to trust, and their Risk-perception related to the COVID-19 virus. Finally, the last section (9 questions) collected data about users' demographics. With this layout, riders' and drivers' perspectives were covered with a smooth flow between sections. Each part was signaled with an introductory statement to avoid misunderstandings, especially for respondents who were riders and drivers at the same time and therefore answered both views of the first section.

All constructs were derived from scales previously validated in the extant literature (Tables 20 and 25). Each item was measured using a psychometric five-point Likert scale ranging from "strongly disagree" to "strongly agree". The questionnaire was first developed in English, translated into Hungarian by a qualified translator, then translated back into English by a second language expert following (Brislin 1970) recommendations. The resulting versions were then

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compared by the author and tested by five independent Hungarian Ph.D. students, before adopting the final version. An English version of the questionnaire is provided in Appendix J.

## 5.4.3 Survey distribution

The survey was made available for three weeks between July 15 and August 5, 2021, which fell into the peak season of Ozkár's usage. The period was also characterized in Hungary by a vaccination campaign that had covered around 54% of the population (2 doses) and, since 21 March 2021, a gradual lifting of the COVID-19 restrictions previously decreed by the Government. An invitation with a link to the Qualtrics survey was posted therefore by Oszkár on their official Facebook page which had over 139,900 members, as of July 31, 2021 (Appendix K). Participants were offered the incentive to enter a prize draw at the end of the questionnaire, a result of which five winners were randomly selected and received 5 x €30 Amazon gift cards (total value of €150). At the beginning of the second week of the survey, we boosted participation by a standard Facebook ad that targeted only Oszkár's official Facebook page members.

The choice of the distribution method via Facebook was mainly due to the difficulty of reaching the Oszkár drivers' category of users. A classic probability sampling would have returned a low number of valid drivers' responses. Our method was also the most feasible due to time and budget constraints. Although non-probabilistic sampling reduces the generalizability of the findings, several authors recommend its use in the case of hidden or hard-to-reach populations (Baltar and Brunet 2012; Brickman Bhutta 2012; Schneider and Harknett 2019). Moreover, our

literature review (Table 14) also reports a dominance of non-probabilistic sampling methods in studying trust in the ridesharing context.

### 5.4.4 Non-response bias

To control for non-response bias, we followed the extrapolation method described by Armstrong and Overton (1977), and examined the homogeneity of variance between early and late responses using Levene's test and *t-test*. As mentioned previously, the survey was run for 21 days and was boosted with a Facebook ad starting from the second week. We marked 346 riders (91.1%) and 83 drivers (88.3%) as 'early respondents' who responded during the first two days of the 'No-ad' period and the first 12 days of the 'Ad' period. The remainders were marked as 'late respondents'. Levene's test revealed no significant difference between the means of early and late groups for each variable of riders (0.187<p<0.911) and drivers (0.059<p<0.937), which attests for the homogeneity of variances among groups. As a conclusion, non-response bias is not an issue in this study.

#### **5.4.5** Sample characteristics

By the due date, 691 responses had been recorded, among which 480 were fully completed. We then excluded 59 participants who had never used Oszkár services, in addition to five other responses that have been identified as straight-liners (respondents who gave the same answer to a battery of questions, i.e. provide answers with a null, or nearly null standard deviation) following (Kim et al. 2019), resulting in a final sample of 474 valid responses representing  $N_1 = 380$  riders and  $N_2 = 94$  drivers.

Before starting data collection, we used G\*Power 3.1.9.7 software to control for Type I and Type II errors and calculate the minimum sample size that is required to meet a power level of 80% (Cohen 1988). For a moderate effect size of  $f^2 = 0.15$ , Type I error probability  $\alpha = 0.05$ , and 4 predictors per model as inputs, the resulting minimum sample size was 85 which is lower than those collected by the study.

In summary, 73.4% of riders and 24.5% of drivers were females (Table 15). These numbers are in line with Oszkár's survey of Fall 2020, where 64% of riders and 11% of drivers were females. Also, the Facebook page figures communicated by Oszkár showed that 64% of their followers on the page were females. Among the participants, 36.3% hold a secondary school certificate as the highest educational level, 78% live in cities, 55% work as employees (not managers), and 61.8% have less than HUF300,000 monthly net salary for the household.

#### Table 15

		Riders N	<b>Riders</b> N <sub>1</sub> = <b>380</b>		$N_2 = 94$
		Count	%	Count	%
Gender	Female	279	73.4	23	24.5
	Male	101	26.6	71	75.5
	Total (N)	380	100.0	94	100.0
Age	18-24	11	2.9	4	4.3
	25-34	62	16.3	23	24.5
	35-44	62	16.3	20	21.3
	45-54	110	28.9	27	28.7
	55-64	109	28.7	15	16.0
	65+	26	6.8	5	5.3

Education	Primary school	6	1.6	0	0.0
	Vocational training	80	21.1	9	9.6
	High school graduate	140	36.8	32	34.0
	College, without a degree	22	5.8	6	6.4
	College degree	68	17.9	16	17.0
	Basic higher education	27	7.1	13	13.8
	Undivided long program diploma	10	2.6	5	5.3
	Master's degree in higher education	23	6.1	13	13.8
	Doctoral degree	4	1.1	0	0.0
Residence	City	300	78.9	70	74.4
	Town	30	7.9	12	12.8
	Village	50	13.2	12	12.8
Job	Employee, not manager	205	53.9	56	59.6
	Employee, manager	29	7.6	15	16.0
	Self-employed / own company	32	8.4	10	10.6
	Freelance / casual work	20	5.3	6	6.4
	Unemployed / Jobseeker	20	5.3	2	2.1
	Student	9	2.4	2	2.1
	Household	10	2.6	0	0.0
	Pensioner	55	14.5	3	3.2
Income	Under HUF100,000	37	9.7	8	8.5
	100,001 - 200,000	120	31.6	15	16.0
	200,001 - 300,000	94	24.7	19	20.2
	300,001 - 400,000	61	16.1	24	25.5
	400,001 - 500,000	32	8.4	12	12.8
	500,001 - 600,000	15	3.9	6	6.4
	600,001 - 700,000	7	1.8	3	3.2
	700,001 - 800,000	3	0.8	3	3.2
	800,001 - 900,000	5	1.3	1	1.1
	900,001 - 1,000,000	2	0.5	1	1.1
	1,000,001 or higher	4	1.1	2	2.1

1 US\$ = HUF303.623 (July 15, 2021)

The behavioral characteristics of participants regarding Oszkár usage are summarized in Table 16. The majority of respondents (90.5%) have used the ridesharing platform for more than one year: 90.8% of riders and 89.4% of drivers. Regarding the frequency, 59% of riders travel with Oszkár a few times a month, while 48% of drivers use the platform a few times a year. Respondents reported an average distance ranging from 151 to 200 km for riders (31.1%) and from 201 to 250 km for drivers (30.9%). These figures are in line with the average distance traveled using the platform, which was 228 km in 2020 and 248 km in 2021 (January to August only), as communicated by Oszkár.

Respondents were also asked about the location of their residence. Results show a dominance of citizens as around 79% of riders and 75% of drivers live in cities, in contrast with 13.2% of riders and 12.8% of drivers who have reported living in villages. The survey collected responses from all the eight regions of Hungary as defined by the Parliamentary decision 35/1998 (III.20) and Government decision 2013/2015 (XII.29) (KSH 2021). Results as displayed in Table 17 and Figures 12 and 13 show a distribution of respondents over the country's main cities and urban areas. The sample's distribution matches with the top five most popular routes in 2021, as announced by the platform in January 2022 (Oszkár 2022), which were as follows:

- 1- Szeged (Southern Great Plain)  $\rightarrow$  Budapest
- 2- Miskolc (Northern Hungary)  $\rightarrow$  Budapest
- 3- Nyíregyháza (Northern Great Plain) → Budapest
- 4- Pécs (Southern Transdanubia) → Budapest
- 5- Debrecen (Northern Great Plain)  $\rightarrow$  Budapest

# Table 16

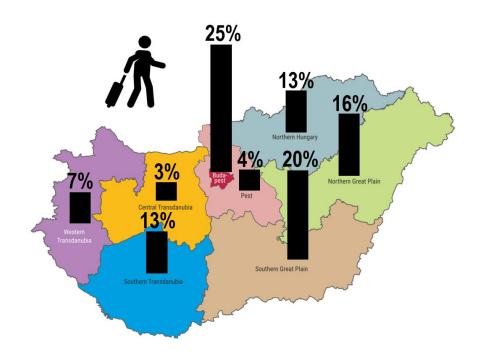
Sample usage characteristics

	Riders	N=381	Drivers N=94		
Experience	Count	%	Count	%	
Less than 1 month	10	2.6	6	6.4	
1 to 6 months	14	3.7	0	0.0	
6 to 12 months	11	2.9	4	4.2	
1 to 2 years	58	15.3	12	12.8	
2 to 4 years	100	26.3	25	26.6	
More than 4 years	187	49.2	47	50.0	
Frequency					
Every day	1	0.3	2	2.1	
A few times a week	24	6.3	7	7.4	
Once a week	19	5.0	2	2.1	
A few times a month	223	58.7	22	23.4	
Once a month	41	10.8	9	9.6	
A few times a year	56	14.7	45	47.9	
Once a year	4	1.1	2	2.1	
Less than once a year	12	3.2	3	3.2	
Never	0	0.0	2	2.1	
Average ride distance					
Less than 50 km	1	0.3	1	1.1	
51 to 100 km	13	3.4	7	7.4	
101 to 150 km	30	7.9	10	10.6	
151 to 200 km	118	31.1	24	25.5	
201 to 250 km	107	28.2	29	30.9	
251 to 300 km	50	13.2	9	9.6	
More than 301 km	61	16.1	14	14.9	

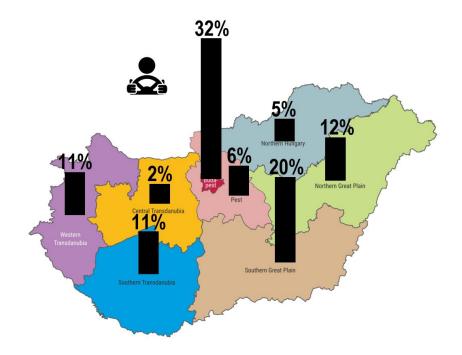
# Table 17

Residence distribution of the respondents

	Riders (N	$V_1 = 380$	Drivers (	$N_2 = 94)$
Region	Count	%	Count	%
Budapest	93	24.5	30	31.9
Southern Great Plain	76	20.0	19	20.2
Northern Great Plain	60	15.8	11	11.7
Northern Hungary	49	12.9	5	5.3
Southern Transdanubia	48	12.6	10	10.6
Western Transdanubia	25	6.6	10	10.6
Pest County	14	3.7	6	6.4
Central Transdanubia	10	2.6	2	2.1
Austria/Germany	5	1.3	1	1.1



*Figure 12* Riders' geographic distribution ( $N_1 = 380$ )



*Figure 13* Drivers' geographic distribution ( $N_2 = 94$ )

#### 5.5 Results and analysis

#### 5.5.1 Participants' COVID-19 risk perceptions

As discussed in section 3 of this study, understanding users' perceptions regarding the COVID-19 pandemic is crucial for practitioners and managers of sharing platforms. This section describes and analyzes these perceptions as extracted from participants' responses to the survey.

Figure 14 summarizes the results in percentage regarding the three dimensions of the COVID-19 risk perception construct: perceived threat of COVID-19, risk of contracting COVID-19, and fear of COVID-19. The majority of the sample (75.5% of riders and 78.7% of drivers) at least agree with the statement saying that the coronavirus is a serious threat to humans (Threat2). These figures drop to 48.9% for riders and 49.2% for drivers who consider COVID-19 as detrimental to the country's economy (Threat1). For in-depth insights, we created violin graphs using

PlotsOfData (Postma and Goedhart 2019). Violin graphs combine box plots and kernel density estimation of data and are very useful for observing distributions differences between groups no matter their size.

For instance, participants perceive COVID-19 more as a health threat (Median = 4) than an economic one (Median = 3). However, the distribution of economic threat is smoother toward higher ratings for drivers while it is more dispersed for riders. On the other hand, riders and drivers alike do not seem to be afraid of the consequences COVID-19 may have on them if they get infected. For instance, only 40.4% of riders and 39.2% of drivers at least agree that they are afraid they would need long hospital treatment in the case of infection with COVID-19.

		Strongly Disagree		Disagree			Agree	Strong Agree	-
	(Threat2 "The coronavirus is a serious threat to humans"	3 <mark>.2%</mark> 3.2 <mark>%</mark>	18.1%		35.1%		40.4%		Riders
ved at	The coronavirus is a serious threat to numans	2. <mark>6%</mark> 2. <mark>9%</mark>	15.8%		38.2%		40.5%		Drivers
Perceived threat	<i>Threat1</i> "The coronavirus pandemic is detrimental to the economic situation in my country"	13.8% 8.7%	9.6% 10.5%	27. 31.6%		23.4	7.6%	25.5%	R D
	(Fear2	12.00/		27.79/		22.484	20.28/	14.00/	D
ar id-19	"I am afraid of serious complications caused by the coronavirus"	13.8% 13.2%		27.7% 26.1%		23.4% 4%	20.2% 22.1%	14.9% 15.3%	R D
by the coronavirus" Fear1 "I am afraid I will need long hospital treatment		13.8%	14.9	%	30.9%		23.4%	17.0%	R
	in case of coronavirus infection"	11.1%	21.	8%	27.9%		25.8%	13.4%	D
	(Risk2	16.0%		18.1%		38.3%	13.8%	13.8%	
ig kisk1	"Getting infected with the coronavirus threatens my health"	12.6%		23.7%		38.3% 1.8%	22.6%	9.2%	R D
Ri of inf	Risk1 "I am worried I could get infected with the	8.5%	9.6%	36.2	%		23.4%	22.3%	Riders
coronavirus"	C coronavirus	6.8%	13.9%	30.09	%		29.5%	19.7%	Drivers

*Figure 14* Riders' and drivers' answers to the six questions regarding their COVID-19 risk perceptions

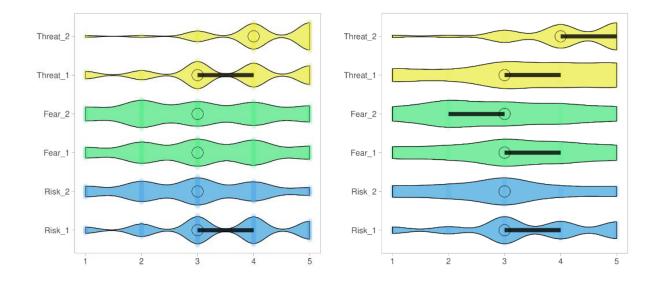
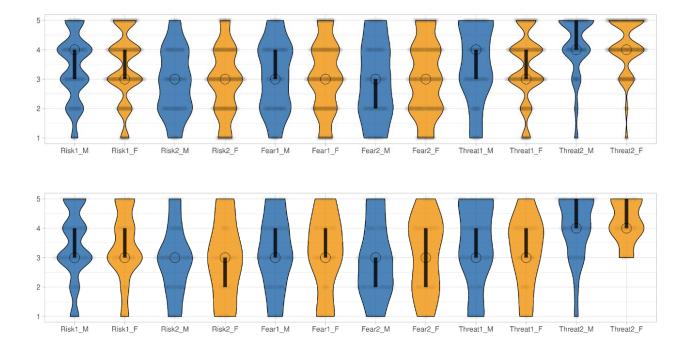


Figure 15 Violin graphs of riders' (left) and drivers' (right) COVID-19 risk perceptions

Note. Axis X refers to questions Likert scale where 1 = strongly disagree and 5 = strongly agree. Axis Y refers to "COVID-19 risk perceptions" construct's six items. Colors distinguish each of the three dimensions of the construct. Circles indicate medians, horizontal bars the 95% confidence interval determined by bootstrapping. N<sub>1</sub> = 380 and N<sub>2</sub> = 94.

Likewise, only 35.1% of riders and 37.4% of drivers were afraid of serious complications the virus might have on them if they tested positive. Corresponding violin plots for drivers (Figure 15) show a light skewness to the left (Fear1) and the right (Fear2). Furthermore, 45.7% of riders and 49.2% of drivers are worried about a risk of infection with the coronavirus. In comparison, only 27.6% of riders and 31.8% of drivers claimed that getting infected with COVID-19 would threaten their lives. These figures may be explained by the fact that during the period the survey was administered, more than half of the population of Hungary had been fully vaccinated (54% to 56.2%). Therefore, the country's advance in the vaccination campaign may be behind this feeling of security expressed by the participants. Besides, numbers of new cases of infection and deaths had tremendously dropped in the period above, respectively 49 and zero on 15 July 2021, compared to 5,307 and 256 three months before (Ritchie et al. 2020). Furthermore, the Government had decided to lift most of the COVID-19 restrictions (e.g., night-time curfew, the

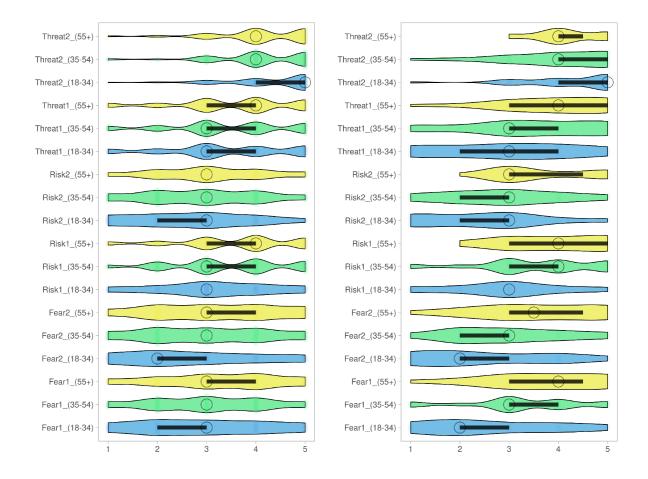
mandatory wearing of face masks in public spaces, etc.); life was, thus, getting back to normal at the end of Spring, including the use of ridesharing transportations.



