Whether Students Intend to Use Online Cab Services in the Wake of the Covid-19 Pandemic?

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Abstract: *In order to control the widespread of deadly virus, government had to impose strict regulations among which the perception of customers regarding use of online cab services was impacted drastically. Travelers behavior about the transportation used for traveling and daily commute were influenced significantly. Therefore, this study explores the determinant that impacts a person's intention to use online cab services during the COVID-19 outbreak. The study is based on the Unified Technology of Acceptance and Use of Technology, to analyze the acceptance and intention to use a specific service. The responses gathered were through an online questionnaire survey from the online cab service apps users in Pakistan. The data gathered were analyzed by PLS-SEM version 3.0. The results exhibited that intention of customers to use online cab service apps at the time of outbreak is effect through Performance Expectancy, Effort Expectancy, Facilitating Conditions, Social Influence, Health Consciousness, and Risk Perception. In contrast, Personal Safety Practices does not influence the intention of customers to use online cab service apps at the time of the pandemic. The study adds to the present literature by utilizing the theory of reasoned action and less emphasized variables named personal safety practice, risk perception and health consciousness. This study provides implications for enterprises and businesses of the online cab service providers to assist in retaining customers and encouraging them to use their services at the time of the pandemic.*

Keywords: *Health Consciousness, Risk Perception, Online Cab Services, Covid-19, Smart PLS.*

Introduction

Due to users' increasing mobile internet usage and cellular phones, various enterprise models are launched into the markets created on the collaborative economy approach. Crowd-based capitalism is promoted through cellphone apps extensively adopted and used by clients in various industries like summer houses (such as Airbnb), online delivery apps for food and other goods (such as Pandamart), medical services (such as Marham and Sehat Kahani), online shopping apps (such as Daraz), platforms for self-employed or independent contractors (such as Upwork), and ride-hailing services (such as Careem and Byker). Online cab services have immensely become in-demand and most accepted among people globally. Such as, the number of trips by online cabs performs each day is 15 million and is forecasted to massively upsurge with a record of 100 million targets by 2030. The online cab service market accounts for 113 billion USD globally.

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Further, the online cab service industry is expected to become 230 billion USD valued by 2026 with a CAGR of 8.75% throughout the predicted duration 2021-2026 (Mordor Intelligence, 2021). The online booking cab apps are based on the concept of ride-hailing by linking the users with the vehicle riders by the mobile applications (Mair & Reischauer, 2017). The trip's price is charged based on the dynamic pricing approach, calculated according to the day's duration, rush hours, and the ride vehicle's availability (Ertz, Durif, & Arcand, 2019). The online cab booking apps have gained a massive audience because of their user-friendly design, higher accessibility and swiftness, reasonable pricing, security, and online booking feature.

Online cab services have earned immense fame among Pakistanis as around 40% of the Pakistan population is economically vulnerable, having low-level expenditure. Thus, many people know how to drive but do not have enough money to buy a vehicle. Therefore, the Pakistani citizen categorized as high-income earning act as investors as they bear the expense of buying a car and hiring a driver who works for them. The online cab service provides a platform for such investors and drivers to become captains in these cab services. Hence, the sharing economy/collaborative economy approach services are not just for specific consumers and clients but have turned into a developing and lucrative one which has interested various users and gigantic financing from organizations (Kim & Jin, 2020).

Pakistani consumers face issues in traditional taxis: the unfair price, insecurity, and nonexistence of compliance with official rules and regulations of driving and safety. On the other hand, various people consider that these services with an easy-to-use design, timely accessibility, and reasonable fare charging are a preferred alternative that can content their commute requirements (Ziyad, Rehman, Batool, & Khan, 2020). Moreover, the emergence of the coronavirus epidemic globally has adversely affected the cab services functioning. For instance, Uber stated to bring their cost under the business size in the current situation. The company intends to lay-off about 3,700 full-time employees in Pakistan as the demand of online cab service have rapidly decreased since the emergence of this infectious virus. Further, Tribune News (2020) published that Careem also announced to downsize around 31% of its employees, and so did Lyft; in the last week of May 2020 fired 982 workers, about 17% of its employees, along with reducing the income of the top management. These SMEs have been affected adversely due to the lockdown imposed in the region, where employees had to work from home to save themselves from the increasing ratio of being infected by the coronavirus (Verma & Gustafsson, 2020).

Hence, the present study aims to explore the perception of customers' regarding the use of online cab apps services in Pakistan. There is a lack of information regarding the determinants that impact the intention of customers to use online cab services, which are operated through mobile apps in the time of epidemic, particularly in economically developing economies (Nwafor & Onya, 2019). Considering the UTAUT model of Venkatesh, Morris, Davis, and Davis (2003), the paper emphasizes the factors that encourage customers' to use these services during catastrophe. The significance of this study is based on the gaps it bridges in the present literature of marketing through reexamining the Unified Technology of Acceptance and Use of Technology in the background of booking online cab apps at this time of the pandemic. Most of the current studies have explored people's

behavior emphasizing the usage of online services like food delivery which the lockdown has immensely impacted (Alalwan, 2020). Therefore, this study contributes by increasing the information about how the consumers' intention to use the online cab service apps is influenced during COVID-19. In addition, the paper emphasizes studying some variables like health consciousness, risk perception, and personal safety practices in shaping customers' intention to use the online cab service apps in the COVID-19 crisis. Also, in this study, we have emphasized on the variables which have received low or no attention such as personal safety practices, health consciousness and risk perception in context of shaping consumer intention to use online cab services apps in Pakistan.