# Figure 16 Violin graphs of riders' (top) and drivers' (down) COVID-19 risk perceptions by gender

Note. Axis X refers to "COVID-19 risk perceptions" construct six items. Axis Y refers to questions Likert scale whereas 1 = strongly disagree and 5 = strongly agree. Males in blue and females in orange. Circles indicate medians, horizontal bars the 95% confidence interval determined by bootstrapping. N<sub>riders</sub> = 380 and N<sub>drivers</sub> = 94.

Following previous research, we checked for the possible impact of gender and age on risk perceptions of COVID-19 (Bruine de Bruin 2021; Han, Mahendran, and Yu 2021). Figure 16 shows a slight tendency of females toward higher ratings of perceived threat and fear of COVID-19 compared to males. This difference is more visible between female and male drivers.



# Figure 17 Violin graphs of riders' (left) and drivers' (right) COVID-19 risk perceptions by categories of age

Note. Axis X refers to questions Likert scale where 1 = strongly disagree and 5 = strongly agree. Axis Y refers to "COVID-19 risk perceptions" construct's six items. Data displayed correspond to participants' answers by three categories of age: 18-34 in blue, 35-54 in green, and 55+ in yellow. Circles indicate medians, horizontal bars the 95% confidence interval determined by bootstrapping. N<sub>1</sub> = 380 and N<sub>2</sub> = 94.

Moreover, as seen in Figure 17, riders' and drivers' fear distribution skewness moves from left to right when age increases. Particularly, median changes by a unit between the three age categories of drivers for both dimensions of fear of the COVID-19 suggesting an increase of fear of the pandemic as age increases.

Table 18 reports the zero-order correlations between COVID-19 risk perceptions variables, gender, and age. Contrary to expectations, this research did not find a significant association between gender and COVID-19 risk perceptions for riders and drivers alike. This finding contrasts with previous research where risk perception among females tended to be higher than that of males when using ride-sharing solutions during the COVID-19 pandemic (Rahimi et al. 2021). Also, (Alsharawy et al. 2021) found that women reported higher rates of fear and greater negative expectations regarding the coronavirus health impacts than men. It is possible to hypothesize that the context of the survey, characterized by a high vaccination rate in Hungary, a sharp decrease in infections and deaths due to the COVID-19, and a general desire to get back to everyday life may be behind the dissipation of gender disparities regarding COVID-19 risk perceptions.

#### Table 18

Zero order correlation matrix of COVID-19 risk perceptions variables
--

Variable	1	2	3	4	5	6	7	8
(1) Risk1	_	.767**	.815**	.729**	.804**	.375**	-0.011	.328**
(2) Risk2	.684**	_	.723**	.719**	.646**	.257*	-0.001	.328**
(3) Fear1	.690**	.807**	_	.890**	.747**	.406**	0.011	.288**
(4) Fear2	.666**	.771**	.863**	_	.684**	.320**	0.063	.273**
(5) Threat1	.660**	.655**	.695**	.662**	_	.359**	-0.066	.277**
(6) Threat2	.350**	.284**	.311**	.283**	.429**	_	0.088	0.010
(7) Gender	0.009	0.010	-0.001	0.034	-0.034	-0.012	_	-0.035
(8) Age	.110*	0.100	0.078	.103*	0.007	-0.083	.258**	_

Pearson r values below the diagonal for riders, and above the diagonal for drivers \*p < 0.05, \*\*p < 0.01

Further, we found a significant positive correlation between the age of riders and their worries of getting infected (r = .110, p < .05), together with their fear of severe complications caused by the

coronavirus (r = .103, p < .05). Therefore, we suggest that as drivers' age increases, the risk of infection, fear, and threat (except for threat2) related to the COVID-19 increase. These findings are consistent with (Rahimi et al. 2021; Han, Mahendran, and Yu 2021; Asefa et al. 2020). A possible explanation may be the fact that deaths due to the coronavirus have been associated with elderly individuals (The OpenSAFELY Collaborative et al. 2020; Mueller, McNamara, and Sinclair 2020). Moreover, older people are more likely to have experienced health issues similar to those associated with the COVID-19 than younger people. They would therefore perceive the risk at higher rates compared to younger individuals.

#### **5.5.2 Structural equation modeling analysis**

Variance-based structural equation modeling with partial least squares method (PLS-SEM) was performed to analyze data and test the models' hypotheses referring to riders' and drivers' perspectives. Specifically, SmartPLS 3 software was used (Ringle, Wende, and Becker 2015). PLS technique was preferred over covariance-based SEM because it is suitable for exploratory studies like ours where the aim is to develop theories rather than confirm them. PLS is also recommended for relatively complex models (Hair et al. 2017).

# 5.2.2.1 Hierarchical component models

Unlike the study in Chapter 4, the conceptual models in this study are hierarchical component models (HCM), also called higher-order models (Hair et al. 2017). HCM are advanced models that offer researchers the possibility to model a complex and more abstract higher-order construct (HOC) with its more concrete lower-order components (LOC) (Sarstedt et al. 2019).

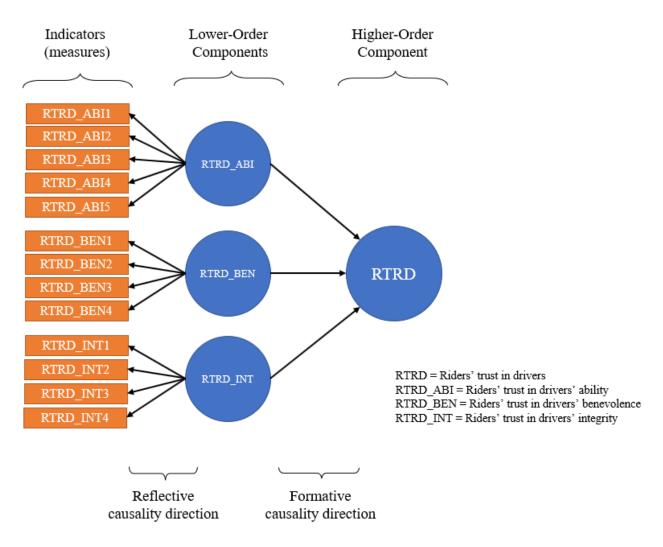


Figure 18 Segment of the riders' view model showing higher and lower-order constructs

As depicted in Figure 18, the HOC "Riders' Trust in Drivers" does not have its own measured indicators but instead has three LOC, "Riders' Trust in Drivers' Ability", "Riders' Trust in Drivers' Integrity", and "Riders' Trust in Drivers' Benevolence", which in turn have each its own indicators. The same goes for the construct "Riders' Trust in the Platform" in the riders' view. We follow the same logic with LOC and HOC in the drivers' view (see Figure 11).

The *disjoint two-stage approach* has been followed to estimate the higher-order constructs as described by (Sarstedt et al. 2019). First, only LOC are considered and connected to the other constructs they are related to in the path model i.e., the HOC are not included at this stage. Second, the LOC scores are saved and then added to the dataset as measures of the corresponding HOC. Table 19 summarizes the approach and the assessment process in each stage.

# Table 19

The evaluation process of PLS-SEM with higher-order constructs using the disjoint two-stage approach – Case of a reflective-formative model

# Step 1: Evaluation of the Measurement Model

1. Assessment of reliability and validity of LOC (only LOC are considered, HOC are excluded from the model)

- a. Internal consistency (Cronbach's alpha, composite reliability)
- b. Convergent validity (indicator reliability, average variance extracted)
- c. Discriminant validity (Fornell-Larcker criterion, cross-loadings, HTMT)
- 2. Assessment of reliability and validity of HOC (here, LOC scores are included as indicators of the corresponding HOC)
  - a. Convergent validity
  - b. Collinearity between indicators
  - c. Significance and relevance of outer weights

## Step 2: Evaluation of the Structural Model

- 9- Coefficients of determination (R<sup>2</sup>)
- 10- Predictive relevance  $(Q^2)$
- 11-Size and significance of path coefficients
- 12-  $f^2$  effect sizes

Adapted from (Sarstedt et al. 2019)

# 5.5.2.2 Riders' view model evaluation

# 5.5.2.2.1 Measurement model evaluation

#### Validating Lower-Order Components

We only include the LOC in the analysis at this stage, as explained in Table19. The objective of the measurement model evaluation is to assess the reliability and validity of the constructs. First, we checked the loadings of the indicators on their corresponding factors. Indicator Fear\_2 has been excluded due to a factor loading lower than the threshold of 0.6 (Hair et al. 2017). All other indicators loaded on their related constructs with values ranging from 0.645 to 0.948. Convergent validity was established as all AVE values were higher than the 0.500 cut-off.

Discriminant validity was assessed by checking the Fornell-Larcker criterion. The square root of each construct's AVE was larger than the correlation loadings with the other constructs (Fornell and Larcker 1981; Sarstedt, Ringle, and Hair 2017; Henseler et al. 2009). However, the stricter HTMT criterion (see Appendix F) showed a value of 0.909 between RTRP\_int and RTRP\_ben, which is greater than the threshold of 0.900 (Hair et al. 2017). Also, the HTMT matrix displayed a value of 0.897 between RTRD\_int and RTRD\_ben, which is above the more conservative cut-off of 0.850 (Henseler et al. 2015). We then checked the measurement cross-loadings (see Appendix E) to confirm a problematic correlation between integrity and benevolence indicators

for both trust in the platform and trust in the drivers. These results mean that respondents consider integrity and benevolence as notions of identical nature, hence the high correlations between the corresponding indicators. To deal with this issue and establish discriminant validity, we followed the guidelines proposed by (Henseler et al. 2015). The authors suggest the merger of problematic constructs, with theory support, and analyze the model again with the new constructs. The guidelines are provided in Appendix G.

Indeed, we found several research articles that questioned the distinction between integrity and benevolence constructs in Mayer's and colleagues' model. The authors themselves admitted that several empirical works have found high correlations between integrity and benevolence (Schoorman, Mayer, and Davis 2007). For instance, based on a meta-analytical study of 132 articles, Colquitt, Scott, and LePine (2007) found a strong correlation between ability, integrity, and benevolence and suspected a multicollinearity between the three dimensions of trust. The authors highlighted that "it may be that those conceptual distinctions are more difficult to maintain in the minds of survey respondents who fill out scales like Mayer and Davis (1999)" (Colquitt, Scott, and LePine 2007, 12). Recently, Alarcon et al. (2022) experimentally manipulated the interpersonal trusting behaviors of 158 participants and demonstrated a strong relationship between the integrity and benevolence dimensions of trust. In the same vein, several authors agree that trust is formed by at least two dimensions (Barki, Robert, and Dulipovici 2015; Levin and Cross 2004; Johnston, Mills, and Landrum 2015). A first refers to the competence, also described as ability, of the trustee and represents the "can-do" dimension of trust, while the other dimension captures the benevolence of the trustee or his/her "will-do" component (Di Battista, Pivetti, and Berti 2020). This bi-distinction is framed by McAllister

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(1995) as cognition- and affect-based trust, where ability is part of the former while both integrity and benevolence are part of the latter. In online environments, Gefen (1997) reported that members of virtual communities, while responding to each other guided by the benevolent behavior of reciprocity and self-desire to do good to others, adhere to the regulations and norms (thus, integrity) in such environments. Finally, Ridings, Gefen, and Arinze (2002) showed how the two dimensions of integrity and benevolence lead both to reciprocity in maintaining conversations in virtual communities, and thus suggested merging the components as they literally "mean the same thing online" (Ridings, Gefen, and Arinze 2002, 276).

Considering the above support from the literature, we therefore merge the integrity and benevolence constructs in the model and run the PLS algorithm again, following the guidelines proposed by Henseler et al. (2015). Results indicate that all the indicators' loadings showed acceptable values ranging from 0.642 to 0.9450 and loaded substantially on their corresponding constructs. Cronbach's alpha and composite reliability values of all constructs were higher than 0.7, indicating acceptable internal consistency. Furthermore, all average variance extracted (AVE) scores were higher than the cut-off value of 0.5, attesting to the convergent validity of the constructs and a good fit of the dataset with the conceptual model (Table 20).

#### Table 20

#### Measurement model results - Riders' view

Constructs (Sources) Measurement items	Factor Load.	Са	CR	AVE
Behavioral Intention (BI)		0.954	0.966	0.878
(Dinesh, Rejikumar, and Gyanendra S. Sisodia 2021; A. Chen, Wan, and Lu 2021;				
Arteaga-Sánchez et al. 2020)				
R_BI1 – I intend to continue bookings trips on Oszkár	0.946			

R_BI2 – I intend to continue traveling with Oszkár	0.950			
R_BI3 – I would recommend Oszkár as a transportation choice for others	0.901			
R_BI4 – I can see myself traveling using Oszkár in the future	0.950			
K_DI4 Tean see mysen davening using Oszkar in the future	0.950			
COVID-19 Risk Perception (CVR)		0.863	0.857	0.548
(Krok and Zarzycka 2020)				
Fear1 – I am afraid I will need long hospital treatment in case of coronavirus infection	0.642			
Threat1 – The coronavirus epidemic is detrimental to the economic situation in my	0.771			
country	0.771			
Threat2 – The coronavirus is a serious threat to humans	0.821			
Risk1 – I am worried I could get infected with the coronavirus	0.790			
Risk2 – Getting infected with the coronavirus is endangering my health	0.662			
Propensity to Trust (PTT)		0.865	0.894	0.630
(Hawlitschek, Teubner, and Gimpel 2018; Park and Tussyadiah 2020; Shao, Guo, et al.				
2020)				
PTT1 - I generally trust others unless they give me reason not to	0.802			
PTT2 – I believe people are generally reliable	0.847			
PTT3 – Most people can be counted on to do what they say they will do	0.836			
PTT4 – I tend to trust a person or a thing, even though I have little knowledge about				
them	0.778			
PTT5 – I trust people easily	0.694			
Trust in Drivers Ability (RTDR_ABI)		0.892	0.921	0.699
(Ahn 2017; Hawlitschek, Teubner, and Gimpel 2016; Gefen and Straub 2004)				
RTRD_ABI1 – Oszkár drivers are competent	0.752			
RTRD_ABI2 – Oszkár drivers are capable	0.867			
RTRD_ABI3 – Oszkár drivers drive skillfully	0.877			
RTRD_ABI4 – Oszkár drivers drive safely	0.847			
RTRD_ABI5 – Oszkár drivers are experienced	0.834			
Trust in Drivers Integrity and Benevolence (RTRD_IB)		0.924	0.938	0.655
(Hawlitschek, Teubner, and Gimpel 2016; Y. Lu, Zhao, and Wang 2010)				
RTRD_BEN1 – Oszkár drivers do their best to make riders feel comfortable	0.800			
RTRD_BEN2 – Oszkár drivers really pay attention to the needs of their riders	0.827			
RTRD_BEN3 – Oszkár drivers would deliberately do nothing harmful to their riders	0.727			
RTRD_BEN4 – Oszkár drivers do everything they can to help their riders	0.841			
RTRD_INT1 – Oszkár drivers treat their riders fairly	0.820			
RTRD_INT2 – Oszkár drivers are honest with their riders	0.812			
RTRD_INT3 – Oszkár drivers are reliable	0.814			

RTRD_INT4 – Oszkár drivers keep their word	0.827			
Trust in Platform Ability (RTRP_ABI)		0.893	0.926	0.758
(Y. Lu, Zhao, and Wang 2010)				
RTRP_ABI1 – Oszkár is competent in handling transactions between riders and drivers	0.830			
RTRP_ABI2 – Oszkár has the skills to fulfill my needs on the website or the application	0.901			
RTRP_ABI3 – Oszkár has the experience to fulfill my needs on the website or the application	0.872			
RTRP_ABI4 – Oszkár knows how to provide excellent support for riders	0.877			
Trust in Platform Integrity and Benevolence (RTRP_IB)		0.943	0.953	0.717
(Colquitt and Rodell 2011; Ahn 2017)				
RTRP_BEN1 – Oszkár keeps the interests of riders in mind	0.791			
RTRP_BEN2 – Oszkár means no harm to riders	0.855			
RTRP_BEN3 – Oszkár has no bad intentions towards riders	0.863			
RTRP_BEN4 – Oszkár makes good-faith efforts to address riders' concerns	0.832			
RTRP_INT1 – Oszkár treats my personal information honestly	0.832			
RTRP_INT2 - Oszkár is fair in its conduct of transactions between riders and drivers	0.851			
RTRP_INT3 – Oszkár regulations are fair to riders	0.874			
RTRP_INT4 – I have no doubt about the honesty of Oszkár	0.872			

Discriminant validity – the extent to which constructs are statistically different – was established this time using traditional and alternative criteria. For instance, Fornell-Larcker criterion (Table 21) attested that AVE scores of each construct were greater than the cross-correlations of the other constructs. Furthermore, as shown in Table 22, all heterotrait-monotrait (HTMT) scores were below the cut-off value of 0.850 (Vinzi et al. 2010). The cross-loadings table of all variables is provided in Appendix H.

# Table 21

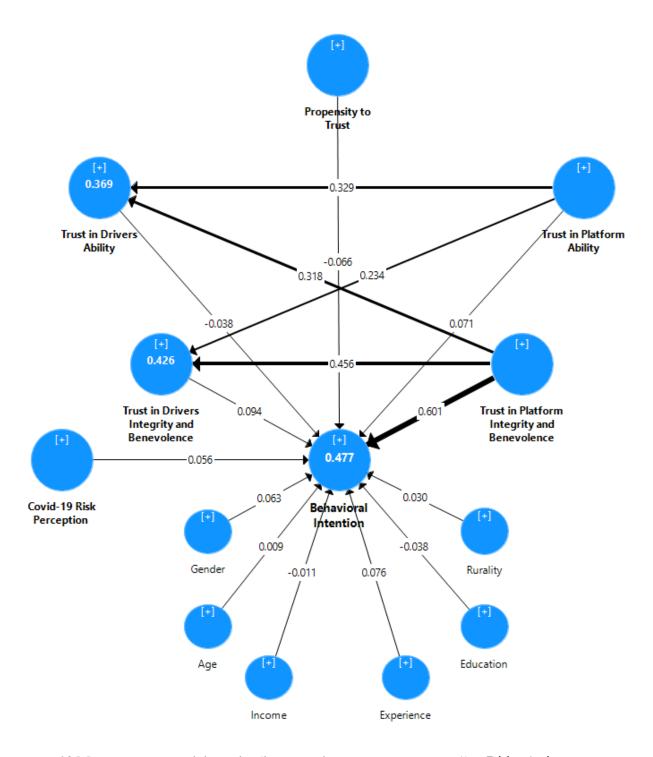
	BI	CVR	PTT	RTRD_ABI	RTRD_IB	RTRP_ABI	RTRP_IB
BI	0.935						
CVR	0.155	0.709					
PTT	0.262	0.039	0.793				
RTRD_ABI	0.399	0.119	0.383	0.837			
RTRD_IB	0.470	0.081	0.411	0.742	0.807		
RTRP_ABI	0.547	0.157	0.409	0.572	0.583	0.869	
RTRP_IB	0.674	0.167	0.438	0.570	0.635	0.764	0.844

Discriminant validity with Fornell-Larcker criterion analysis

# Table 22

Discriminant validity – Heterotrait-Monotrait Ratio (HTMT)

	BI	CVR	PTT	RTRD_ABI	RTRD_IB	RTRP_ABI	RTRP_IB
BI							
CVR	0.089						
PTT	0.249	0.050					
RTRD_ABI	0.432	0.080	0.419				
RTRD_IB	0.494	0.063	0.423	0.819			
RTRP_ABI	0.591	0.100	0.447	0.636	0.630		
RTRP_IB	0.711	0.103	0.449	0.619	0.673	0.830	



*Figure 19* Measurement model results (lower-order constructs - stage 1) – Riders' view Note. PLS algorithm with 5000 subsamples;  $R^2$  values in the circles;  $\beta$  values on the paths

## Validating Higher-Order Components

Latent variable scores of "Riders' Trust in Drivers' Ability" and "Riders' Trust in Drivers Integrity and Benevolence were used as indicators of "Riders' Trust in Drivers" higher-order construct. Likewise, "Riders' Trust in the Platform Ability" and "Riders' Trust in the Platform Integrity and Benevolence" served to measure the "Riders' Trust in the Platform" higher-order construct. To establish the HOC's validity, outer weights, outer loadings, and VIF values were examined (Sarstedt et al. 2019). The outer weights of all LOCs were found significant (p < 0.001and p < 0.01), as indicated in Table 23. Moreover, the outer loadings of each LOC were greater than 0.5. Finally, the values of VIF were all below the 3.3 cut-off, suggesting that the measurement model is not affected by collinearity. Therefore, we conclude that all criteria are verified, and the validity of the HOCs is established.

#### Table 23

Higher-Order	Lower-Order Constructs	Outer	t-	р-	Outer	VIF
Construct	Lower order constructs	Weights	statistics	values	Loadings	V II
Riders' trust in	Riders' trust in drivers' ability (RTRD_ABI)	0.331	2.976	0.003	0.872	2.226
drivers (RTRD)	Riders' trust in drivers' integrity and benevolence (RTRD_IB)	0.730	7.223	0.000	0.975	2.226
Riders' trust in the platform (RTRP)	Riders' trust in the platform's ability (RTRP_ABI)	0.264	4.202	0.000	0.863	2.405

#### Higher order construct validity

Riders' trust in the platform's					
integrity and benevolence	0.784	14.232	0.000	0.985	2.405
(RTRP_IB)					

As displayed in figure 18, each HOC is composed by its underlying formative indicators. The relationships consist of a linear combination that includes the outer weights and the scores of the indicators. This means for example that 100% of Riders' trust in drivers is explained by its two indicators: Riders' trust in drivers' ability and Riders' trust in drivers' integrity and benevolence. As concluded by (Hair et al. 2017, 145–46), "the values of the outer weights are standardized and can therefore be compared with each other. They express each indicator's relative contribution to the construct, or its relative importance in forming the construct". The comparison is also possible because bootstrapping returned p-values below 0.05 which means that all the outer weights are significantly different from zero (Hair et al. 2017). We can therefore conclude the following:

- Riders' trust in drivers' integrity and benevolence contributes at 68.81% in the formation of Riders' trust in drivers, which is more than two times higher than Riders' trust in drivers' ability contribution (31.19%).
- Riders' trust in the platform's integrity and benevolence contributes at 74.81% in the formation of Riders' trust in the platform, which is three times higher than Riders' trust in the platform's ability contribution (25.19%).

#### 5.5.2.2.2 Common method variance bias

It is possible that variance in data can result from the measurement method rather than the investigated constructs. This statistical problem is defined as common method variance bias (CMB) and is considered "one of the main sources of measurement error" (Podsakoff et al. 2003). CMB was assessed using Harman's single-factor test for riders' data subsample. The resulting principal components factor analyses yielded 32.84% of the total variance, a value below the threshold of 50%. An additional CMB assessment was performed using a full collinearity test with a consistent PLS algorithm and revealed that all inner VIF were below the cut-off of 3.3 (Kock 2015). Based on these results, we conclude that CMB does not constitute a serious bias in the riders' dataset.

#### 5.5.2.2.3 Structural model evaluation

To assess the conceptual model and test our hypotheses, we performed a bootstrap method using 5,000 subsamples (Hair et al. 2017). The results show a significant positive effect of riders' trust in the platform on the behavioral intention to use Oszkár ( $\beta = 0.660$ , p < 0.001) and a significant positive effect of riders' trust in the platform on riders' trust in drivers ( $\beta = 0.673$ , p < 0.001). Thus, hypotheses H2 and H3 were supported (see Table 24). Furthermore, the control variable experience positively affects behavioral intention ( $\beta = 0.077$ , p < 0.1), while the other controls (age, gender, income, education, and rurality) were found to have no significant effect on the use of Oszkár. On the other hand, none of the riders' trust in drivers, propensity to trust, or COVID-19 risk perception had a significant effect on Oszkár use. Hence, hypotheses H1, H4, and H5 were rejected. Moreover, the coefficients of determination  $R^2$  were 0.470 for the behavioral intention to use Oszkár and 0.453 for riders' trust in drivers, indicating that our model offers a

good explanation of the variance (Chin 1998; Cohen 1988). Next, we examined the effect sizes  $f^2$  of the structural relationships in our model (see Table 24). The results show a large effect (0.395) of riders' trust in the platform on the behavioral intention to use Oszkár and riders' trust in the platform impact (0.828) on riders' trust in drivers. On the other hand, a small effect (0.010) of experience impacted the behavioral intention to use Oszkár (Cohen 1988).

Finally, the structural model was also assessed by examining its predictive relevance measured by Stone-Geisser's  $Q^2$  coefficient (Geisser 1974; Stone 1974). A series of blindfolding procedures yielded values of  $Q^2$  above zero ( $Q^2_{BI} = 0.399$  and  $Q^2_{RTRD} = 0.385$ ), demonstrating the predictive relevance of the model.

# Table 24

Structural model analysis results – Riders' view

	β	SD	<i>t</i> -stats	<i>p</i> -values	$f^2$		$\mathbb{R}^2$
DV: Behavioral Intention							0.470
H1: RTRD $\rightarrow$ BI	0.050	0.054	0.927	0.354	0.002	n.s	
H2: RTRP $\rightarrow$ BI	0.660	0.048	13.709	0.000	0.395	***	
H4: PTT $\rightarrow$ BI	-0.069	0.043	1.613	0.107	0.007	n.s	
H5: $CVR \rightarrow BI$	0.053	0.046	1.138	0.255	0.005	n.s	
Experience $\rightarrow$ BI	0.077	0.037	2.085	0.037	0.010	*	
DV: Trust in Drivers							
H3: RTRP $\rightarrow$ RTRD	0.673	0.030	22.552	0.000	0.828	***	0.453

Note. DV = Dependent variable; SD = Standard deviation (\*\*\*p < .001; \*\*p < 0.01; \*p < 0.05)

# 5.5.2.3 Drivers' view model evaluation

# 5.5.2.3.1 Measurement model evaluation

## Validating Lower-Order Components

We followed the same evaluation process described in Table 19. All indicators were retained and loaded on their related constructs with values ranging from 0.681 to 0.946 (Table 25 and Figure 20). Scores of Cronbach's alpha, CR, and AVE are all below the standard cut-offs, confirming the model's internal consistency and convergent validity. Next, checking Fornell-Larcker criterion and HTMT scores confirmed the discriminant validity of our model, as indicated in Tables 26 and 27. The cross-loadings table of all variables is provided in Appendix I.

## Table 25

Construct (Sources) Measurement items	Load.	Сα	CR	AVE
Behavioral Intention (BI)		0.951	0.965	0.872
(Dinesh, Rejikumar, and Gyanendra S. Sisodia 2021; A. Chen, Wan, and Lu 2021; Arteaga-Sánchez et al. 2020)				
D_BI1 – I intend to continue advertising trips on Oszkár	0.933			
D_BI2 – I would recommend others to drive with Oszkár	0.913			
D_BI3 – I can see myself driving with Oszkár in the future	0.946			
D_BI4 – I intend to continue driving with Oszkár	0.943			
COVID-19 Risk Perception (CVR)		0.906	0.916	0.649
(Krok and Zarzycka 2020)				
Fear1 – I am afraid I will need long hospital treatment in case of				
coronavirus infection	0.851			
Fear2 – I am afraid of serious complications caused by the coronavirus	0.768			
Threat1 – The coronavirus epidemic is detrimental to the economic				
situation in my country	0.876			

Threat2 – The coronavirus is a serious threat to humans	0.681			
Risk1 – I am worried I could get infected with the coronavirus	0.887			
Risk2 – Getting infected with the coronavirus is endangering my health	0.748			
Propensity to Trust (PTT)		0.838	0.884	0.605
(Hawlitschek, Teubner, and Gimpel 2018; Park and Tussyadiah 2020; Shao,				
Guo, et al. 2020)				
PTT1 – I generally trust others unless they give me reason not to	0.742			
PTT2 – I believe people are generally reliable	0.806			
PTT3 – Most people can be counted on to do what they say they will do	0.804			
PTT4 – I tend to trust a person or a thing, even though I have little	0.781			
knowledge about them				
PTT5 – I trust people easily	0.754			
Trust in Riders' Ability (DTRR_ABI)		0.891	0.924	0.754
(Ahn 2017; Hawlitschek, Teubner, and Gimpel 2016; Gefen and Straub		01071	017 -	01701
2004)				
DTRD_ABI1 – Oszkár riders know how to book a ride on the platform	0.802			
DTRD_ABI2 – Oszkár riders know how to provide excellent reviews	0.002			
about drivers	0.906			
DTRD_ABI3 – Oszkár riders know how to provide high ratings for drivers	0.921			
DTRD_ABI4 – Oszkár riders understand how rides work on Oszkár	0.838			
Trust in Riders Integrity and Benevolence (DTRR_IB)		0.934	0.946	0.687
(Hawlitschek, Teubner, and Gimpel 2016; Y. Lu, Zhao, and Wang 2010)				
DTRD_BEN1 – Oszkár riders do their best to make their drivers feel				
comfortable	0.756			
DTRD_BEN2 – Oszkár riders do their best to make their drivers feel				
comfortable	0.838			
DTRD_BEN3 – Oszkár riders would deliberately do nothing harmful to				
their drivers	0.786			
DTRD_BEN4 – Oszkár riders do everything they can to help their drivers	0.880			
DTRD_INT1 – Oszkár riders treat their riders fairly	0.861			
DTRD_INT2 – Oszkár riders are honest with their riders	0.849			
DTRD_INT3 – Oszkár riders are reliable	0.825			
	-			

DTRD_INT4 – Oszkár riders keep their word	0.828			
Trust in Platform Ability (DTRP_ABI)		0.912	0.938	0.793
(Y. Lu, Zhao, and Wang 2010)				
DTRP_ABI1 – Oszkár is competent in handling transactions between				
drivers and riders	0.823			
DTRP_ABI2 - Oszkár has the skills to fulfill my needs on the website or				
the application	0.890			
DTRP_ABI3 - Oszkár has the experience to fulfill my needs on the				
website or the application	0.935			
DTRP_ABI4 – Oszkár knows how to provide excellent support for drivers	0.909			
Trust in Platform Integrity and Benevolence (DTRP_IB)		0.966	0.971	0.810
(Colquitt and Rodell 2011; Ahn 2017)				
DTRP_BEN1 – Oszkár keeps the interests of drivers in mind	0.867			
DTRP_BEN2 – Oszkár means no harm to drivers	0.927			
DTRP_BEN3 – Oszkár has no bad intentions towards drivers	0.926			
DTRP_BEN4 – Oszkár makes good-faith efforts to address drivers'				
concerns	0.882			
DTRP_INT1 – Oszkár treats my personal information honestly	0.897			
DTRP_INT2 – Oszkár is fair in its conduct of transactions between drivers				
and riders	0.895			
DTRP_INT3 – Oszkár regulations are fair to drivers	0.909			
DTRP_INT4 – I do not doubt the honesty of Oszkár	0.896			

# Table 26

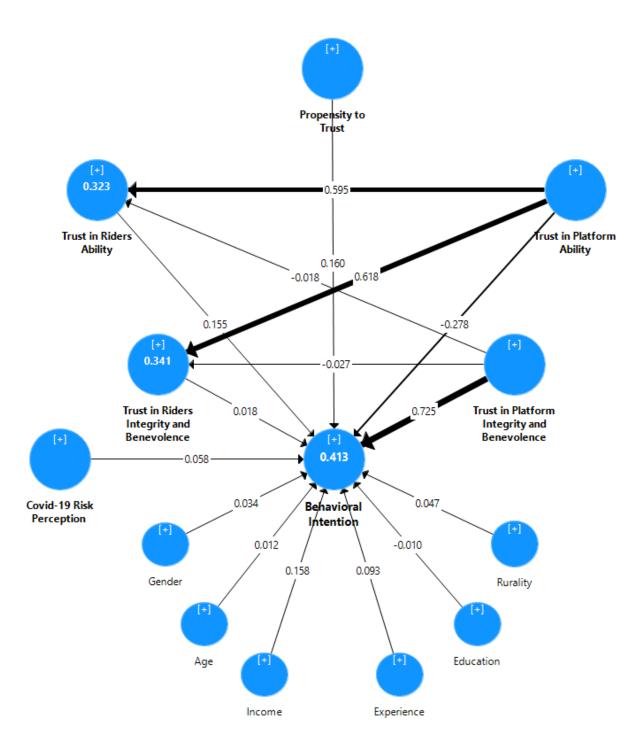
 $Discriminant\ validity-Fornell-Larcker\ criterion\ analysis-Drivers'\ view$ 

	BI	CVR	PTT	DTRP_ABI	DTRP_IB	DTRR_ABI	DTRR_IB
BI	0.934						
CVR	0.176	0.805					
PTT	0.400	0.165	0.778				
DTRP_ABI	0.468	0.238	0.413	0.890			
DTRP_IB	0.638	0.191	0.420	0.808	0.900		
DTRR_ABI	0.404	0.266	0.446	0.581	0.463	0.868	
DTRR_IB	0.375	0.174	0.409	0.596	0.472	0.777	0.829

# Table 27

	BI	CVR	PTT	DTRP_ABI	DTRP_IB	DTRR_ABI	DTRR_IB
BI							
CVR	0.144						
PTT	0.433	0.176					
DTRP_ABI	0.504	0.187	0.464				
DTRP_IB	0.662	0.149	0.457	0.862			
DTRR_ABI	0.427	0.232	0.511	0.637	0.487		
DTRR_IB	0.394	0.142	0.450	0.641	0.493	0.864	

Discriminant validity - Heterotrait-Monotrait Ratio (HTMT) - Drivers' view



*Figure 20* Measurement model results (lower-order constructs - stage 1) – Drivers' view Note. PLS algorithm with 5000 subsamples;  $R^2$  values in the circles;  $\beta$  values on the paths

#### Validating Higher-Order Components

As shown in Table 28, outer weights were significant except for drivers' trust in riders' ability (p = 0.084) and drivers' trust benevolence and integrity (p = 0.115). Nevertheless, the indicators were kept following Hair et al. (2017) guidelines because the corresponding outer loading were significant (p < 0.001) and greater than 0.5. Furthermore, examining VIF values revealed the absence of collinearity in the model (< 3.3). All conditions are therefore met, suggesting the validity of the HOCs in the drivers' model.

### Table 28

Higher-Order	Learner Orden Constructo	Outer	Т	Р	Outer	VIF
Construct	Lower-Order Constructs	Weights	Statistics	Values	Loadings	
Drivers' trust in riders (DTRR)	Drivers' trust in riders'	0.553	1.728	0.084	0.948	2.525
	ability (DTRR_ABI)	0.555	1.720			
	Drivers' trust in riders'					
	integrity and benevolence	0.507	1.578	0.115	0.937	2.525
	(DTRR_IB)					
Drivers' trust in the platform (DTRP)	Drivers' trust in the					
	platform's ability	0.415	2.055	0.040	0.927	2.882
	(DTRP_ABI)					
	Drivers' trust in the					
	platform's integrity and	0.635	3.339	0.001	0.970	2.882
	benevolence (DTRP_IB)					

## Higher-order components' validity

Based on the outer weights displayed in table 28, we conclude the following:

• Driver's trust in riders' ability contributes at 52.17% in the formation of Drivers' trust in drivers, a contribution that is almost equal to that of Driver's trust in riders' integrity and benevolence (47.83%).

• Drivers' trust in the platform's integrity and benevolence contributes at 60.48% in the formation of Drivers' trust in the platform, which is 1.5 times higher than Drivers' trust in the platform's ability contribution (39.52%).