In the sharing economy, the revenue generated by online platforms functioning through business is determined as the prime substructure. The businesses based on the sharing economy approach do not personally own any product/service. However, they provide a platform to match the requirements of customers and users about the demanded services. Business models like Uber, Careem, and other transportation services have become highly popular and favorable for traveling and daily commute. Therefore, we determine that it is significant as there are numerous requirements to examine the elements which influence the use of online cab apps in the pandemic (Buheji & Ahmed, 2020). The results of this empirical analysis state implications for businesses that offer online cab services via mobile applications to track and be capable of enduring their services at the time and after the pandemic duration.

Literature review

The sharing economy and online cab service apps

For few years, the idea to introduce novel and new business models has been launched in the market (Hossain, 2021). The community-based economies define the type of swap performed via an online network, comprising numerous communities or people of for-earning and non-profit events, all based on the concept of sharing resources among people. The community-based countries are advanced with the increasing perception of the internet, permitting people to act as buyers and sellers simultaneously (Hamari, Sjöklint, & Ukkonen, 2016). The prime element that has heightened the peer-to-peer economy's advancement is that it permits consumers to access reviews and opinions from others before they participate in the swap procedure. The popular and famous apps among people with the increasing peer-to-peer economy are the online cab service apps. In addition, various service businesses have launched cellular phone apps that connect customers with drivers (Mourdoukoutas, 2017). Such apps globally are immensely being used. It is predicted that the worldwide online cab/taxi services will increase greater than 50% from 2020 to 2021 with a forecasted fortune of around 117 billion USD in 2021. Thus, the rising advancement might be the outcome of the various elements such as customers, majorly adolescences that have been willing to opt for low-priced options besides buying a car.
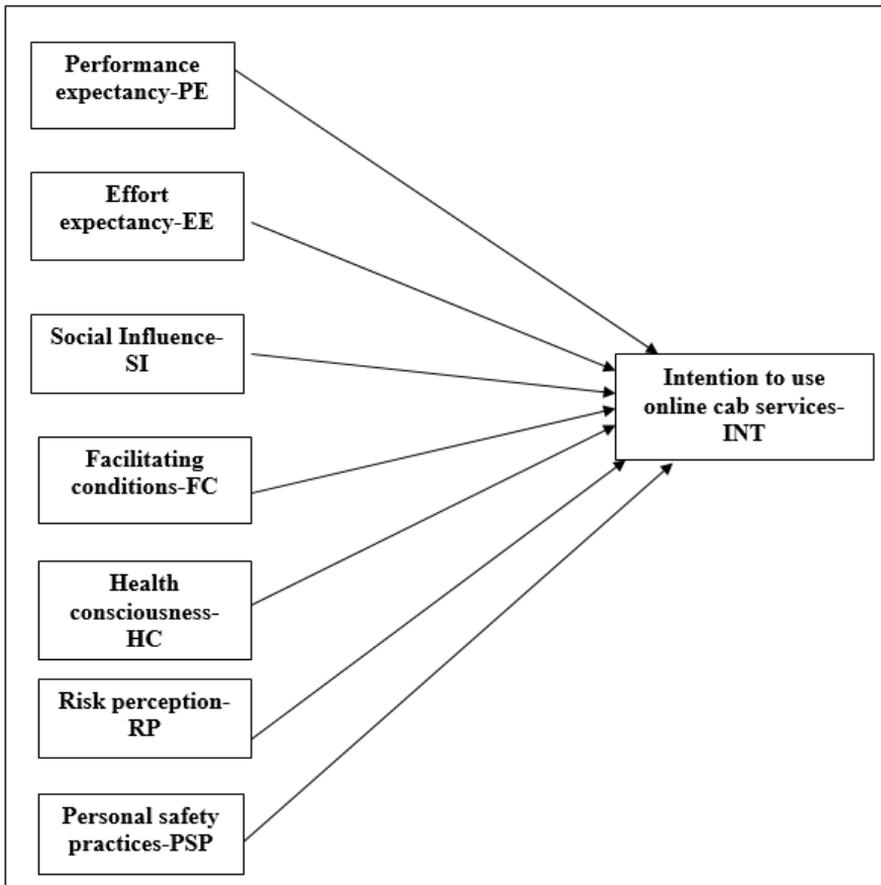
Additionally, these applications are famous among consumers in suburban areas with immense traffic jams and trouble getting a parking place. Passengers favor such applica-

tions in regions with issues in the subway and mass transits. Since the occurrence of coronavirus highly infectious virus globally, the operation of online cab businesses is highly impacted by the economy shut-down. Along with the enduring requests of the government officials in various economies for its people to be at home to control the increasing dissemination of the virus, the earnings of the online cab enterprises are facing a decline globally. These circumstances have derived various difficulties for the online cab service owners and employees for the decline in the need for trips at the time of isolation. Although, the online cab service enterprises follow the provided SOPs to persuade their passengers that they are following all the government guidelines and taking safety measures. For example, Careem and Uber launched their new catch-phrase, "No mask, no ride," to highlight wearing masks by both parties. Further, other online cab services follow several safety rules like social distancing (approx. 2 m), offering cashless mode, and placing hand sanitizers in the vehicles (Khoury, Amine, & Abi Saad, 2019).