#### 5.5.2.3.2 Common method bias

We performed the same assessments used in the riders' view to investigate CMB issues in the drivers' dataset. For instance, the variance explained by the largest factor was 34.37%, a value below the critical level of 50%. Also, all inner VIF values yielded by the PLS algorithm were below the threshold of 3.3 (Kock 2015). Both analyses confirmed, therefore, that the threat of CMB was minimal in the drivers' dataset.

### 5.5.2.3.3 Structural model evaluation

The model's hypothetical relationships were assessed using SmartPLS3 with bootstrapping method (5,000 subsamples). Drivers' trust in the platform positively affects behavioral intention to drive with Oszkár ( $\beta = 0.485$ , p < 0.01,  $f^2 = 0.247$ ), drivers' trust in the platform has a positive influence on drivers' trust in riders ( $\beta = 0.573$ , p < 0.001,  $f^2 = 0.489$ ), and drivers' propensity to trust positively affects their behavioral intention to drive with Oszkár ( $\beta = 0.212$ , p = 0.056,  $f^2 = 0.052$ ), supporting hypotheses H2a, H3a, and H4a respectively (see Table 29).

On the contrary, hypotheses H1a and H5a were not supported, which means that drivers' trust in riders and COVID-19 risk perception have no significant effect on the behavioral intention to drive with the ridesharing platform. Besides, the model provides a good explanation of the dependent variables' variance ( $R^2_{BI} = 0.423$  and  $R^2_{DTRR} = 0.328$ ) (Chin 1998; Cohen 1988).

Finally, values of Stone-Geisser's  $Q^2$  coefficients were greater than zero ( $Q^2_{BI} = 0.329$  and  $Q^2_{DTRR} = 0.266$ ), further speaking in favor of the predictive relevance of the model (Geisser 1974; Stone 1974).

## Table 29

Structural model analysis results - Drivers' view

	β	SD	t-stat.	p-values	2.50%	97.5%		$f^2$	$\mathbb{R}^2$
<b>DV: Behavioral Intention</b>									0.423
to drive with Oszkár									0.425
H1a: DTRR $\rightarrow$ BI	0.055	0.108	0.512	0.609	-0.155	0.280	n.s	0.003	
H2a: DTRP $\rightarrow$ BI	0.485	0.154	3.149	0.002	0.151	0.757	**	0.247	
H4a: PTT $\rightarrow$ BI	0.212	0.111	1.915	0.056	0.011	0.443	*	0.052	
H5a: $CVR \rightarrow BI$	0.066	0.099	0.661	0.508	-0.129	0.257	n.s	0.005	
<b>DV:</b> Trust in Riders									
H3a: DTRP $\rightarrow$ DTRR	0.573	0.095	6.031	0.000	0.328	0.718	***	0.489	0.328

Note. DV = Dependent variable; SD = Standard deviation (\*\*\*p < 0.01; \*\*p < 0.01; \*p < 0.05)

## 5.5.2.4 Synthesis of the PLS-SEM results

By analyzing the results of the measurement and structural models in the riders' and drivers' views, several conclusions can be highlighted. We looked particularly at the bootstrapping results of the models in Stage 1 (i.e., with LOCs) to investigate which dimensions of trust are the most influential in the significant paths displayed in Tables 24 and 29. Table 30 synthesizes this investigation.

Findings suggest the importance of trust in the platform as the primary form of trust impacting ridesharing usage. For instance, as highlighted previously, riders' trust in the platform has a

significant positive impact on their consumption of ridesharing services ( $\beta = 0.660$ , p < 0.001). This impact is solely formed by riders' trust in the platform's integrity and benevolence ( $\beta = 0.602$ , p < 0.001), as riders' trust in the platform's ability had no significant effect on usage ( $\beta = 0.072$ , p = 241). The same is observed in the drivers' view as drivers' trust in the platform positively influences their intention to provide ridesharing services ( $\beta = 0.485$ , p = 0.002). This effect is also formed only by the integrity and benevolence dimension of trust in the platform ( $\beta = 0.725$ , p < 0.001).

## Table 30

Synthesis of the structural models' evaluation Stage 1 – Riders' and Drivers' views

Riders' view			Drivers' view				
H1: RTRD -> BI			H1a: DTRR $\rightarrow$ BI				
$(\beta = 0.050, p = 0.354)$ n.s.	Estimate	p-value	$(\beta = 0.055, p = 0.609)$ n.s.	Estimate	p-value		
$RTRD\_ABI \rightarrow BI$	-0.038	0.500	$DTRR\_ABI \rightarrow BI$	0.156	0.421		
$RTRD\_IB \rightarrow BI$	0.093	0.105	$DTRR\_IB \rightarrow BI$	0.018	0.916		
H2: RTRP $\rightarrow$ BI			H2a: DTRP $\rightarrow$ BI				
<i>(β=0.660, p&lt;0.001)</i>			(β=0.485, p=0.002)				
$RTRP\_ABI \rightarrow BI$	0.072	0.241	$DTRP\_ABI \rightarrow BI$	-0.278	0.135		
$RTRP\_IB \rightarrow BI$	0.602	0.000	$DTRP\_IB \rightarrow BI$	0.725	0.000		
H3: RTRP $\rightarrow$ RTRD			H3a: DTRP $\rightarrow$ DTRR				
<i>(β=0.673, p&lt;0.001)</i>			(β=0.573, <i>p</i> <0.001)				
$RTRP\_ABI \rightarrow RTRD\_ABI$	0.329	0.000	DTRP_ABI → DTRR_ABI	0.592	0.000		
$RTRP\_ABI \rightarrow RTRD\_IB$	0.234	0.000	DTRP_ABI → DTRR_IB	0.616	0.000		
$RTRP_{IB} \rightarrow RTRD_{ABI}$	0.318	0.000	DTRP_IB → DTRR_ABI	-0.014	0.922		
$RTRP\_IB \rightarrow RTRD\_IB$	0.456	0.000	$DTRP\_IB \rightarrow DTRR\_IB$	-0.026	0.836		

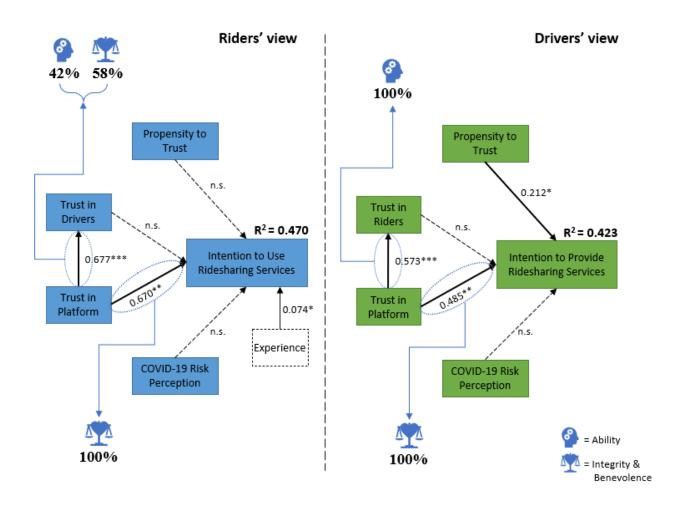
Note. n.s. = non-significant

Further analysis of the results unveils interesting insights regarding trust transfer in the ridesharing context. For instance, all paths connecting LOCs of riders' trust in the platform to LOCs of riders' trust in drivers were found significant. Riders' trust in the platform's ability shows path coefficients of  $\beta 1 = 0.329$  and  $\beta 2 = 0.234$  reflecting its significant impacts respectively on riders' trust in drivers' ability (p < 0.001) and riders' trust in drivers' integrity and benevolence (p < 0.001). Similarly, riders' trust in the platform's integrity and benevolence has estimates of  $\beta 3 = 0.318$  and  $\beta 4 = 0.456$  of its significant effects respectively on riders' trust in drivers' trust in drivers' integrity and benevolence (p < 0.001) and riders' trust in drivers' integrity and benevolence has estimates of  $\beta 3 = 0.318$  and  $\beta 4 = 0.456$  of its significant effects respectively on riders' trust in drivers' ability (p < 0.001). We note that  $\beta 4$  is the highest estimate is between ~1.5 and 2 times the value of the other path coefficients.

In summary, the results show that the effect RTRP  $\rightarrow$  RTRD is formed at 57.89% (i.e., the proportion of  $(\beta_{1+}\beta_{2})/(\beta_{1+}\beta_{2+}\beta_{3+}\beta_{4})$ ) by RTRP\_IB and at 42.11% (i.e.,  $(\beta_{3+}\beta_{4})/(\beta_{1+}\beta_{2+}\beta_{3+}\beta_{4})$ ) by RTRP\_ABI. In other words, for riders, trust in the platform's integrity benevolence and benevolence is the most determinant factor (~58%) shaping trust transfer from the platform to the drivers. In a second degree, trust in the platform's ability also contributes to this transfer but at a lower level (~42%).

Regarding trust transfer in the drivers' view, only drivers' trust in the platform's ability showed significant effects on drivers' trust in riders' ability ( $\beta = 0.592$ , p < 0.001) and drivers' trust in riders' integrity and benevolence ( $\beta = 0.616$ , p < 0.001). The integrity-benevolence dimension of drivers' trust in the platform showed no significant effects as shown in Table 30. These results

show therefore that trust transfer platform  $\rightarrow$  riders is for drivers solely influenced by their trust in the platform's ability. Figure 21 provides a visual illustration of the findings.



## Figure 21 Structural model results for riders and drivers

Note. Bootstrapping: 5000 iterations; \*p<0.05, \*\*p<0.01, \*\*\*p<0.001; percentages in bold refer to the shares of ability and integrity-benevolence in the corresponding path coefficients

#### 5.6 Discussion and implications

#### 5.6.1 Discussion of findings

The present study was designed to determine the differences between types and dimensions of trust in shaping ridesharing usage from the perspectives of riders and drivers. The results indicate that trust in the platform (institutional trust) positively affects usage for both riders and drivers. These results are consistent with (Mittendorf et al. 2019), who found that trust in Uber as a platform, from both customer's and provider's perspectives, affects the intention to use its services while trust in sharing partners does not. Also, trust in riders and trust in drivers (interpersonal trust), shows no significant effect on ridesharing usage. We found empirical studies in the political science field that may provide an explanation of this finding. For instance, some authors argue that trust between individuals may not be necessary when institutions are established and guarantee the actions they are expected to take (Yamagishi and Yamagishi 1994; Herreros and Criado 2009).

Further, the results of this study support the idea that trust transfers from the platform to the peers in the sharing economy context. We have found that trusting the platform leads users to trust each other thus, confirming the findings of prior research. These results are consistent with those of Li and Wang (2020) who found that accommodation sharing providers' trust in the platform positively affects their trust in guests. In the ridesharing context, Shao and Yin (2019) provided evidence of trust transfer between the platform and drivers of Chinese platform DiDi. Also, Mas-Machuca et al. (2021) found that trust in the ridesharing platform has a positive impact on both trust in and satisfaction with the drivers.

Building trust in the platform is therefore crucial for practitioners, but how should it be conducted? Unlike prior research, this study goes a step further and shows which dimensions of trust in the platform are more determinant in shaping ridesharing usage. For instance, we have demonstrated that, for both riders and drivers, trust in the platform's integrity and benevolence is the only dimension of trust that has an impact on the intention to use or provide ridesharing services. In other words, by enhancing its integrity and benevolence, a ridesharing platform would likely boost the consumption of its services. Findings suggest that users might care more about the platform being ethical, fair, reliable, and caring about what is essential for them than the platform being knowledgeable and competent. A possible explanation on this result lies in the experience of the respondents as 90.5% of them have been using the platform for at least one year. In other words, due to their experience and familiarity with the platform, users might value more the integrity-ability dimension of trust in the platform and take the ability side for granted or a default characteristic of a SEP. Furthermore, this study determined the trust dimensions that are responsible for trust transfer between the platform and users. Results of the riders' model show that the positive effect of trust in the platform on trust in drivers is due at 58% to the integrity-benevolence facet of trust in the platform while ability dimension accounted for 42% of this effect. However, this figure is substantially different for drivers as results show that only trust in the platform's ability is behind the effect of trust in the platform on trust in riders.

Moreover, riders' use of the platform seems not affected by their propensity to trust. Conversely, this personality trust positively impacts drivers' intention to provide ridesharing services, although only at a lower level of statistical significance. A possible explanation for this result might be influenced by the age of drivers as their average age is higher than riders'. Earlier research confirmed that older people tend to trust more (T. Li and Fung 2013; Poulin and Haase 2015) and forgive more than younger individuals (Cheng and Yim 2008). However, further research with a larger sample size is needed to bring more insights related to this finding.

Finally, COVID-19 risk perception showed no significant impact on the use of the platform for both categories of users. We predicted the opposite taking into consideration that the pandemic was still spreading in Hungary, although with much lower numbers. This result may be explained by the decision of the Government to gradually lift the restrictions in May 2021 as the number of vaccinated people had exceeded the critical level of 50%. Two months after the study was performed, a survey that covered 30 countries showed that worries about the COVID-19 pandemic had decreased in Hungary and only 18% of Hungarians declared in September 2021 that the coronavirus was the top concern in their country (IPSOS 2021a).

Nevertheless, another survey published in December 2021 reported that 72% of Hungarians (aged 16-74) do not expect they would be able to return to normal pre-Covid life before six months, while 30% declared that a return to normal life would never be possible (the highest rate among 33 surveyed countries) (IPSOS 2021b). These results reflect the population's worries regarding the COVID-19 in a period characterized by increasing numbers of infections due to variant Omicron. Further studies about trust in ridesharing taking these changes into account, will therefore need to be undertaken to clarify if these fluctuations of worries may have an impact on ridesharing usage.

#### 5.6.2 Contributions to the literature

The present study has several theoretical implications. First, to our best knowledge, it is the first to empirically examine the different types and dimensions of trust as theorized by McKnight and Chervany (2001) in the ridesharing context. Second, we addressed a prevailing gap in the literature by examining trust in ridesharing from both demand and supply sides as previous studies mainly focused on trust as perceived by riders (Aw et al. 2019; Shao and Yin 2019; Vaclavik, Macke, and Faturi e Silva 2020; Wong, Walker, and Shaheen 2021). Three exceptions, Bachmann et al. (2018), Mittendorf et al. (2019), and Raza et al. (2021), have examined trust respectively in carpooling, Uber, and Careem from both views. However, these studies did not explore the role and contribution of trust dimensions (ability-integrity-benevolence) in shaping the usage of the sharing platforms they focused on. Besides, only Cheng et al. (2020) examined trust dimensions in a qualitative research on ridesharing in the Chinese context. We therefore filled these gaps in literature and designed a hierarchical model, which allowed us to build trust in the platform and trust in the drivers/riders as higher-order constructs of their corresponding indicators formed by the dimensions of ability and integrity-benevolence. We then validated the two resulting models with data from 474 valid responses using PLS-SEM method. The results unveiled differences between the effects of three types and two dimensions of trust on consuming or providing ridesharing services.

Third, this study enriches the body of research in trust theory and enhances our understanding of the role of trust in the sharing economy. Specifically, our study reveals the differences between three types of trust in ridesharing: dispositional, institutional, and interpersonal, as defined by McKnight and Chervany (2001). We did not find prior research that has examined these three types of trust together in the ridesharing context. The findings suggest institutional trust (trust in the platform) as the main trust that drives ridesharing usage. In contrast, dispositional trust (propensity to trust) and interpersonal trust (trust in riders/drivers) remain respectively of weak and insignificant roles. More importantly, integrity-benevolence has a crucial role in the formation of trust in the platform and is the dimension behind shaping the behavioral intention to use or provide ridesharing services. Furthermore, this study provides evidence of trust transfer in the ridesharing context as trust in the platform positively influences trust between riders and drivers. Here as well, our research examined the dimensions responsible of trust transfer and found a relatively balanced role between ability and integrity benevolence in the case of riders. For drivers, however, only platform's ability is responsible of trust transfer between the platform and the riders.

Fourth, this study contributes to the scarce European research on trust in ridesharing. Only four previous studies were performed in Europe (Ruiz-Alba et al. 2021; Mas-Machuca, Marimon, and Jaca 2021; Arteaga-Sánchez et al. 2020; Bachmann et al. 2018) compared to sixteen in Asia (see Table 14). This study is also the first academic work to examine trust in ridesharing platforms in the CEE region and may constitute a starting point for future research in the sharing economy for this part of Europe that contrasts economically and culturally with the other regions of the old continent and may provide interesting aspects of consumer behavior that can be worthwhile to be inquired.

Fifth, we contribute to a growing area of research that focuses on travel behavior during the coronavirus pandemic (Abdullah et al. 2020). By building a COVID-19 risk perception construct

around three dimensions based on fear of the virus, perceived threat it constitutes to health and economy, and worries related to the risk of infection, we found that both demand and supply sides engagement in ridesharing were not affected by the pandemic. However, as this perception may be influenced by the context, e.g. an increase in the number of infections, transportation restrictions, number of vaccinated people, or the spread of new COVID-19 variants, etc., we strongly believe that future research covering different periods of time might provide additional insights to our findings.

#### **5.6.3 Implications for management practice**

This study brings out several implications for management practice. First, we provide evidence of the central role of trust in the platform compared to other trust types in ridesharing. We also showed how integrity-benevolence is the main dimension of trust that positively influences usage. Thus, our results indicate that practitioners should devote more of their resources to improving users' trust in the platform. In doing so, they should give priority to building integrity-benevolence-based trust in their platforms. Being more at the users' service by providing timely and accurate assistance, caring about their needs, and keeping their interests in mind while managing operations or designing new projects may enhance the benevolence trust-side of the platform. Consequently, to enhance the platform's integrity-benevolence trust-side, we recommend technological solutions that promote laws and regulations (Bokyeong and Cho 2016), personal and property safety (Li and Wang 2020), background checks (Amirkiaee and Evangelopoulos 2018), identity verification (Zloteanu et al. 2018), communication via the platform (Bhappu and Schultze 2018; Thierer et al. 2016), sharing dynamic information between

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riders and drivers (e.g., location and time) (Zhu et al. 2018), and reliable rating systems (Abrahao et al. 2017; Amirkiaee and Evangelopoulos 2018).