Theoretical model

The conceptual framework of this study is based on the UTAUT model- Unified Technology of Acceptance and Use of Technology. As this theoretical model is appropriate for identifying and scrutinizing the determinants that effect the behavioral intentions of a user to adopt and use the digital innovations introduced to combat COVID-19. Hence, there are other models based on acceptance like TRA (Theory of reasoned action), TAM (technology acceptance model), TPB (theory of planned behavior), C-TAM-TPB (combined model of TAM and TPB), MM (motivational model), MPCU (model of personal computer utilization), SCT (social cognitive theory) and IDT (innovation diffusion theory), but the UTAUT model proposed by Venkatesh et al. (2003) surpassed these frameworks through elucidation around 70% of the variance in behavioral intention and technology use by 50%. The analysis of the empirical consideration performed by Dwivedi, Rana, Jeyaraj, Clement, and Williams (2019) on UTAUT verified the results of Venkatesh et al. (2003). Therefore, UTAUT has been comprehensively employed to scrutinize technology acceptance (Akinnuwesi et al., 2022). As exhibited in fig. 1, the conceptual framework highlights that the following determinants shape consumers' intention to use online cab service apps during the pandemic. Performance expectancy (PE), Effort expectancy (EE),Facilitating condition (FC),Social influence (SI), Health consciousness (HC), Risk perception (RP), Personal safety practice (PSP).

Figure 1
Conceptual framework

Hypotheses development

Performance expectancy-PE

The model of UTAUT proposed by Venkatesh et al. (2003) expresses a person's attitude and intention to use innovative technology. The prime element in this theory is the performance expectancy, i.e., PE, as it defines the extent to which a person considers a technology elevates their performance. Although, if individuals determine that a particular technology enhances their productivity, they might progress towards a greater performance expectancy. Hence, it will also direct them towards a greater intention to opt for that technology to improve their progress. Following Madan and Yadav (2016), PE is determined as the important determinant which affects attitude and intention to use. The contribution of PE in shaping a person's intention to use or endure the cellular application is explored

in various studies. For instance, Yang and Lin (2015) pointed that the primary element which motivates the enduring intention to use a mobile application is the PE, suggesting that the provider of the service must emphasize the assistance which these applications offer that would affect consumers' contentment with these applications and attitude to use them. Similarly, Almunawar, Anshari, and Ariff Lim (2021) highlighted that the PE of the consumers of online ride-booking apps highly stimuli their behavior intention to use the applications/services. Further PE comprises advantages that a person using this application can acquire, supplemented by speediness and efficacy and exactness of pickup and drop-off duration.

Subsequently, the online cab service apps offer various advantages for people like accessibility, security, efficacy, and timely arrival or pickup from desired destinations promptly. Hence, the author considers that consumers' notion of these favors will direct their intention to use these apps at the time of catastrophe. Ina accordance with the past studies, the hypothesis for this variables is:

H_1: *PE significantly influences the intention to use online cab service apps during pandemic.*

Effort expectancy-EE

In the unified theory of acceptance and use of technology model, effort expectancy denotes consumers' trust utilizing a specific system to be uncomplicated and unchallenging (Venkatesh et al., 2003).

The reason that has penetrated the broad diffusion of mobile applications among consumers is effortlessness, as it requires negligible work to download and utilize (Baabdullah, Alalwan, Rana, Dwivedi, & Weerakkody, 2017). Particularly, EE in the background of online cab service apps denotes the unchallenging, little effort and speediness to use such applications effectively. Numerous literature on mobile applications verifies the considerable impact of EE on intention to use these applications. The study of Min, So, and Jeong (2021) verifies the mentioned connection of online cab service apps. But some studies like Almunawar et al. (2021) revealed that EE does not affect consumers' behavioral intention to employ such applications or utilize these service applications.

In this paper, the author claim that users' belief of effortlessness of utilizing online cab service applications contributes significantly in directing intention to use these applications at the time of catastrophe. Therefore, the hypothesis for this variable is:

H_2: *EE significantly influences the intention to use online cab service apps during pandemic.*

Social influence-SI

In the background of the innovation system, SI means the level at which a person perceives that others who are valuable to them consider that they must utilize a particular technology (Venkatesh et al., 2003). The statement refers to how an individual's perception, behavior, and intentions are influenced by others (Liu, Mehraliyev, Liu, & Schuckert, 2020). According to the model specifications, SI is a vital factor in dominating people's

views and beliefs regarding technology use. A person can be manipulated through reference groups when it is about technology/systems. The reference groups can be relatives, networks, associates, coworkers, and others. SI generally is an outcome of a person's need to improve their reputation in front of others through acquiring commodities and utilizing services that have appreciative status. In addition, a person inclines to evade events/actions which sources dislike from social gatherings. Thus, it is considerable for businesses to plan their promotional segments which interest consumers' reference groups.

The present studies verified the contribution of SI in determining consumers' behavior, approval, and intention to use the cellular application through some proofs. For example, (Arteaga-Sánchez, Belda-Ruiz, Ros-Galvez, & Rosa-Garcia, 2020) stated that prime stimuli of users' intention to use online ride service applications for commute are the social influence of their peers and relatives. Therefore, it is suggested that online cab service enterprises offer benefits to consumers who introduce other people or encourage them to get the maximum benefit from the reference groups. Likewise, the study of Almunawar et al. (2021) exhibited that users' approval for online cab apps is influenced through the endorsement from reference groups.

However, Pakistan is state-recognized through communism or collective ownership; therefore, it is determined that consumers' behavior and intention regarding mobile application usage are highly dominated through their social circle and the community's approval entirely. Therefore, based on the stated claim, we consider that reference groups impact consumers' intention to use online cab service apps.