Second, although trust in riders and trust in drivers have shown no significant influence on using or providing ridesharing services, we suggest that platform managers do not marginalize building trust between their users. Previous research found for example that trust towards drivers leads to e-loyalty in the ridesharing service (Hou et al. 2020) and satisfaction in the accommodation sharing service (Möhlmann 2015). For instance, for riders, we have shown how the platform's ability and integrity-benevolence contribute to the trust transfer between the platform and riders. For drivers, on the other hand, this transfer relies solely on the platforms' ability. The findings suggest that ridesharing platforms should enable technological solutions that enhance ability, integrity, and benevolence. Also, by demonstrating their skills and knowledge e.g., by regularly improving the matchmaking algorithms with efficient use of big data analytics (Thierer et al. 2016) and enhancing user experience on the application and/or website, platform would be likely to increase trust among their community of users and create a favorable environment for transactions.

Third, we highlight the importance of differentiating the communication ridesharing platforms provide to their users. Several studies have found that companies reach their target outcomes with successful communication with their customers (Yang et al. 2018). Therefore, we advise ridesharing practitioners to provide quality and enough information to their users to decrease uncertainty (Berger and Calabrese 1975) and create a favorable environment for the development of trust. Following our results, communication about the integrity-benevolence of the platform

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should be more visible on the website, social media accounts, and platform application. However, managers should communicate more about their skills and abilities to increase interpersonal trust, especially when they address to drivers. For example, since 2016, Uber has dedicated a blog called "Uber Engineering" to communicate about its artificial intelligence technology and research, newly implemented technologies, scientific publications, and developers. Similar initiatives are therefore advisable to ridesharing platforms.

Finally, this study also found that COVID-19 risk perceptions do not influence Oszkár's usage. We suggested that the high rate of vaccination in Hungary and the removal of restrictions by the Government might be behind this result. Our findings support the idea that the ridesharing industry still has time to prosper after being severely hit by the pandemic. We also argue that trust will have a determinant role in post-pandemic ridesharing. Therefore, practitioners are advised to include the management of users' health risks at the core of their strategies. Travelers are expected to be more vigilant in the future, even when the pandemic ends, especially with new drivers having few or no reviews. Particular attention should also be given to senior users to mitigate their fears of possible infections. Our results suggest the importance of addressing the risk of exposure to the coronavirus during ride trips, especially for senior users, and establishing preventive measures like face covering, providing alcohol-based hand sanitizers in cars, and ensuring frequent car cleaning and disinfecting. Also, regular communication on the platform channels (i.e., website, blogs, social media, and applications) about these measures would help establish an environment of trust among users, especially the older ones.

#### 5.7 Limitations and directions for future research

The present work is subject to certain limitations. First, the study has been conducted in the Hungarian context with the aim of examining different types and dimensions of trust in the usage of one of the biggest ridesharing platforms in the CEE region. However, the particularities of the local context and cultural differences might undermine the generalizability of the findings. For example, societies that are more individualistic (e.g., US, German) tend to focus on facts, goals, and performance, and may thus, engage easier in trust demanding relationships compared to collectivist societies (e.g., Arab, Chinese, Japanese) who prioritize building human relationships and social solidarity (Doney, Cannon, and Mullen 1998). Consequently, we suggest future research to test our theoretical frameworks in other countries.

Second, our study has only examined ridesharing as one of the main categories of C2CSP. However, in the choice of the platform we deliberately opted for one that still have the "ethos" of the sharing economy. Like other *Gardeners*, following Constantiou's and colleagues' typology (2017), Oszkár focuses on building a community of users and organizes operations with lose control over ridesharing activities and low rivalry between drivers. We believe that the results of this study may be cautiously applicable to platforms with similar business model, like BlaBlaCar for example. However, on platforms like Uber, where prices are dynamically calculated by algorithms and the matchmaking is fully controlled by the platform (even on its ridesharing solution UberX Share), trust might create different perceptions and behaviors among riders and drivers. It is therefore suggested to future research to compare our findings with trust role and perceptions on ride-hailing platforms. In the same vein, future research should reexamine our findings using data from other categories of C2CSP e.g., peer-to-peer accommodation. For

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example, Mittendorf, et al. (2019) have found differences in the influence of trust between Uber and Airbnb; hence, testing our hierarchical model in Airbnb or similar platforms might be insightful for research in this field.

Third, the theoretical frameworks used in this study were built in the objective of addressing the research questions presented in Chapter 1. Our aim was to investigate the differences between trust types and dimensions in affecting the ridesharing usage, and not to evaluate other motives. However, one major limitation of this study's models is their lack of other constructs that may affect trust and/or usage behavior. For instance, the nature of the ridesharing trip (e.g., usual errand, work, emergency), demand patterns (e.g., peak traffic times, events), effect of the environment (e.g., weather, political instability), availability of alternatives (public transportations, taxis, micro-mobility solutions), employment regulations (tax collection for drivers), and pricing strategies (surge pricing) are all interesting factors that were not taken into consideration in this study. It is also important to mention that besides our focus on answering the research questions, technical considerations were also behind the design of the models. More variables would have made the questionnaire lengthy and would have undermined the response rate. Another limitation in the theoretical frameworks that needs to be acknowledged is that we only considered trust transfer from the institutional level (the platform) to the interpersonal level (riders and drivers) following the interdisciplinary model of high-level trust (McKnight and Chervany 2001) and findings in prior research. It would be interesting to empirically test whether, in the ridesharing context, trust is transferred from riders and drivers to the platform or even if it has a two-way direction.

Fourth, it is unfortunate that the statistical comparison between the results of the models was not possible. The most common method in the literature for this purpose is a Multigroup Analysis with tests of invariance between the models (Jörg Henseler, Ringle, and Sarstedt 2016). However, conducting this method is not feasible because it requires configural invariance (the same composites should exist in both models) and compositional invariance (composites are formed exactly the same way between models, e.g., the measures used). Other modeling approaches are therefore needed to assess the differences found in the results.

Fifth, although we have covered the types and dimensions of trust according to (McKnight and Chervany 2001), we believe that trust is a complex construct bearing other facets that are worthy of exploration. Trust in online environments may entail distinct mechanisms and it's perception by users and impact on transactions may be different compared to similar interactions taking place offline. There is also an important use of technology in C2CSP and more research is needed to unveil the most effective technological strategies that boost trust in such environments. As a next step, we suggest examining how cognitive and affective trusts intervene in shaping trust transfer in ridesharing platforms and how they affect usage. It would also be interesting to include factors that refer to the technological aspects and study its effect on trust and usage to get a more comprehensive picture of trust interactions in ridesharing platforms.

Finally, due to the lack of time and resources, the current study has followed a cross-sectional methodology to collect data, which may undermine the generalizability of the findings. Further investigation is needed with longitudinal studies that would examine trust in ridesharing over a longer period of time with larger sample sizes.

#### **5.8** Conclusion

Our study aimed at investigating the differences between types and dimensions of trust, based on the interdisciplinary model of trust theorized by McKnight and Chervany (2001), and their effects on ridesharing usage, as one of the main categories of consumer-to-consumer sharing platforms, from the rider and driver perspectives. We particularly looked at the differences between three types of trust: dispositional trust, institutional trust, and interpersonal trust. Conscious of the heavy impact of the coronavirus pandemic on the transportations market in general and shared mobility in particular, we examined the effects of the COVID-19 risk perception on ridesharing usage. We then designed a hierarchical model with two dimensions of trust (ability and integrity-benevolence), and analyzed survey data of 474 users of a major Central and Eastern European ridesharing platform using PLS-SEM.

Our findings highlight the central role of trust in the platform in ridesharing usage. We stand out from prior research by unveiling integrity-benevolence as the most influential dimension of trust in ridesharing use and clarifying trust differences between riders and drivers. We, therefore, provided opportunities for trust-building optimization for ridesharing managers. Moreover, this work proved that ridesharing users are not influenced by COVID-19 risk perceptions, which draws an optimistic future for this industry. We hope that the findings of this study and our hierarchical theoretical framework provide a confident starting point for future empirical research to examine the interactions of trust in the sharing economy more in-depth.

#### **CHAPTER 6**

# **Quo Vadis, Trust in C2CSP?**

In the previous chapters, we explored the role of trust in the sharing economy and addressed the topic from different angles. In the beginning, we outlined the particularities and typology of the sharing economy and set the focus on studying complex consumer-to-consumer sharing platforms. Second, we provided a thorough review of trust, clarified its ambiguities, and identified the types and dimensions to include in the analysis later on. Third, in my first study, we empirically examined and discussed the role and importance of trust relative to other factors in influencing C2CSP usage. Finally, we investigated various facets of trust in a ridesharing platform in Hungary in light of the COVID-19 pandemic and showed differences between types and dimensions of trust regarding ridesharing usage from riders' and drivers' perspective. In this final chapter, we will revisit the research questions presented in Chapter 1, and we will then conclude this work by providing some relevant paths for future research.

#### 6.1 Answers to the research questions

This dissertation had the overarching goal of investigating the role and importance of trust in C2CSP. In the following sections, I will summarize the main findings regarding each question and provide an answer to each of them.

#### *RQ1*: What is the set of user motives to participate in C2CSP?

C2CSP attract consumers due to many reasons. Our study in Chapter 4 tested a conceptual framework that included three groups of motives: utilitarian, sustainability-related, and trust-

building factors. Results (see Figure 7) show that the significant drivers of consumer participation in C2CSP are familiarity, trust in other users, perceived positive environmental impact, structural assurance, financial benefit, and perceived enjoyment.

*RQ2:* What is the importance of trust relative to other motives in using C2CSP? By considering the total effects (i.e., the sum of direct and indirect effects) of each of the significant motives, we found that trust-building factors (familiarity, trust in other users, and structural assurance) have the highest cumulative total effect on the intention to use C2CSP (see Table 12). Except for social benefit that showed nonsignificant effects, sustainability-related factors follow behind by half the size, then enjoyment. In sum, both interpersonal and institutional trusts have important roles in consumer adoption of the sharing economy.

*RQ3:* How do trust interactions differ between riders and drivers on ridesharing platforms? *RQ4:* What types and dimensions of trust are most determinants in shaping usage of ridesharing platforms?

In Chapter 5, we provide evidence of differences between supply and demand sides in ridesharing regarding how trust is perceived (see Figure 21). First, trust in the platform is the most influential form of trust in ridesharing for both riders and drivers, mainly through its integrity-benevolence dimension. In other words, users care more about the platform being ethical, reliable, and caring than being knowledgeable and competent. We also proved trust transfer from the platform to riders/drivers. For riders, this transfer is influenced by both ability and integrity-benevolence facets of trust in the platform. For drivers, however, this transfer is solely governed by trust in the platform's ability. Furthermore, our findings also show that

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propensity to trust significantly affects usage only for drivers. Nonetheless, the limitations presented in Chapter 5 (e.g., drivers' sample size) must not be neglected while interpreting the results.

# *RQ5:* To what extent do COVID-19 risk perceptions affect user participation on ridesharing platforms?

COVID-19 risk perception showed no significant influence on platform usage for both categories of users. This finding may be explained by the advance of the vaccination campaign in Hungary and the removal of health restrictions by the Government.

#### 6.2 Future research avenues

Sharing platforms have a pivotal role in monitoring and building trust to favor transactions. For instance, they need to set procedures and regulations, provide technological safeguards, conduct identity checks, and build reputation systems, among other services (Teubner, Hawlitschek, and Dann 2017). However, recent advances in the blockchain technology (BT) make it possible for sharing economy's operations to be undertaken in a decentralized system. For many authors, BT may shape the future of the sharing economy and may have the potential to disrupt sharing transactions. Therefore, there is ample room for further progress in understanding consumer trust behaviors in blockchain-enabled sharing platforms. Further research might also explore the dynamics of interpersonal trust in such contexts.

Another possible area of future research would be investigating the dark side of the sharing economy. Several authors have argued that the sharing economy may lead to negative societal outcomes. This includes, for example, consumer misbehaviors in the sharing economy (Schaefers et al. 2016) which consists of deliberately damaging assets accessed or overusing them. Other issues like discrimination have also been reported in carpooling (Tjaden, Schwemmer, and Khadjavi 2018) and Airbnb (Yu and Margolin 2022). Therefore, it would be interesting to investigate trust repairing mechanisms following consumer misbehaviors in the sharing economy. Not least interesting, research efforts should examine the role of trust in mitigating discrimination on sharing platforms.

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### Appendices

#### Appendix A. Questionnaire "C2CSP Motives"

#### Introduction

Welcome and thank you for agreeing to take part in this survey. It will take around **6 minutes** to complete. If you wish to enter the lottery and win one of **13 Amazon Gift Cards** ( $8x \in 10, 4x \in 20$ , and  $1x \in 40$ ), please provide your e-mail in the end of the survey.

Be assured that all answers you provide will be kept strictly anonymous and will be presented in dissertation and publications in aggregate form only.

This survey is designed for doctoral research at Central European University and aims at understanding the consumers' motives for participating in **Consumer-to-Consumer Sharing Platforms (C2CSP)**.

C2CSP are defined as online systems, (website based, mobile applications, or both) where service seekers meet service givers to get <u>access</u> to goods and services for a <u>certain time</u>, and for a compensation. Examples of C2CSP may be found in different sectors:

- Transportation: Uber, BlablaCar, Careem, Didi, Oszkár, Ola
- Shared Accommodation: Airbnb, Couchsurfing
- *Renting services:* Peerby, Fat Llama
- Neighborhood services: TaskRabbit, Nebenan, Smiile, MiUtcánk
- Peer-to-peer money lending: LendingClub, Lendico, Zopa

#### Please note that C2CSP are NOT:

- E-commerce platforms where goods and services are purchased and *fully owned* by buyers. Amazon, eBay or Alibaba are not C2CSP
- Renting, lending, and borrowing platforms where the transacted goods and services are *provided by the platform owner* not by *other users*. Seemingly, Lime scooters and Car2Go are not C2CSP
- Classifieds websites

We would be indebted if you would complete the survey as honestly as possible. Note that it is **not necessary** for you to have experience in the Sharing Economy or to be a regular user of

C2CSP to complete this survey. Your opinion is important to us in any case.

Some questions refer to your experience with C2CSP. In case you do not have experience with it, please just answer the question from a hypothetical or general point of view.

Thank you for your time. Let's get started!

Anass Karzazi PhD candidate Central European University

### Screening

**Q1:** I have carefully read the introduction and understand the definition of consumer-toconsumer sharing platforms (C2CSP).

○ Yes

🔿 No

### PART 1: C2CSP USAGE

Q2: Have you ever used Consumer-to-Consumer Sharing Platforms (C2CSP) before?

O Yes

🔿 No

Q3: How long have you been using C2CSP so far?

 $\bigcirc$  < 1 month

 $\bigcirc$  1 to 3 months

 $\bigcirc$  4 to 6 months

 $\bigcirc$  6 to 12 months

 $\bigcirc$  1 to 2 years

O More than 2 years

Q4: In an average year, how much would you say you spend on using the following types of C2CSP?

	Every Week	Several Times a Month	Around Once a Month	Several Times a Year	Around Once a Year	Less than Once a Year	Never
a) Transportations	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
b) Accommodation	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) Renting services	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
d) Neighborhood services	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
e) Peer-to-peer money lending	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

## PART 2: MOTIVES OF C2CSP USAGE

Please think about the C2C Sharing Platforms you use and indicate how much you agree or disagree with the following statements:

#### **Q5: Perceived Usefulness**

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) C2CSP make it easier to get the desired product or service than other classic sources	0	0	0	0	0
b) The use of C2CSP enables me to access genuine products and services more economically	0	0	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) The use of C2CSP allows me to get more fitted products and services with more attractive conditions	0	0	$\bigcirc$	$\bigcirc$	0

## **Q6: Perceived Enjoyment**

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) Using C2CSP is an enjoyable alternative for acquiring goods and services	0	0	0	0	0
b) Using C2CSP is entertaining	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	0
c) I have fun using C2CSP	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

# Q7: Financial Benefit

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) Using C2CSP help me lower my expenditures	0	0	0	$\bigcirc$	0
b) C2CSP offer access to more affordable goods and services	0	0	$\bigcirc$	0	0
c) C2CSP benefit me financially	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	0

<b>Q8: Structural Assuranc</b>	e (guarantees that make	e safe your exper	ience on C2CSP)
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	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) C2CSP have enough safeguards to make me feel comfortable while using it to transact goods and services	0	0	0	0	0
b) I feel assured that legal and technological structures adequately protect me from problems on C2CSP	0	0	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) In general, C2CSP are now robust and safe environments in which one can transact goods and services	0	0	0	0	$\bigcirc$

# **Q9: Social Experience**

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) Being on C2CSP is a good way to meet new people)	0	$\bigcirc$	0	0	$\bigcirc$
b) Through C2CSP I can meet like-minded people	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) C2CSP make me feel part of a community	0	0	0	$\bigcirc$	0

### Q10: Sustainability

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) C2CSP help in saving natural resources	0	0	0	0	0
b) C2CSP provide a sustainable mode of consumption	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) C2CSP are environmentally friendly	0	0	0	$\bigcirc$	$\bigcirc$

# Q11: Familiarity with C2C Sharing Platforms

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) I am familiar with C2CSP	0	0	0	0	0
b) I am familiar with searching for goods and services on C2CSP	0	0	0	$\bigcirc$	0
c) I am familiar with inquiring about goods and services on C2CSP	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### Q12: Trust in the Other Users

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) I trust that the displayed goods and services on C2CSP will be available as expected	0	0	0	0	0
b) The other users of C2CSP are truthful in dealing with one another	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) The other users of C2CSP will not take advantage of me	0	$\bigcirc$	$\bigcirc$	0	$\bigcirc$

### Q13: Attitude towards C2CSP

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) Using C2CSP to transact goods and services is a wise idea	0	0	0	0	0
b) I like the idea of using C2CSP	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) Using C2CSP is meaningful	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### Q14: Subjective Norms (refer to the social pressures on one's behavior)

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) I use C2CSP because my close friends do that	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
b) I use C2CSP because members of my family do that	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) People who are important to me would agree if I used C2CSP	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### Q15: Perceived Behavioral Control (refers to your ability to use C2CSP)

	Strong ly Disagr ee	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) I am able to use C2CSP	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
b) Using C2CSP is entirely within my control	0	$\bigcirc$	0	$\bigcirc$	$\bigcirc$
c) I have the resources and the knowledge and ability to make use of C2CSP	0	0	0	$\bigcirc$	0

#### **Q16: Intention to Use**

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a) I have strong intentions to use C2CSP in the future	0	$\bigcirc$	$\bigcirc$	0	$\bigcirc$
b) I'm considering using C2CSP	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
c) I will recommend C2CSP to others	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

# **PART 3: DEMOGRAPHICS**

**Q17:** What is your gender?

○ Female

O Male

O Other

Q18: What is your year of birth? Please select from the list

(List of years)

**Q19:** What is the country of your nationality? Please select from the list

(List of countries)

### **Q20:** Are you a:

○ CEU Student

#### ○ CEU Alumni

O Other

**Q21:** What is your highest education level? (Although not completed)

- $\bigcirc$  Did not complete high school
- $\bigcirc$  High school graduate
- $\bigcirc$  Some college, no degree
- O Bachelor
- O Masters, MBA
- PhD

**Q22:** What is the approximative range of the total <u>net monthly income of your household</u>? (After tax)

O €499 or less

○ €500 to €999

○ €1,000 to €1,499

○ €1,500 to €1,999

○ €2,000 to €2,499

○ €2,500 to €2,999

○ €3,000 to €4,999

○ €5,000 or more

**Q23:** Do you wish to enter the lottery and win one of 13 Amazon Gift Cards ( $8x \in 10, 4x \in 20$ , and  $1x \in 40$ )?