H₃: SI significantly influences the intention to use online cab service apps during pandemic.

Facilitating condition-FC

FC denotes the extent to which a person considers that the business is facilitated with the essential basic infrastructure that accommodates information technology (Venkatesh et al., 2003). It point-outs a users' trust that they govern the use behavior.

The contribution of FC in shaping users' approval and intentions regarding technology advancement is extensively examined in past studies. For instance, Peñarroja, Sánchez, Gamero, Orengo, and Zornoza (2019) claimed that users having entrance to influencing a group of facilitating conditions are more likely to have a constructive intention about system use. Similarly, Maziriri, Mapuranga, Mushwana, and Madinga (2020) also highlighted that FC contributes significantly to improving consumers' approval for utilizing digital groups. Likewise, it is also verified that the connection of FC with users' approval and use for app-based mobile tour guides.

In this study, the author determines FC in the context of online cab service apps as the systems infrastructure based on its harmony with mobile phones, guidelines on booking a ride via these applications, and customer support assistance (Almunawar et al., 2021). Analyzing the mentioned arguments, we consider that FC, which online cab service users have access to at the COVID-19 crisis, affects intention to use such applications. Therefore, the hypothesis we propose for the study is:

H_4: *FC significantly influences the intention to use online cab service apps during pandemic.*

Health consciousness-HC

Health consciousness defines a person being aware of their health risk when selecting a transportation service. However, various studies highlight the health consciousness aspect of consuming edible products (Chen & Lin, 2018). The statement highlights the four perspectives of health consciousness: health attention, Awareness about possible travel risk, Proactive knowledge and pursuing health information, and enhance health with preventive measures (Ciani et al., 2016). Hence, preventive measures are the preferred action and progressively turned into a routine thing regarding the highly infectious virus spread in Pakistan. Based on this scenario, health consciousness is one of the prime determinants which motivates people to use cab services online for traveling and daily commute. Additionally, to encourage people to form an opinion about the security and safety while traveling, these business set-ups have been marketing their service supplementing with preventive measures like wearing masks, using sanitizers, social distancing, and their efforts to comply with the SOPs provided. Following the above explanation, we propose the following hypothesis:

H_5: *HC significantly influences the intention to use online cab service apps during pandemic.*

Risk perception-RP

The risk and its perception are interpreted in numerous manners. Like, Shepperd, Klein, Waters, and Weinstein (2013) illustrated it as an item of the possibility of a negative/adverse occurrence and the complexity of unfortunate outcomes. The risk perception is further supplemented by the view that how a person interprets risk. In the present scenario of the pandemic, the risk perception regarding health, well-being, and the possibility to get infected is accompanied by the thought that risk perception institutes a person's distinctive analysis of the negativity which they might face/experience with uncertain results. Furthermore, risk perception symbolizes beliefs, attitudes, opinions, and feeling, all surrounded by the culture and socially derived standards regarding dangers and fears (James et al., 2021). Precisely, in the pandemic, the information, interpretation, personal opinion, socio-demographic features, and social influence shapes the risk perception of an individual (Benítez-Díaz, Diaz-Quijano, & Martínez-Vega, 2020).

Moreover, the pioneer of our proceeding is risk perception. The efforts/proceedings can have adverse or favorable outcomes that may endanger society's values or improve sustainability. Analyzing risk perception is significant; in the current situation of the pandemic, the importance of conducting this analysis in the online cab service context is higher because of the "risk associated with traveling or traveling risk" for both the parties (customer and facilitator). Based on the above analysis, we propose the following hypothesis:

H_6 : *RP significantly influences the intention to use online cab service apps during pandemic.*

Personal safety practices-PSP

In traveling, the satisfaction and safety of passengers contribute significantly to direct the use of online cab services. As personal safety is one of the prime concerns in local transportation, it is also becoming a major concern for online cab services. The possibility of experiencing an attack, being mugged, assault, molestation, or violence is a crucial element influencing the intention to travel. A negative experience of any kind can impact all the features of travel options, including the transportation mode, time, route, and others. At the same time, it become a reason to cancel the plan to travel. However, the convenience of using an online cab service also includes harassment from drivers reported on social media and other platforms.

Various cases have been publicized on social media and other news platforms regarding robbery, assault from the driver of online cab services. This reason backs the raising and declining ratio of the customer. Although the percentage of rides booked and security accidents experience, in contrast, is approximately minor, it is still vital for the online cab service enterprises to develop practices to ensure the safety of customers as the prospect of these services continuation determines the customer satisfaction.

Thus, the personal safety practices linked to online cab services have not been much emphasized. A possible consequence of this absence of control includes security concerns for customers. The studies in this context cover privacy, law, policies, innovation (Witt, Suzor, & Wikström, 2015). Whereas no-study has emphasized the personal safety and security practices concerns regarding online cab services. Hence, based on the discussion, we propose the following hypothesis:

H_7 : *PSP significantly influences the intention to use online cab service apps during pandemic.*

Research Methodology

For the empirical analysis of this research, we acquired data through an online survey method. First, to assess the significance of the variables, four items were used to estimate Perceived Enjoyment (PE), three items for Effort Expectancy (EE), three items to represent Social Influence (SI), and four items for Facilitating Conditions (FC). These items were taken from the study of Venkatesh, Thong, and Xu (2012). Secondly, for the other determinants such as health consciousness, three items were adapted from Pu, Zhang, Tang, and Qiu (2020), risk perception, three items were used from James et al. (2021), and for personal safety practices, four items from Samdin, Abdullah, Khaw, and Subramaniam (2022). At last, the intention to use online cab services was assessed through four items adapted from Arteaga-Sánchez et al. (2020). The questionnaire used for sample collection comprised a five-point Likert scale type such as 1-strongly disagree to 5-strongly agree. The instrument was divided into the following sections: (i) the intention to conduct this survey was stated along with the objective of the research for the respondents, (ii) the

questions/items were stated to apprehend the response of participants, and (iii) the questions regarding demographics of the participants.

The respondents of our study were online cab services users in Pakistan; the participants' response was collected through Google forms. In addition, a link to the online questionnaire survey was provided on the social networking platforms like Facebook, Linked in, and Twitter. Data collection by online mode was an appropriate and suitable method, presently at the pandemic, as there are millions of followers on online cab services provider pages. A link of the online survey was posted on the stated social media pages of online cab services in Pakistan. The response collected via online survey comprises 535 responses, while after removing the outliers, the data were of 517 respondents.

Following the Gaber and Elsamadicy (2021) approach, we acquired data via convenience sampling. The participants willingly recorded their responses or take part in the survey being conducted.

Moreover, considering the guidelines of Sharif and Raza (2017), the dataset of 300 is good, and the above is determined very good. Hence, our study contains eight determinants; the gathered response of 517 surpassed the requirement to apply the statistical technique. The statistical analysis is performed using the PLS-SEM version 3.0. According to Sarstedt, Ringle, and Hair (2021), Partial Least Square-Structural Equation Model is a causal-predictive notion which focuses on forecasting in measuring statistical frameworks, whose dynamics are drafted to exhibit causal explanations. Further, Rigdon, Sarstedt, and Ringle (2017) emphasized that PLS-SEM is also determined as a different software for assessing the path models which are composite-based. Secondly, when analyzing a theoretical model via prediction notion and when the model is complex, including various constructs, determinants, and model connections, SEM-Structural Equation Modelling is preferred more as the most suitable approach.

Table 1
Respondents' Demographics

Demographic Items	Frequency	Percentile
Gender		
Male	225	43.50%
Female	292	56.50%
Age		
18-25	216	41.80%
26-33	200	38.70%
34-41	69	13.30%
42-49	32	6.20%
Education		
Undergraduate	202	39.10%
Graduate	225	43.50%
Post graduate	53	10.30%
Others	37	7.20%

In table 1, the respondents' demographics are exhibited. The majority of participants were female (56.5%) and male were (43.5%). In terms of aged the respondents in this age group 18-25 (41.8%) were more frequent users of online cab services. In addition, various participants were graduates (46.5%) who use online cab services for traveling and daily

commute.

Data Analysis

Measurement model

In this study, we employed the PLS-SEM version 3.0 on the data gathered for statistical interpretation. To confirm the validity of the instrument used and variables, the items within the questionnaire were evaluated through the structural model assessment. In order to confirm the relevance of the internal constructs, we assessed the Composite reliability (CR) and Cronbach's Alpha estimates that were more than the standard of 0.7 thresholds (Chuchill, 1979). Further, we also analyzed the individual loading of every item to verify that all values were more than 0.7 (Jöreskog, 1971; Straub, 1989). The assessment exhibited that the composite reliability values were between 0.858 and 0.997, whereas the Cronbach's Alpha estimates varied between 0.754 and 0.996 confirm the relevance of the constructs used in this study.

Table 2
Measurement Model Results

	Items	Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
EE	EE1	0.895			
	EE2	0.941	0.910	0.943	0.848
	EE3	0.926			
FC	FC1	0.821			
	FC2	0.730	0.830	0.876	0.638
	FC3	0.806			
	FC4	0.835			
HC	HC1	0.949			
	HC2	0.955	0.952	0.969	0.913
	HC3	0.962			
INT	INT1	0.793			
	INT2	0.832	0.862	0.906	0.708
	INT3	0.873			
	INT4	0.865			
PE	PE1	0.837			
	PE2	0.840	0.870	0.911	0.720
	PE3	0.883			
	PE4	0.832			
PSP	PSP1	0.958			
	PSP2	0.85	0.958	0.967	0.881
	PSP3	0.968			
	PSP4	0.973			
RP	RP1	0.995			
	RP2	0.997	0.996	0.997	0.992
	RP3	0.996			
SI	SI1	0.761			
	SI2	0.841	0.754	0.858	0.668
	SI3	0.846			

Moreover, to ensure the convergent validity, we assessed the Average variance extracted (AVE) for all the variables in this study. The outcomes indicated that values of average variance extract were between 0.638 and 0.992, which satisfies the standard set

of more than the threshold value of 0.5 (Hair, Risher, Sarstedt, & Ringle, 2019; Fornell & Larcker, 1981). The results of individual item loadings, Cronbach's Alpha, Composite reliability, and AVE are shown in Table 2.

Furthermore, we followed Fornell and Larcker (1981)'s guidelines for evaluating the discriminant validity of determinants. The output revealed that the variables under consideration have a greater discriminant validity while the AVE square root of the individual construct is more than the correlation among the items and all other items. In table 3, the output of the variables used in this study Fornell and Larcker criterion is shown.