 $\bigcirc$  Yes

🔿 No

[Raffle screen]

### Raffle

#### Welcome to the lottery!

Once the survey is closed, 13 winners of 13 Amazon gift cards ( $8x \in 10$ ,  $4x \in 20$ , and  $1x \in 40$ ) will be randomly selected.

Please provide below your CEU **email address**. Be assured that it won't be tied with the responses you have provided.

Email: \_\_\_\_\_

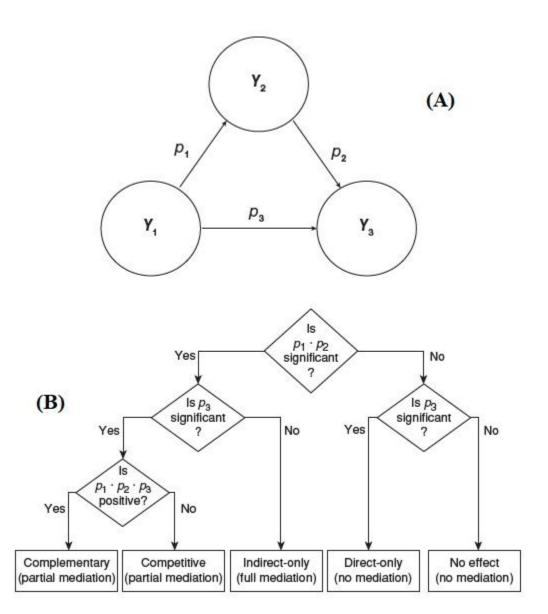
#### [End of survey screen]

We thank you for your time spent taking this survey. Your response has been recorded.

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B1_0.5200.7760.3990.3020.4230.3660.4440.3830.1370.1840.2810.235B1_20.4250.6730.3540.2600.2730.2720.4460.2750.1980.2010.3010.231B1_30.6180.8850.4930.3770.3820.3590.4900.4130.2120.2670.3110.272EN1_10.5020.4950.8370.3480.2550.2340.3150.4750.1430.3300.3390.273EN1_20.5130.4030.7800.3640.1270.2210.1660.3780.1790.4790.2580.274EN1_30.5030.3860.7850.3940.1500.0230.1890.3330.1410.5330.3130.234ENV_10.5790.3880.3910.9180.0230.1390.1440.1890.1940.0250.4640.1000.154ENV_20.5320.3420.4140.8820.0240.3070.1470.1840.0250.4640.1000.168ENV_30.5490.3420.4210.6210.6370.1470.1840.0250.4640.1000.168ENV_10.5990.3420.4140.8810.0240.3000.1470.1840.0250.4640.1000.168ENV_20.1590.4090.1440.6270.1660.3940.2390.166 <t< td=""><td>ATT_2</td><td>0.844</td><td>0.593</td><td>0.569</td><td>0.467</td><td>0.177</td><td>0.276</td><td>0.359</td><td>0.370</td><td>0.141</td><td>0.433</td><td>0.368</td><td>0.402</td></t<>	ATT_2	0.844	0.593	0.569	0.467	0.177	0.276	0.359	0.370	0.141	0.433	0.368	0.402
HH0.4250.6730.3540.2600.2730.2720.4460.2750.1980.2010.3010.211BI_30.6180.8850.4930.3770.3820.3590.4900.4130.2120.2670.3110.272ENJ_10.5020.4950.8370.3480.2550.2340.3150.4750.1430.3300.3390.273ENJ_20.5130.4030.7800.3640.1270.2110.1660.3780.1790.4790.2580.274ENJ_30.5030.3860.7850.3940.1500.2030.1980.3330.1410.5330.3130.234ENV_10.5790.3880.3910.9180.0730.3440.1890.1940.0930.4330.2240.160ENV_20.5320.3520.4140.8820.0260.3070.1790.1280.1310.4700.1900.154ENV_30.5490.3420.4270.8810.0240.3070.1470.1840.0250.4640.1900.168FAM_10.2090.3570.1810.0210.8670.1390.4170.2260.1760.0340.1830.131FIN_10.1980.2670.1330.2910.1640.3220.1250.580.1380.0850.156FIN_20.3240.3920.2400.2890.1160.8690.2410.3160.14	ATT_3	0.788	0.476	0.495	0.572	0.177	0.279	0.322	0.261	0.077	0.530	0.275	0.311
BI_30.6180.8850.4930.3770.3820.3590.4900.4130.2120.2670.3110.272ENJ_10.5020.4950.8370.3480.2550.2340.3150.4750.1430.3300.3390.273ENJ_20.5130.4030.7800.3640.1270.2210.1660.3780.1790.4790.2580.274ENJ_30.5030.3860.7850.3940.1500.2030.1980.3330.1410.5330.3130.234ENV_10.5790.3880.3910.9180.0730.3440.1890.1940.0930.4330.2240.160ENV_20.5220.3520.4140.8820.0260.3000.1770.1840.0250.4640.1900.154ENV_30.5490.3220.4140.8820.0260.3070.1470.1840.0250.4640.1900.156FAM_10.2090.3570.1810.0460.8570.1660.3940.2390.0660.0290.2570.200FAM_20.1990.4460.2120.0210.9060.1620.1760.3300.1810.1830.183FIN_10.1980.2670.1330.2910.1240.4350.2320.1290.0670.1630.184FIN_20.3240.3670.2400.2890.1160.6240.1850.1310.1310.311 <td>BI_1</td> <td>0.520</td> <td>0.776</td> <td>0.399</td> <td>0.302</td> <td>0.423</td> <td>0.366</td> <td>0.444</td> <td>0.383</td> <td>0.137</td> <td>0.184</td> <td>0.281</td> <td>0.235</td>	BI_1	0.520	0.776	0.399	0.302	0.423	0.366	0.444	0.383	0.137	0.184	0.281	0.235
EN_10.5020.4950.8370.3480.2550.2340.3150.4750.1430.3300.3390.273ENJ_20.5130.4030.7800.3640.1270.2210.1660.3780.1790.4790.2580.274ENJ_30.5030.3860.7850.3940.1500.2030.1980.3330.1410.5330.3130.234ENV_10.5790.3880.3910.9180.0730.3440.1890.1940.0930.4330.2240.160ENV_20.5320.3520.4140.8820.0260.3000.1790.1280.1310.4700.1900.154ENV_30.5490.3420.4270.8810.0240.3070.1470.1840.0250.4640.1900.168FAM_10.2090.3570.1810.0460.8570.1660.3940.2390.0960.0690.2570.200FAM_30.2090.4460.2120.0210.9060.1420.4350.2220.1290.6670.1630.180FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.0850.156FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.233 <td>BI_2</td> <td>0.425</td> <td>0.673</td> <td>0.354</td> <td>0.260</td> <td>0.273</td> <td>0.272</td> <td>0.446</td> <td>0.275</td> <td>0.198</td> <td>0.201</td> <td>0.301</td> <td>0.231</td>	BI_2	0.425	0.673	0.354	0.260	0.273	0.272	0.446	0.275	0.198	0.201	0.301	0.231
ENJ_20.5130.4030.7800.3640.1270.2210.1660.3780.1790.4790.2580.274ENJ_30.5030.3860.7850.3940.1500.2030.1980.3330.1410.5330.3130.234ENV_10.5790.3880.3910.9180.0730.3440.1890.1940.0930.4330.2240.160ENV_20.5320.3520.4140.8820.0260.3000.1790.1280.1310.4700.1900.154ENV_30.5490.3420.4270.8810.0240.3070.1470.1840.0250.4640.1900.168FAM_10.2090.3570.1810.0460.8570.1660.3940.2390.0960.0690.2570.200FAM_20.1950.4090.1940.0570.8670.1390.4170.2260.1760.0340.1830.188FAM_30.2090.4460.2120.0210.9060.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2770.1330.2910.1240.6320.1980.2150.0580.1380.8250.166FIN_20.3240.3920.2400.2890.1160.6860.2240.3160.0440.2020.1840.255FIN_30.2960.3670.1710.9020.2760.2550.1410.180 <td>BI_3</td> <td>0.618</td> <td>0.885</td> <td>0.493</td> <td>0.377</td> <td>0.382</td> <td>0.359</td> <td>0.490</td> <td>0.413</td> <td>0.212</td> <td>0.267</td> <td>0.311</td> <td>0.272</td>	BI_3	0.618	0.885	0.493	0.377	0.382	0.359	0.490	0.413	0.212	0.267	0.311	0.272
ENJ_30.5030.3860.7850.3940.1500.2030.1980.3330.1410.5330.3130.234ENV_10.5790.3880.3910.9180.0730.3440.1890.1940.0930.4330.2240.160ENV_20.5320.3520.4140.8820.0260.3300.1790.1280.1310.4700.1900.154ENV_30.5490.3420.4270.8810.0240.3070.1470.1840.0250.4640.1900.168FAM_10.2090.3570.1810.0460.8570.1660.3940.2390.0960.0690.2570.200FAM_20.1950.4090.1940.0570.8670.1390.4170.2260.1760.0340.1830.138FAM_30.2090.4460.2120.0210.9060.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.8550.166FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.253 <td>ENJ_1</td> <td>0.502</td> <td>0.495</td> <td>0.837</td> <td>0.348</td> <td>0.255</td> <td>0.234</td> <td>0.315</td> <td>0.475</td> <td>0.143</td> <td>0.330</td> <td>0.339</td> <td>0.273</td>	ENJ_1	0.502	0.495	0.837	0.348	0.255	0.234	0.315	0.475	0.143	0.330	0.339	0.273
ENV_10.5790.3880.3910.9180.0730.3440.1890.1940.0930.4330.2240.160ENV_20.5320.3520.4140.8820.0260.3300.1790.1280.1310.4700.1900.154ENV_30.5490.3420.4270.8810.0240.3070.1470.1840.0250.4640.1900.168FAM_10.2090.3570.1810.0460.8570.1660.3940.2390.0960.0690.2570.200FAM_20.1950.4090.1940.0570.8670.1390.4170.2260.1760.0340.1830.138FAM_30.2090.4460.2120.0210.9060.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.8550.156FIN_20.3240.3920.2400.2890.1160.6690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2530.1340.0110.2850.270PBC_20.3300.3760.1910.2040.2480.1610.6540.231 <td>ENJ_2</td> <td>0.513</td> <td>0.403</td> <td>0.780</td> <td>0.364</td> <td>0.127</td> <td>0.221</td> <td>0.166</td> <td>0.378</td> <td>0.179</td> <td>0.479</td> <td>0.258</td> <td>0.274</td>	ENJ_2	0.513	0.403	0.780	0.364	0.127	0.221	0.166	0.378	0.179	0.479	0.258	0.274
ENV_20.5320.4140.8820.0260.3300.1790.1280.1310.4700.1900.154ENV_30.5490.3420.4270.8810.0240.3070.1470.1840.0250.4640.1900.168FAM_10.2090.3570.1810.0460.8570.1660.3940.2390.0960.0690.2570.200FAM_20.1950.4090.1940.0570.8670.1390.4170.2260.1760.0340.1830.138FAM_30.2090.4460.2120.0210.9060.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.0850.156FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.3110.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2310.0450.0800.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.840.0410.3370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.611	ENJ_3	0.503	0.386	0.785	0.394	0.150	0.203	0.198	0.333	0.141	0.533	0.313	0.234
ENV_30.5490.3420.4270.8810.0240.3070.1470.1840.0250.4640.1900.168FAM_10.2090.3570.1810.0460.8570.1660.3940.2390.0960.0690.2570.200FAM_20.1950.4090.1940.0570.8670.1390.4170.2260.1760.0340.1830.138FAM_30.2090.4460.2120.0210.9060.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.0850.156FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2310.0450.0800.2210.267PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.0800.2120.2370.237PBC_30.3040.4750.2000.1890.2550.3440.3551.0000.0610.1720.3270.237PU_30.4050.4610.4950.1890.1520.7700.122 <td>ENV_1</td> <td>0.579</td> <td>0.388</td> <td>0.391</td> <td>0.918</td> <td>0.073</td> <td>0.344</td> <td>0.189</td> <td>0.194</td> <td>0.093</td> <td>0.433</td> <td>0.224</td> <td>0.160</td>	ENV_1	0.579	0.388	0.391	0.918	0.073	0.344	0.189	0.194	0.093	0.433	0.224	0.160
FAM_10.2090.3570.1810.046 <b>0.857</b> 0.1660.3940.2390.0960.0690.2570.200FAM_20.1950.4090.1940.057 <b>0.867</b> 0.1390.4170.2260.1760.0340.1830.138FAM_30.2090.4460.2120.021 <b>0.906</b> 0.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2670.1330.2910.124 <b>0.662</b> 0.1980.2150.0580.1380.0850.156FIN_20.3240.3920.2400.2890.116 <b>0.869</b> 0.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.171 <b>0.902</b> 0.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.286 <b>0.788</b> 0.2310.4450.0800.2210.265PBC_20.3300.3760.1910.2040.2480.161 <b>0.654</b> 0.2310.0450.8000.2370.277PBC_130.3040.4750.2400.1230.3900.187 <b>0.773</b> 0.3040.0840.0410.2370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.231SN_30.1070.2320.1920.1930.1520.0700.122	ENV_2	0.532	0.352	0.414	0.882	0.026	0.330	0.179	0.128	0.131	0.470	0.190	0.154
FAM_20.1950.4090.1940.0570.8670.1390.4170.2260.1760.0340.1830.138FAM_30.2090.4460.2120.0210.9060.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.0850.156FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2530.134-0.0110.2850.270PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.8000.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0840.0410.2370.277PU_30.4050.4610.4950.1890.2550.3440.3551.0000.0610.1720.3270.231SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.1120.2330.2800.140 <td>ENV_3</td> <td>0.549</td> <td>0.342</td> <td>0.427</td> <td>0.881</td> <td>0.024</td> <td>0.307</td> <td>0.147</td> <td>0.184</td> <td>0.025</td> <td>0.464</td> <td>0.190</td> <td>0.168</td>	ENV_3	0.549	0.342	0.427	0.881	0.024	0.307	0.147	0.184	0.025	0.464	0.190	0.168
FAM_30.2090.4460.2120.0210.9060.1420.4350.2320.1290.0670.1630.180FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.0850.156FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2310.0450.0800.2210.267PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.0800.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0840.0410.2370.276PU_30.4050.4610.4950.1890.2650.3440.3551.0000.6610.1720.3270.235SN_30.1070.2320.1920.0930.1520.0700.1220.6611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.8800.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.100 <td>FAM_1</td> <td>0.209</td> <td>0.357</td> <td>0.181</td> <td>0.046</td> <td>0.857</td> <td>0.166</td> <td>0.394</td> <td>0.239</td> <td>0.096</td> <td>0.069</td> <td>0.257</td> <td>0.200</td>	FAM_1	0.209	0.357	0.181	0.046	0.857	0.166	0.394	0.239	0.096	0.069	0.257	0.200
FIN_10.1980.2670.1330.2910.1240.6320.1980.2150.0580.1380.0850.156FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2530.134-0.0110.2850.270PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.0800.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0840.0410.2370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.235SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.8200.8000.1620.211SOC_20.3740.1480.4010.3530.0430.155-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.167 <td>FAM_2</td> <td>0.195</td> <td>0.409</td> <td>0.194</td> <td>0.057</td> <td>0.867</td> <td>0.139</td> <td>0.417</td> <td>0.226</td> <td>0.176</td> <td>0.034</td> <td>0.183</td> <td>0.138</td>	FAM_2	0.195	0.409	0.194	0.057	0.867	0.139	0.417	0.226	0.176	0.034	0.183	0.138
FIN_20.3240.3920.2400.2890.1160.8690.2240.3160.0440.2020.1840.255FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2530.134-0.0110.2850.270PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.0800.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0840.0410.2370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.235SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.8820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0140.1140.7650.508STA_10.2860.3290.2490.1460.1820.1410.2360.269 <td>FAM_3</td> <td>0.209</td> <td>0.446</td> <td>0.212</td> <td>0.021</td> <td>0.906</td> <td>0.142</td> <td>0.435</td> <td>0.232</td> <td>0.129</td> <td>0.067</td> <td>0.163</td> <td>0.180</td>	FAM_3	0.209	0.446	0.212	0.021	0.906	0.142	0.435	0.232	0.129	0.067	0.163	0.180
FIN_30.2960.3670.2740.3160.1710.9020.2760.2950.0710.1860.1310.311PBC_10.3320.4460.2020.1110.4020.2860.7880.2530.134-0.0110.2850.270PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.0800.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0840.0410.2370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.235SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.8820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1860.2800.274-0.0140.1140.7650.508STA_30.4310.3450.3980.2430.2120.1270.3340.290 </td <td>FIN_1</td> <td>0.198</td> <td>0.267</td> <td>0.133</td> <td>0.291</td> <td>0.124</td> <td>0.632</td> <td>0.198</td> <td>0.215</td> <td>0.058</td> <td>0.138</td> <td>0.085</td> <td>0.156</td>	FIN_1	0.198	0.267	0.133	0.291	0.124	0.632	0.198	0.215	0.058	0.138	0.085	0.156
PBC_10.3320.4460.2020.1110.4020.2860.7880.2530.134-0.0110.2850.270PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.0800.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0440.0410.2370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.235SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.8820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_20.3850.2890.3040.1760.1820.1410.2360.2690.0010.1680.8270.549STA_30.4310.3450.3980.2430.2120.1270.3340.290 </td <td>FIN_2</td> <td>0.324</td> <td>0.392</td> <td>0.240</td> <td>0.289</td> <td>0.116</td> <td>0.869</td> <td>0.224</td> <td>0.316</td> <td>0.044</td> <td>0.202</td> <td>0.184</td> <td>0.255</td>	FIN_2	0.324	0.392	0.240	0.289	0.116	0.869	0.224	0.316	0.044	0.202	0.184	0.255
PBC_20.3300.3760.1910.2040.2480.1610.6540.2310.0450.0800.2210.267PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0840.0410.2370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.2370.235SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.8820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_30.4310.3450.3980.2430.2120.1270.3340.2900.1190.2160.9410.525TRU_10.3720.2800.2400.1090.2090.2650.3400.1950.1140.1830.5020.820TRU_20.3470.2410.2830.1630.1050.2630.255 <td>FIN_3</td> <td>0.296</td> <td>0.367</td> <td>0.274</td> <td>0.316</td> <td>0.171</td> <td>0.902</td> <td>0.276</td> <td>0.295</td> <td>0.071</td> <td>0.186</td> <td>0.131</td> <td>0.311</td>	FIN_3	0.296	0.367	0.274	0.316	0.171	0.902	0.276	0.295	0.071	0.186	0.131	0.311
PBC_30.3040.4750.2400.1230.3900.1870.7730.3040.0840.0410.2370.277PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.235SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.0820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_20.3850.2890.3040.1760.1820.1410.2360.2690.0010.1680.8270.549STA_30.4310.3450.3980.2430.2120.1270.3340.2900.1190.2160.9410.525TRU_10.3720.2800.2400.1090.2090.2650.3400.1950.1140.1830.5020.820TRU_20.3470.2410.2830.1630.1050.2630.2550.161 <td>PBC_1</td> <td>0.332</td> <td>0.446</td> <td>0.202</td> <td>0.111</td> <td>0.402</td> <td>0.286</td> <td>0.788</td> <td>0.253</td> <td>0.134</td> <td>-0.011</td> <td>0.285</td> <td>0.270</td>	PBC_1	0.332	0.446	0.202	0.111	0.402	0.286	0.788	0.253	0.134	-0.011	0.285	0.270
PU_30.4050.4610.4950.1890.2650.3440.3551.0000.0610.1720.3270.235SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.0820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_20.3850.2890.3040.1760.1820.1410.2360.2690.0010.1680.8270.549STA_30.4310.3450.3980.2430.2120.1270.3340.2900.1190.2160.9410.525TRU_10.3720.2800.2400.1090.2090.2650.3400.1950.1140.1830.5020.820TRU_20.3470.2410.2830.1630.1050.2630.2550.1610.0470.2010.5010.778	PBC_2	0.330	0.376	0.191	0.204	0.248	0.161	0.654	0.231	0.045	0.080	0.221	0.267
SN_30.1070.2320.1920.0930.1520.0700.1220.0611.0000.1100.0470.103SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.0820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_20.3850.2890.3040.1760.1820.1410.2360.2690.0010.1680.8270.549STA_30.4310.3450.3980.2430.2120.1270.3340.2900.1190.2160.9410.525TRU_10.3720.2800.2400.1090.2090.2650.3400.1950.1140.1830.5020.820TRU_20.3470.2410.2830.1630.1050.2630.2550.1610.0470.2010.5010.778	PBC_3	0.304	0.475	0.240	0.123	0.390	0.187	0.773	0.304	0.084	0.041	0.237	0.277
SOC_10.4490.1980.4190.4070.0120.2330.0280.1400.0820.8000.1620.211SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_20.3850.2890.3040.1760.1820.1410.2360.2690.0010.1680.8270.549STA_30.4310.3450.3980.2430.2120.1270.3340.2900.1190.2160.9410.525TRU_10.3720.2800.2400.1090.2090.2650.3400.1950.1140.1830.5020.820TRU_20.3470.2410.2830.1630.1050.2630.2550.1610.0470.2010.5010.778	PU_3	0.405	0.461	0.495	0.189	0.265	0.344	0.355	1.000	0.061	0.172	0.327	0.235
SOC_20.3740.1480.4010.3530.0430.135-0.0530.1000.1120.6770.1110.169SOC_30.4700.3070.5070.4570.0950.1580.1120.1670.0770.9080.1970.231STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_20.3850.2890.3040.1760.1820.1410.2360.2690.0010.1680.8270.549STA_30.4310.3450.3980.2430.2120.1270.3340.2900.1190.2160.9410.525TRU_10.3720.2800.2400.1090.2090.2650.3400.1950.1140.1830.5020.820TRU_20.3470.2410.2830.1630.1050.2630.2550.1610.0470.2010.5010.778	SN_3	0.107	0.232	0.192	0.093	0.152	0.070	0.122	0.061	1.000	0.110	0.047	0.103
SOC_3       0.470       0.307       0.507       0.457       0.095       0.158       0.112       0.167       0.077       0.908       0.197       0.231         STA_1       0.286       0.329       0.249       0.146       0.186       0.168       0.280       0.274       -0.014       0.114       0.765       0.508         STA_2       0.385       0.289       0.304       0.176       0.182       0.141       0.236       0.269       0.001       0.168       0.827       0.549         STA_3       0.431       0.345       0.398       0.243       0.212       0.127       0.334       0.290       0.119       0.216       0.941       0.525         TRU_1       0.372       0.280       0.240       0.109       0.209       0.265       0.340       0.195       0.114       0.183       0.502       0.820         TRU_2       0.347       0.241       0.283       0.163       0.105       0.263       0.255       0.161       0.047       0.201       0.501       0.778	SOC_1	0.449	0.198	0.419	0.407	0.012	0.233	0.028	0.140	0.082	0.800	0.162	0.211
STA_10.2860.3290.2490.1460.1860.1680.2800.274-0.0140.1140.7650.508STA_20.3850.2890.3040.1760.1820.1410.2360.2690.0010.1680.8270.549STA_30.4310.3450.3980.2430.2120.1270.3340.2900.1190.2160.9410.525TRU_10.3720.2800.2400.1090.2090.2650.3400.1950.1140.1830.5020.820TRU_20.3470.2410.2830.1630.1050.2630.2550.1610.0470.2010.5010.778	SOC_2	0.374	0.148	0.401	0.353	0.043	0.135	-0.053	0.100	0.112	0.677	0.111	0.169
STA_2       0.385       0.289       0.304       0.176       0.182       0.141       0.236       0.269       0.001       0.168 <b>0.827</b> 0.549         STA_3       0.431       0.345       0.398       0.243       0.212       0.127       0.334       0.290       0.119       0.216 <b>0.941</b> 0.525         TRU_1       0.372       0.280       0.240       0.109       0.209       0.265       0.340       0.195       0.114       0.183       0.502 <b>0.820</b> TRU_2       0.347       0.241       0.283       0.163       0.105       0.263       0.255       0.161       0.047       0.201       0.501 <b>0.778</b>	SOC_3	0.470	0.307	0.507	0.457	0.095	0.158	0.112	0.167	0.077	0.908	0.197	0.231
STA_3       0.431       0.345       0.398       0.243       0.212       0.127       0.334       0.290       0.119       0.216 <b>0.941</b> 0.525         TRU_1       0.372       0.280       0.240       0.109       0.209       0.265       0.340       0.195       0.114       0.183       0.502 <b>0.820</b> TRU_2       0.347       0.241       0.283       0.163       0.105       0.263       0.255       0.161       0.047       0.201       0.501 <b>0.778</b>	STA_1	0.286	0.329	0.249	0.146	0.186	0.168	0.280	0.274	-0.014	0.114	0.765	0.508
TRU_1       0.372       0.280       0.240       0.109       0.209       0.265       0.340       0.195       0.114       0.183       0.502 <b>0.820</b> TRU_2       0.347       0.241       0.283       0.163       0.105       0.263       0.255       0.161       0.047       0.201       0.501 <b>0.778</b>	STA_2	0.385	0.289	0.304	0.176	0.182	0.141	0.236	0.269	0.001	0.168	0.827	0.549
TRU_2 0.347 0.241 0.283 0.163 0.105 0.263 0.255 0.161 0.047 0.201 0.501 <b>0.778</b>	STA_3	0.431	0.345	0.398	0.243	0.212	0.127	0.334	0.290	0.119	0.216	0.941	0.525
	TRU_1	0.372	0.280	0.240	0.109	0.209	0.265	0.340	0.195	0.114	0.183	0.502	0.820
TRU_3 0.366 0.202 0.229 0.147 0.138 0.173 0.246 0.188 0.074 0.213 0.430 <b>0.713</b>	TRU_2	0.347	0.241	0.283	0.163	0.105	0.263	0.255	0.161	0.047	0.201	0.501	0.778
	TRU_3	0.366	0.202	0.229	0.147	0.138	0.173	0.246	0.188	0.074	0.213	0.430	0.713

	ATT	BI	ENJ	ENV	FAM	FIN	PBC	PU	SN	SOC	STA	TRU
ATT	1.000											
BI	0.673	1.000										
ENJ	0.631	0.535	1.000									
ENV	0.619	0.404	0.459	1.000								
FAM	0.233	0.462	0.223	0.047	1.000							
FIN	0.342	0.427	0.274	0.366	0.170	1.000						
PBC	0.433	0.586	0.285	0.192	0.474	0.289	1.000					
PU	0.405	0.461	0.495	0.189	0.265	0.344	0.355	1.000				
SN	0.107	0.232	0.192	0.093	0.152	0.070	0.122	0.061	1.000			
SOC	0.540	0.280	0.555	0.509	0.065	0.219	0.046	0.172	0.110	1.000		
STA	0.437	0.378	0.379	0.226	0.228	0.169	0.336	0.327	0.047	0.199	1.000	
TRU	0.468	0.314	0.325	0.180	0.197	0.305	0.365	0.235	0.103	0.256	0.620	1.000

Appendix C. Correlations among latent variables (Study 1)



Source: Hair et al. (2017) based on Zhao, Lynch, and Chen (2010)

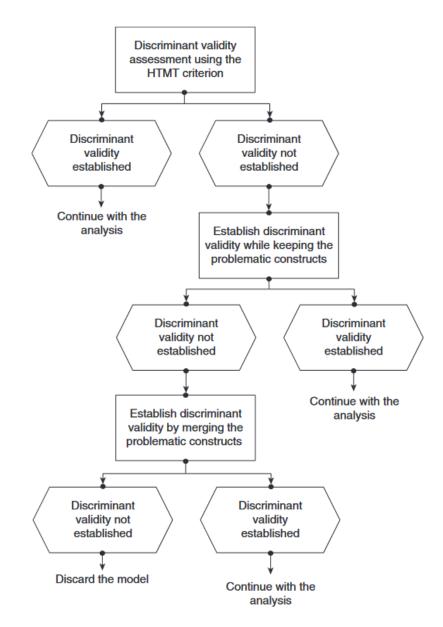
	BI	COV	PTT	RTRD_abi	RTRD_ben	RTRD_int	RTRP_abi	RTRP_ben	RTRP_in
BI1	0.944	0.109	0.246	0.375	0.426	0.395	0.477	0.599	0.576
BI2	0.949	0.146	0.233	0.375	0.420	0.399	0.504	0.600	0.575
BI3	0.899	0.146	0.233	0.369	0.409	0.433	0.540	0.605	0.596
BI4	0.948	0.153	0.266	0.374	0.407	0.427	0.524	0.644	0.617
Fear1	-0.026	0.645	-0.023	0.006	-0.038	-0.048	-0.019	-0.027	-0.041
Perc.Threat1	0.059	0.773	-0.023	0.074	0.038	0.005	0.075	0.084	0.052
Perc.Threat2	0.146	0.814	0.041	0.118	0.061	0.076	0.177	0.176	0.175
Risk.Contract1	0.107	0.796	0.033	0.070	0.083	0.053	0.078	0.120	0.061
Risk.Contract2	0.043	0.669	0.033	0.034	0.007	-0.025	0.002	-0.004	-0.031
PTT1	0.299	0.054	0.800	0.305	0.355	0.363	0.332	0.382	0.427
PTT2	0.181	0.014	0.848	0.324	0.290	0.273	0.342	0.313	0.348
PTT3	0.215	0.024	0.837	0.360	0.362	0.373	0.373	0.334	0.340
PTT4	0.111	0.011	0.778	0.252	0.231	0.222	0.286	0.251	0.254
PTT5	0.105	0.034	0.695	0.237	0.230	0.187	0.255	0.236	0.234
RTRD_ABI1	0.342	0.080	0.348	0.748	0.535	0.561	0.457	0.440	0.448
RTRD_ABI2	0.372	0.109	0.287	0.866	0.592	0.605	0.510	0.505	0.473
RTRD_ABI3	0.326	0.107	0.329	0.879	0.590	0.627	0.494	0.487	0.462
RTRD_ABI4	0.296	0.069	0.311	0.849	0.578	0.587	0.442	0.421	0.379
RTRD_ABI5	0.326	0.115	0.327	0.836	0.587	0.595	0.483	0.469	0.448
RTRD_BEN1	0.284	0.031	0.321	0.607	0.856	0.664	0.364	0.421	0.354
RTRD_BEN2	0.356	0.045	0.316	0.627	0.880	0.692	0.448	0.500	0.436
RTRD_BEN3	0.465	0.094	0.310	0.501	0.779	0.595	0.478	0.566	0.517
RTRD_BEN4	0.365	0.095	0.376	0.613	0.876	0.720	0.456	0.477	0.433
RTRD_INT1	0.378	0.065	0.337	0.559	0.705	0.834	0.488	0.524	0.519
RTRD_INT2	0.385	0.022	0.352	0.595	0.674	0.851	0.495	0.527	0.485
RTRD_INT3	0.383	0.061	0.310	0.644	0.652	0.873	0.497	0.524	0.488
RTRD_INT4	0.375	0.081	0.327	0.652	0.672	0.879	0.504	0.502	0.474
RTRP_ABI1	0.471	0.128	0.362	0.502	0.464	0.530	0.828	0.658	0.642
RTRP_ABI2	0.476	0.170	0.332	0.477	0.432	0.464	0.899	0.611	0.570
RTRP_ABI3	0.448	0.130	0.337	0.451	0.372	0.429	0.869	0.617	0.608
RTRP_ABI4	0.498	0.097	0.384	0.546	0.527	0.563	0.877	0.708	0.639
RTRP_BEN1	0.527	0.123	0.382	0.522	0.535	0.549	0.724	0.840	0.667
RTRP_BEN2	0.556	0.187	0.333	0.457	0.506	0.495	0.635	0.900	0.726
RTRP_BEN3	0.623	0.147	0.299	0.462	0.492	0.516	0.603	0.883	0.757
RTRP_BEN4	0.576	0.133	0.391	0.500	0.518	0.545	0.653	0.864	0.721
RTRP_INT1	0.540	0.112	0.385	0.472	0.474	0.513	0.610	0.691	0.891
RTRP_INT2	0.530	0.058	0.388	0.504	0.459	0.519	0.621	0.723	0.897
RTRP_INT3	0.580	0.150	0.369	0.475	0.467	0.540	0.663	0.756	0.909
RTRP_INT4	0.614	0.157	0.407	0.449	0.475	0.476	0.647	0.777	0.882

Appendix E. Cross-loadings with ability-integrity-benevolence separated (riders' view)

	CVR	EXP	RTRD_abi	RTRD_ben	RTRD_int	RTRP_abi	RTRP_ben	RTRP_in	t AGE	BI	EDU	GEN	INC	PTT	RUR
CVR															
EXP	0.112														
RTRD_abi	0.080	0.140													
RTRD_ber	0.064	0.179	0.785												
RTRD_int	0.058	0.137	0.803	0.897											
RTRP_abi	0.100	0.046	0.636	0.577	0.645										
RTRP_ben	0.110	0.064	0.621	0.655	0.680	0.835									
RTRP_int	0.091	0.033	0.585	0.574	0.636	0.783	0.909								
AGE	0.104	0.095	0.200	0.225	0.140	0.087	0.053	0.087							
BI	0.089	0.044	0.432	0.476	0.482	0.591	0.709	0.676	0.084						
EDU	0.071	0.133	0.098	0.137	0.124	0.063	0.076	0.051	0.244	0.020					
GEN	0.022	0.013	0.089	0.083	0.041	0.053	0.037	0.063	0.258	0.092	0.067				
INC	0.060	0.126	0.037	0.107	0.110	0.035	0.054	0.053	0.275	0.043	0.265	0.151			
PTT	0.050	0.057	0.419	0.418	0.403	0.447	0.427	0.447	0.141	0.249	0.100	0.066	0.045		
RUR	0.089	0.078	0.092	0.130	0.095	0.037	0.055	0.017	0.120	0.050	0.172	0.047	0.111	0.072	ļ