Table 3
Fornell-Larcker criterion

	EE	FC	HC	INT	PE	PSP	RP	SI
EE	0.921							
FC	0.175	0.799						
HC	0.363	0.093	0.955					
INT	0.577	0.375	0.186	0.841				
PE	0.443	0.312	0.144	0.578	0.848			
PSP	0.170	-0.125	0.521	0.045	-0.116	0.939		
RP	0.101	0.096	-0.408	0.067	0.251	-0.682	0.996	
SI	0.246	0.460	0.008	0.455	0.312	-0.137	0.110	0.817

Table 4
Loadings and Cross Loadings

	EE	FC	HC	INT	PE	PSP	RP	SI
EE1	**0.895**	0.149	0.331	0.546	0.446	0.172	0.132	0.191
EE2	**0.941**	0.172	0.348	0.539	0.391	0.155	0.077	0.261
EE3	**0.926**	0.162	0.321	0.505	0.384	0.141	0.069	0.226
FC1	0.012	**0.821**	0.049	0.213	0.164	-0.096	0.030	0.380
FC2	0.001	**0.730**	0.070	0.170	0.055	-0.013	-0.098	0.37
FC3	0.044	**0.806**	0.004	0.236	0.306	-0.134	0.125	0.322
FC4	0.312	**0.835**	0.128	0.435	0.344	-0.119	0.145	0.396
HC1	0.345	0.076	**0.949**	0.179	0.173	0.518	-0.415	-0.049
HC2	0.339	0.105	**0.955**	0.177	0.117	0.498	-0.382	0.038
HC3	0.355	0.085	**0.962**	0.177	0.122	0.478	-0.371	0.035
INT1	0.469	0.310	0.099	**0.793**	0.446	0.014	0.066	0.336
INT2	0.496	0.306	0.139	**0.832**	0.406	0.018	0.029	0.421
INT3	0.496	0.332	0.168	**0.873**	0.545	0.067	0.054	0.386
INT4	0.481	0.314	0.215	**0.865**	0.540	0.049	0.076	0.387
PE1	0.359	0.233	0.141	0.479	**0.837**	-0.046	0.191	0.219
PE2	0.404	0.268	0.103	0.471	**0.84**	-0.136	0.196	0.313
PE3	0.351	0.267	0.099	0.505	**0.883**	-0.125	0.255	0.264
PE4	0.390	0.290	0.145	0.505	**0.832**	-0.087	0.206	0.265
PSP1	0.161	-0.133	0.511	0.027	-0.121	**0.958**	-0.664	-0.140
PSP2	0.172	-0.109	0.539	0.016	-0.130	**0.85**	-0.711	-0.138
PSP3	0.163	-0.117	0.486	0.046	-0.103	**0.968**	-0.638	-0.134
PSP4	0.159	-0.117	0.490	0.056	-0.106	**0.973**	-0.639	-0.123
RP1	0.101	0.095	-0.404	0.062	0.247	-0.679	**0.995**	0.112
RP2	0.100	0.095	-0.411	0.070	0.255	-0.676	**0.997**	0.108
RP3	0.101	0.098	-0.403	0.068	0.247	-0.682	**0.996**	0.108
SI1	0.105	0.351	-0.039	0.291	0.216	-0.119	0.116	**0.761**
SI2	0.278	0.409	0.025	0.411	0.280	-0.133	0.087	**0.841**
SI3	0.194	0.367	0.022	0.397	0.262	-0.088	0.074	**0.846**

Additionally, to apprehend a precise validated framework, we also analyzed the loadings and cross-loadings of each construct, as displayed in table 4. In table 4, the values

in connection to the constructs are examined. The reliability indicator was assessed following the standard of Henseler, Ringle, and Sinkovics (2009) that the loading should be higher than 0.7 and each loading smaller than 0.4 should be removed. The results exhibited in table 4 satisfy the standard set as all the construct values individually reported a value more than 0.7, which verifies the relevance of the constructs.

Further, the discriminant validity can be analyzed through the HTMT values (Henseler, Ringle, & Sarstedt, 2015). The output exhibited that all variables own satisfactory discriminant validity. Estimates of the Heterotrait-Monotrait ratio of correlation are satisfied as per the rule, which should be less than the threshold value of 0.85. The results of the Heterotrait-Monotrait ratio of correlation are displayed in table 5.

Table 5
Heterotrait-Monotrait Ratio (HTMT)

	EE	FC	HC	INT	PE	PSP	RP	SI
EE								
FC	0.149							
HC	0.389	0.090						
INT	0.651	0.384	0.204					
PE	0.498	0.323	0.158	0.665				
PSP	0.186	0.129	0.562	0.042	0.134			
RP	0.106	0.134	0.418	0.072	0.269	0.720		
SI	0.284	0.572	0.057	0.555	0.382	0.168	0.131	

Structural model assessment

Svensson et al. (2018) stated the resampled bootstrapping procedure through PLS-SEM is mostly preferred for assessing the strength of model and hypotheses testing developed for the study. The path coefficient values are denoted as β, and the p-values refer to the significance/acceptance of the hypotheses, estimated through the statistical analysis. The outcome pointed that H1, H2, H3, H4, H5, and H6 are accepted in which the PE, EE, SI, and FC are determined to have a significant yet positive influence on the customer intention to use online cab service applications at the time of pandemic in Pakistan (β= 0.344, p= 0.000), (β= 0.380, p= 0.000), (β= 0.211, p= 0.000), (β= 0.121, p= 0.001). Moreover, the results exhibited that health consciousness and risk perception have a negative yet significant impact on intention to use online cab service during COVID-19 in Pakistan (β= -0.069, p= 0.066), (β= -0.101, p= 0.023). In contrast, personal safety practice has a positive but insignificant effect on the intention to use online cab services (β= 0.030, p= 0.540).

Discussion

The study intends to explore the effect of the pandemic on individuals' intention to use online cab service apps in Pakistan. By extending the UTAUT framework supplemented by health consciousness, risk perception, and personal safety practices, this paper focuses on the significant determinants that affect customers' intention regarding the use of online cab service apps at the time of the COVID-19 pandemic. Further, the results of path analysis in detail are discussed as follows.

The H1 that performance expectancy significantly influences the intention to use online cab service apps in the pandemic is accepted. The outcomes pointed to the vital component determining the users' anticipations for the advantages they receive using the application in their commute. For example, the online cab service applications offer many favors for its customers like suitability, trustworthiness, and prompt facility. The outcomes highlighted that users' anticipation for the following gains contributes considerably to their intention to use these service applications and their continuance. The results are consistent with Gaber and Elsamadicy (2021), which stated that PE is a prime factor in directing the users' intention to use ride-sharing apps in Egypt.

Further, Chopdar, Korfiatis, Sivakumar, and Lytras (2018); Palau-Saumell, Forgas-Coll, Sánchez-García, and Robres (2019) also revealed that PE is a significant factor influencing customers' intention to use mobile applications like Uber and food delivery apps. Based on our analysis, we consider that users who have been experiencing issues in public transport for daily commute for a longer period consider these apps as the best possible alternative for their traveling. Hence, in the present situation, when the pandemic is at its peak, and most people are working from home, such circumstances for online cab service applications are critical. Therefore, to improve their performance and satisfy the users' expectations in Pakistan, particularly when social distancing is vital.

H2 stated that effort expectancy significantly influences the intention of customers to use online cab service apps at the time of pandemic is accepted. The results of our study highlight that people's intention to use the online cab service apps is affected by the EE. The outcome of the study is in line with Tam, Santos, and Oliveira (2020); Palau-Saumell et al. (2019); Amoroso and Lim (2017), which pointed that EE significantly contributes to persuading customers' intention to use online cab service apps. Whereas, the results of our study are inconsistent with the study of Gupta, Dogra, and George (2018), that point that EE does not influence users' intention to use mobile apps. The findings indicate that online cab service providers/enterprises should design the apps easy and simple to use, which should be effortless and uncomplicated to enable users to use the mobile application promptly. Secondly, when customers have a constructive attitude towards using online cab service apps, it would positively influence the effectiveness of apps usage for searching and booking the service online to save time and commute safely.

The H3 proposed as social influence significantly influences the intention of customers' to use online cab service in the time of pandemic in Pakistan is accepted. The findings exhibit that consumers' enduring intention is considerably directed by relatives, peers, and referral groups. The result is motivating as the study is conducted in Pakistan, where there is a culture of collective ownership. As in these societies, the behavior of an individual is highly influenced via a notion that what other think, in which collective security and loyalty are vital to a person (Gaber & Elsamadicy, 2021). Moreover, the advancement of technology can effortlessly be adapted by collective communities such as Pakistan, in which the social norms help in the prompt diffusion of these advancements. The results of this study vastly accompany these statements in which online cab service apps offer various benefits to users' relations and friends. Because these groups immensely consider it as secure, suitable, and hassle-free to share a ride/track the ride rather than local public transport. Hence, it is considered that users' attitudes regarding the following service

apps can be highly influenced through others' opinions about them. The results support the claim of Gupta et al. (2018) that social influence is a prime component which impacts smartphone apps adaption by tourists and customers' such as the Uber app considering South African tourists.

The H4 hypothesis stating that facilitating conditions significantly influence the intention of users' to use online cab service apps at the time of pandemic is accepted. It refers that the users' intention to use online cab service apps can be defined through facilitating conditions. The results of our analysis are similar to the findings of Palau-Saumell et al. (2019). They determined that FC significantly affects the use of technology comprising the required knowledge regarding the application and the similarity of the service apps with smartphones. Although, these outcomes varied from the results of Almunawar et al. (2021), which stated that the FC effect is insignificant and do not support the direct effect on the intention to use. These results highlight the fact that Pakistani users are acquainted and experienced with the online cab service apps to the extent to which they determine the significance of FC. For example, information, expense source, and the familiarity of the application with their mobile phones in shaping/motivating them to use online cab service at the time of COVID-19.

The H5 determining that health consciousness significantly influences the users' intention to use online cab service apps during the pandemic is accepted. The results highlight the negative yet significant impact of HC on customers' intention to use online cab services during the pandemic. The study's outcome points that the users' intention to use online cab service apps and enduring can be illustrated through other determinants. These results support (Samdin et al., 2022) claim that health preference is crucial for intention to travel. On the other hand, it is considered that insufficient health knowledge or preference increases the travel risks, which raises the possibility that customers would not use any preventive measure to save themselves or might experience unfavorable circumstances. Thus, the results suggest that customers' being health-conscious significantly affects decision making either to travel or not. Similarly, for online cab service apps, it would ultimately impact the quality of their commute by taking health preventive measures like sanitizing hands more often and wearing a mask.

The H6 proposed for risk perception stating that risk perception significantly influences the intention of customers to use online cab service apps at the time of pandemic is accepted. The outcomes reveal a negative and significant effect of RP on the intention of the consumer to use cab apps. The output of the statistical analysis indicated that the effect of RP on customer's intention to use cab service apps reflects their intuitive notion towards risk. The findings support the results of Samdin et al. (2022); Gupta et al. (2018). As RP impacts the intention to travel/commute at the time of pandemic indicates that customers' using/willing to use online cab service if consider the situation less risky than they would opt for online cab service and vice versa.