### integrity, and benevolence constructs separated

Appendix F. Discriminant validity – Heterotrait-Monotrait Ratio (HTMT) – Case of ability,



	BI	COV	PTT	RTRD_ABI	RTRD_IB	RTRP_ABI	RTRP_IB
R_BI1	0.944	0.109	0.246	0.375	0.434	0.477	0.615
R_BI2	0.949	0.146	0.233	0.375	0.432	0.504	0.616
R_BI3	0.899	0.146	0.233	0.369	0.446	0.539	0.629
R_BI4	0.948	0.153	0.266	0.374	0.441	0.524	0.660
Fear1	-0.026	0.645	-0.023	0.006	-0.046	-0.019	-0.036
Perc.Threat1	0.059	0.773	-0.023	0.074	0.022	0.075	0.071
Perc.Threat2	0.146	0.814	0.041	0.118	0.073	0.177	0.184
Risk.Contract1	0.107	0.797	0.033	0.070	0.071	0.078	0.095
Risk.Contract2	0.043	0.669	0.033	0.034	-0.010	0.002	-0.018
PTT1	0.299	0.054	0.800	0.305	0.380	0.332	0.423
PTT2	0.181	0.014	0.848	0.324	0.297	0.341	0.346
PTT3	0.215	0.024	0.837	0.360	0.389	0.373	0.353
PTT4	0.111	0.011	0.778	0.252	0.239	0.286	0.264
PTT5	0.105	0.034	0.695	0.237	0.220	0.255	0.246
RTRD_ABI1	0.342	0.080	0.348	0.748	0.580	0.457	0.465
RTRD_ABI2	0.372	0.109	0.287	0.866	0.634	0.510	0.512
RTRD_ABI3	0.326	0.107	0.329	0.878	0.645	0.494	0.497
RTRD_ABI4	0.296	0.069	0.311	0.849	0.617	0.442	0.419
RTRD_ABI5	0.326	0.115	0.327	0.836	0.626	0.483	0.480
RTRD_BEN1	0.284	0.031	0.321	0.607	0.798	0.363	0.406
RTRD_BEN2	0.356	0.045	0.316	0.627	0.826	0.447	0.490
RTRD_BEN3	0.465	0.094	0.310	0.501	0.721	0.478	0.567
RTRD_BEN4	0.365	0.095	0.376	0.613	0.840	0.455	0.477
RTRD_INT1	0.378	0.065	0.337	0.559	0.817	0.487	0.546
RTRD_INT2	0.385	0.022	0.352	0.595	0.812	0.494	0.530
RTRD_INT3	0.383	0.061	0.310	0.643	0.813	0.496	0.530
RTRD_INT4	0.375	0.081	0.327	0.652	0.826	0.504	0.511
RTRP_ABI1	0.471	0.128	0.362	0.502	0.528	0.828	0.680
RTRP_ABI2	0.476	0.170	0.332	0.477	0.475	0.899	0.618
RTRP_ABI3	0.448	0.130	0.337	0.451	0.425	0.870	0.642
RTRP_ABI4	0.498	0.097	0.384	0.546	0.578	0.876	0.705
RTRP_BEN1	0.527	0.123	0.382	0.522	0.574	0.723	0.788
RTRP_BEN2	0.556	0.187	0.333	0.457	0.529	0.634	0.851
	0.623	0.147	0.299	0.461	0.534	0.603	0.860
_ RTRP_BEN4	0.576	0.133	0.391	0.500	0.563	0.653	0.830
	0.540	0.112	0.385	0.472	0.523	0.610	0.828
 RTRP_INT2	0.530	0.058	0.388	0.504	0.519	0.620	0.848
RTRP_INT3	0.580	0.150	0.369	0.475	0.535	0.663	0.872
 RTRP_INT4	0.614	0.157	0.407	0.449	0.503	0.647	0.869

Appendix H. Loadings and cross-loadings of measurement items - Riders' model (Study 2)

	BI	CVR	DTRP_ABI	DTRP_IB	DTRR_ABI	DTRR_IB	PTT
BI1	0.933	0.116	0.455	0.612	0.399	0.330	0.418
BI2	0.914	0.142	0.462	0.638	0.442	0.403	0.436
BI3	0.946	0.195	0.428	0.572	0.316	0.323	0.316
BI4	0.943	0.213	0.395	0.554	0.342	0.338	0.307
Fear1	0.051	0.851	0.067	0.039	0.151	0.069	0.015
Fear2	0.019	0.767	0.043	-0.002	0.093	0.002	0.033
Perc.Threat1	0.174	0.876	0.271	0.177	0.191	0.160	0.076
Perc.Threat2	0.185	0.682	0.241	0.229	0.352	0.252	0.206
Risk.Contract1	0.126	0.887	0.144	0.145	0.137	0.057	0.107
Risk.Contract2	0.062	0.747	0.061	0.022	0.113	0.017	0.246
DTRP_ABI1	0.482	0.190	0.822	0.742	0.398	0.470	0.384
DTRP_ABI2	0.376	0.325	0.890	0.662	0.568	0.567	0.300
DTRP_ABI3	0.455	0.186	0.935	0.706	0.515	0.520	0.381
DTRP_ABI4	0.365	0.143	0.909	0.773	0.575	0.560	0.411
DTRP_BEN1	0.565	0.074	0.758	0.867	0.545	0.475	0.347
DTRP_BEN2	0.642	0.169	0.704	0.927	0.363	0.422	0.379
DTRP_BEN3	0.609	0.149	0.665	0.926	0.365	0.390	0.337
DTRP_BEN4	0.566	0.114	0.776	0.882	0.490	0.429	0.347
DTRP_INT1	0.624	0.196	0.678	0.897	0.369	0.391	0.410
DTRP_INT2	0.546	0.208	0.747	0.895	0.411	0.400	0.417
DTRP_INT3	0.455	0.290	0.801	0.909	0.447	0.483	0.356
DTRP_INT4	0.584	0.197	0.681	0.896	0.331	0.405	0.434
DTRR_ABI1	0.244	0.211	0.432	0.301	0.798	0.741	0.362
DTRR_ABI2	0.378	0.267	0.569	0.481	0.910	0.602	0.344
DTRR_ABI3	0.438	0.223	0.511	0.460	0.924	0.643	0.364
DTRR_ABI4	0.318	0.221	0.492	0.338	0.833	0.753	0.492
DTRR_BEN1	0.389	0.159	0.481	0.423	0.587	0.756	0.258
DTRR_BEN2	0.346	0.158	0.408	0.356	0.663	0.838	0.223
DTRR_BEN3	0.247	0.111	0.450	0.374	0.536	0.788	0.289
DTRR_BEN4	0.312	0.126	0.542	0.404	0.645	0.880	0.379
DTRR_INT1	0.305	0.163	0.563	0.467	0.663	0.862	0.355
DTRR_INT2	0.341	0.132	0.483	0.374	0.682	0.849	0.363
DTRR_INT3	0.268	0.170	0.509	0.369	0.652	0.824	0.435
DTRR_INT4	0.269	0.131	0.490	0.345	0.699	0.826	0.396
PTT1	0.343	0.191	0.388	0.407	0.371	0.292	0.742
PTT2	0.315	0.150	0.310	0.312	0.364	0.347	0.806
PTT3	0.351	0.063	0.377	0.349	0.423	0.441	0.804
PTT4	0.228	0.152	0.293	0.257	0.324	0.282	0.781
PTT5	0.287	0.090	0.208	0.274	0.215	0.193	0.754

Appendix I. Loadings and cross-loadings of measurement items – Drivers' model (Study 2)

Appendix J. Questionnaire "Trust in ridesharing" (English version)

#### Introduction

Welcome and thank you for agreeing to take part of this survey. It will take around **8 minutes** to complete. If you wish to enter the lottery and win one of the **5 Amazon Gift Cards** of €150 total worth, please provide your e-mail in the end of the survey.

Be assured that all answers you provide will be kept **strictly anonymous** and will be presented in dissertation and publications in aggregate form only.

This survey is designed for doctoral research at Central European University and investigates the importance of Trust for riders and drivers on Oszkár Telekocsi platform.

We would be indebted if you would complete the survey as honestly as possible. Thank you for your time.

Let's get started!

#### [Screening question]

Q1: Please indicate which of the following statements best describes you

□ I am only a rider on Oszkár => Respondent taken to Part I (A) → Part II (A) → Part III → Part IV (A) → Part V → Part VI

I am both a rider and a driver on Oszkár
 Respondent taken to All parts (rider's view first)

 $\Box I am only a driver on Oszkár => Respondent taken to Part I (B) \rightarrow Part II (B) \rightarrow Part II (B) \rightarrow Part IV (B) \rightarrow Part V \rightarrow Part VI$ 

I have never used OszkárEnd of survey. Thank you message.

[End of survey screen]

We appreciate your response. We are seeking to understand the opinions of Oszkár users

regarding trust. Thank you for your time.

### PART I (A): Usage

You will answer the following questions as a **<u>RIDER</u>** on Oszkár

Q2: How long have you been using Oszkár?

- $\Box$  Less than 1 month
- $\Box$  1 to 6 months
- $\Box$  6 to 12 months
- $\Box$  1 to 2 years
- $\Box$  2 to 4 years
- $\Box$  More than 4 years

Q3: In an average year, how frequently do you use Oszkár?

- $\Box$  Every day
- $\Box$  A few times a week
- $\Box$  Once a week
- $\Box$  A few times a month
- $\Box$  Once a month
- $\Box$  A few times a year
- $\Box$  Once a year
- $\Box$  Less than once a year
- □ Never

Q4: On average, what is the typical distance of your rides on Oszkár?

- $\Box$  Less than 50 km
- $\Box$  51 to 100 km
- □ 101 to 150 km
- □ 151 to 200 km
- □ 201 to 250 km
- □ 251 to 300 km
- $\Box$  More than 301 km

### PART I (B): Usage

You will answer the following questions as a **DRIVER** on Oszkár

Q2': How long have you been driving with Oszkár?

- $\Box$  Less than 1 month
- $\Box$  1 to 6 months
- $\Box$  6 to 12 months
- $\Box$  1 to 2 years
- $\Box$  2 to 4 years
- $\Box$  More than 4 years

Q3': In an average year, how many times do you drive with Oszkár?

- $\Box$  Every day
- $\Box$  Every week
- $\Box$  Several times a month
- $\Box$  Around once a month
- $\Box$  Several times a year
- $\Box$  Around once a year
- $\Box$  Less than once a year
- □ Never

Q4': On average, what is the typical distance of your rides driven with Oszkár?

- $\Box$  Less than 50 km
- $\Box$  51 to 100 km
- □ 101 to 150 km
- □ 151 to 200 km
- $\hfill\square$  201 to 250 km
- □ 251 to 300 km
- $\Box$  More than 301 km

### PART II (A): Trust as seen by RIDERS on Oszkár

#### 1) Trust in drivers on Oszkár

**Q5:** Please indicate how much you agree or disagree with the following statements as a <u>rider</u> on Oszkár.

#### a) Ability

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár drivers are competent					
Oszkár drivers are capable					
Oszkár drivers drive skillfully					
Oszkár drivers drive safely					
Oszkár drivers are experienced					

#### b) Benevolence

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár drivers do their best to make riders feel					
comfortable					
Oszkár drivers really pay attention to the needs					
of their riders					
Oszkár drivers would deliberately do nothing					
harmful to their riders					
Oszkár drivers do everything they can to help					
their riders					

### c) Integrity

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár drivers treat their riders fairly					
Oszkár drivers are honest with their riders					
Oszkár drivers are reliable					
Oszkár drivers keep their word					

### 2) Trust in the Oszkár platform

**Q6:** Please indicate how much you agree or disagree with the following statements as a <u>rider</u> on Oszkár.

a)	Ability
•••	11011103

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár is competent in handling transactions					
between riders and drivers					
Oszkár has the skills to fulfill my needs on the					
website or the application					
Oszkár has the experience to fulfill my needs on					
the website or the application					
Oszkár knows how to provide excellent support					
for riders					

### b) Benevolence

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár keeps the interests of riders in mind					
Oszkár means no harm to riders					
Oszkár has no bad intentions towards riders					
Oszkár makes good-faith efforts to address					
riders' concerns					

# c) Integrity

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár treats my personal information honestly					
Oszkár is fair in its conduct of transactions					
between riders and drivers					
Oszkár regulations are fair to riders					
I have no doubt about the honesty of Oszkár					

# PART II (B): Trust as seen by Drivers on Oszkár

#### 1) Trust in riders on Oszkár

**Q5':** Please indicate how much you agree or disagree with the following statements as a **<u>driver</u>** with Oszkár.

#### a) Ability

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár riders know how to book a ride on the					
platform					
Oszkár riders know how to provide excellent					
reviews about drivers					
Oszkár riders know how to provide high ratings					
for drivers					
Oszkár riders understand how rides work on					
Oszkár					

#### b) Benevolence

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár riders do their best to make their drivers feel comfortable					
Oszkár riders really pay attention to the needs of their drivers					
Oszkár riders would deliberately do nothing harmful to their drivers					

Oszkár riders do everything they can to help			
their drivers			

### c) Integrity

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár riders treat their riders fairly					
Oszkár riders are honest with their riders					
Oszkár riders are reliable					
Oszkár riders keep their word					

#### 2) Trust in the platform

**Q6':** Please indicate how much you agree or disagree with the following statements as a **driver** with Oszkár.

### a) Ability

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár is competent in handling transactions					
between drivers and riders					
Oszkár has the skills to fulfill my needs on the					
website or the application					
Oszkár has the experience to fulfill my needs on					
the website or the application					
Oszkár knows how to provide excellent support					
for drivers					

#### b) Benevolence

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár keeps the interests of drivers in mind					
Oszkár means no harm to drivers					
Oszkár has no bad intentions towards drivers					
Oszkár makes good-faith efforts to address					
drivers' concerns					

### c) Integrity

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
Oszkár treats my personal information honestly					
Oszkár is fair in its conduct of transactions					
between drivers and riders					
Oszkár regulations are fair to drivers					
I do not doubt the honesty of Oszkár					

### **PART III: Propensity to Trust**

**Q7:** Please indicate how much you agree or disagree with the following statements.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
I generally trust others unless they give me					
reason not to					
I believe people are generally reliable					
Most people can be counted on to do what they					
say they will do					
I tend to trust a person or a thing, even though I					
have little knowledge about them					
I trust people easily					

### Part IV (A): Behavioral intention to use Oszkár as a Rider

**Q8:** Please indicate how much you agree or disagree with the following statements as a <u>rider</u> on Oszkár.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
I intend to continue bookings trips on Oszkár					
I intend to continue traveling with Oszkár					
I would recommend Oszkár as a transportation choice for others					
I can see myself traveling using Oszkár in the future					

### Part IV (B): Behavioral intention to use Oszkár as a Driver

**Q8':** Please indicate how much you agree or disagree with the following statements as a **<u>driver</u>** on Oszkár.

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
I intend to continue advertising trips on Oszkár					
I would recommend others to drive with Oszkár					
I can see myself driving with Oszkár in the					
future					
I intend to continue driving with Oszkár					

## Part V: COVID-19 Risk Perceptions

**Q 9:** Please indicate how much you agree or disagree with the following statements

	Strongly disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly agree
The coronavirus epidemic is detrimental to the					
economic situation in my country					
The coronavirus is a serious threat to humans					
I am afraid I will need long hospital treatment					
in case of coronavirus infection					
I am afraid of serious complications caused by					
the coronavirus					

I am worried I could get infected with the			
coronavirus			
Getting infected with the coronavirus is			
endangering my health			

#### **Part VI: Demographics**

**Q10:** What is your gender?

O Male O Female O Other

**Q11:** What is your year of birth?

(Drop down list)

Q12: What is the highest degree or level of education you have reached/completed?

- □ Primary school
- □ Vocational training
- □ High school graduate
- $\Box$  College, without a degree
- □ College degree
- □ Basic higher education
- □ Undivided long program diploma
- □ Master's degree in higher education
- □ Doctoral degree

**Q13:** What is your country of nationality? (List of countries)

**Q14:** What is your city of residence? (List of cities)

**Q15:** What is the postcode of your location? (4 digits) (Postcode)

Q16: What is your area of residence?

 $\Box$  I live in a city

- $\Box$  I live in a town
- $\Box$  I live in a village

**Q17:** What is your current occupation?

- □ Employee, NOT manager
- □ Employee, manager
- $\Box$  Self-employed / own company
- $\Box$  Freelance / casual work
- $\Box$  Unemployed / Jobseeker
- □ Student
- $\Box$  Household
- □ Pensioner

Q18: What is the approximative range of the total **net monthly income** of your **household**?

(after tax)

- □ Less than 100,000ft
- $\Box$  100,001 200,000ft
- $\Box$  200,001 300,000ft
- $\Box$  300,001 400,000ft
- $\Box$  400,001 500,000ft
- $\Box$  500,001 600,000ft
- $\Box$  600,001 700,000ft
- $\Box$  700,001 800,000ft
- □ 800,001 900,000ft
- $\Box$  900,001 1,000,000ft
- $\Box$  More than 1,000,001ft

Q19: Do you have any comment or suggestion to add?

- $\Box$  Yes  $\rightarrow$  Display text field
- $\Box$  No  $\rightarrow$  Pass to Q19

**Q20:** Do you wish to enter the lottery and win one of the 5 Amazon Gift Cards (€150 total worth)?

- $\Box$  Yes  $\rightarrow$  Respondent taken to lottery screen
- $\Box$  No  $\rightarrow$  End of the survey. Thank you message

[Lottery screen]

#### Welcome to the lottery!

Once the survey is closed, 5 winners of Amazon gift cards  $(5x \in 30)$  will be randomly selected. To participate, please provide below your **email address**.

Please be assured that your email address won't be tied with the responses you have provided. Email: .....

[End of survey screen]

Thank you for taking the time to complete this survey. I truly value the information you have

provided.

Yours sincerely,

Anass Karzazi

PhD candidate, Central European University

#### Appendix K. Facebook post – Study 2