Similarly, the RP influences the intention to travel because the pandemic has made people doubt traveling. As a result, people determined that it is still unsafe to travel when the chances of being infected are high. Based on the analysis, it is suggested that online cab service apps should promote and encourage the preventive measures they are following; further, such service providers must ensure compliance with the SOPs issued

by the government to reduce RP of people in the duration of COVID-19.

The H7 for personal safety practices proposed as PSP significantly influences the intention of customers' to use online cab service apps at the time of pandemic is rejected. The result does not support the direct effect of PSP on INT. The study's result highlights that personal safety practices do not affect using online cab services. It exhibits that Pakistan's online cab service apps have prospered to make the customers believe that their services have been improved and are a safe option for traveling. Hence the greater concern for personal safety and security, these service providers have taken strict action and assure the safety of a person making that more reliable among other modes of transportation. The results of ours study are inconsistent with Samdin et al. (2022); Fong, Lo, Songan, and Nair (2017), as these studies determine that safety practices significantly influence the travel decision. The results exhibit a different perspective as it seems that these mobile apps advertising or taking strict action over such acts in this current period of the pandemic have facilitated users to commute safely and securely.

Table 6
Results of Path Analysis

Hypothesis	Regression Path	Effect type	β-Coeff	P Values	Remarks
H1	EE → INT	Direct Effect	0.380	0.000	Supported
H2	FC → INT	Direct Effect	0.121	0.001	Supported
H3	HC → INT	Direct Effect	-0.069	0.066	Supported
H4	PE → INT	Direct Effect	0.344	0.000	Supported
H5	PSP → INT	Direct Effect	0.030	0.540	Not Supported
H6	RP → INT	Direct Effect	-0.101	0.023	Supported
H7	SI → INT	Direct Effect	0.211	0.000	Supported

Conclusion

At present, using the commodities in the pandemic has been varied and transformed into a new level. This study contributes to the limited literature which analyzed the impact of COVID-19 on users' connection with technological advancements. Particularly, this work adds through reconsidering the Unified Technology of Acceptance and Use of Technology model to illustrate the intention of customers to use the online cab service apps at the time of pandemic in Pakistan. The results of this study provide some different outcomes for service providers and enterprises. Such as the results highlighted a person's intention to use online cab service apps is influenced through PE, EE, SI, FC, HC, and RP. These results provide an understanding for service providers/enterprises of online cab service apps. As the results exhibit the vital significance of PE, EE, SI, and FC in improving the intention of an individual to use online cab service booking apps, these service providers must emphasize marketing and offering favors to their users. It seems that users are consuming these services for their convenience, prompt service, speediness, and accessibility. Hence, the enterprise must stress delivering value service to conquer the level of users' anticipations.

Additionally, enterprises must spread services in remote regions where most users have limited facilities for the commute. Further, the findings reveal that enterprises should improve customer service like a live chat by improving users' expectations and experience

to continue using it or use it for the first time. Immediately resolving issues must be the top priority. Moreover, the service providers must advertise their contribution to a good cause on social media platforms, permitting users to share their travel experiences with their friends and relatives. A customer's preference to use an online cab service or not is generally attributed to the recommendation of referral groups to use any service or commodity. It refers to the security and accessibility of public transport as they do not comply with issued SOPs due to poor condition of the vehicles in Pakistan. In addition, the results displayed that users utilize these services for the value they are paying is worth it or not because they consider that these services are offering the value for money in contrast to public transportation. Hence, the service provider can reward those who refer to others about the online cab service apps like promo codes. It would be beneficial in the economies that are experiencing severe COVID-19 outbreak scenarios.

Managerial Implications

However, the findings underline the significance of health consciousness and risk perception in improving the users' experience/expectation of using online cab service applications. Enterprises should emphasize promoting preventive measures to reduce the travel risk and health risk by following the SOPs provided by the government, which would change the perception of customers to travel by availing these services safely. Secondly, another understanding extracted from the outcomes is that users consider using these services safe as the influence of personal safety practices is insignificant. It explains that the cases about the uncertain incidents are dealt with properly, and the online cab service providers are improving and enhancing their service to reduce the reported cases.

Limitations

This study has some limitations for the prospective studies, which would be valuable. At first, this study emphasizes only those determinants that influence a person's intention to use online cab service apps during the pandemic. Thus, the study focuses on customers' intention at the time of the COVID-19 outbreak was not examined earlier through the variables used in this paper; moreover, future studies can be conducted to examine the users' intention regarding online cab service apps after pandemic in the context of Pakistan. Secondly, the paper analyzed the intention of Pakistani customers about online cab services. Although, the immense use of such service by the Pakistani customers, studies in prospect can be conducted to compare and contrast the findings of this study in other economies.

Scope for further research

Further, prospective studies can opt for other research techniques to gather the response, like the qualitative approach for in-depth analysis of other determinants influencing technological advancement's acceptance and adaptation. For example, the present study is based on the Unified Theory of Acceptance and Use of technology to study the intention

of people to use the online cab service apps. The framework adopted is usually employed to illustrate an individual's acceptance and use intention regarding the technology advancement. Hence, prospect studies can utilize the different theoretical backgrounds to illustrate customers' behavioral intention to other services like the Uses and Gratification theory, UTAUT 2, and others. Lastly, the sample was collected to study the customer perspective of online cab service apps. Therefore, the study might be valuable to increase the response gathered and supplement them with the drivers or service providers of the online cab service apps to apprehend the issues and problems experienced by both parties at the time of the outbreak.

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