Tanzania Journal of Development Studies, Vol. 22, No. 2, 2024: 1–25

Determinants of Customer Satisfaction for Ride-hailing Services in Tanzania

Ezekiel Eligius Shayo[*] *& Juma James Masele*[§]

Abstract

While the emergence of ride-hailing services has become increasingly popular worldwide by promising to curb urban mobility challenges, the determinants of customer satisfaction in the context of developing countries are not clear. This paper assesses the determinants of customer satisfaction with ride-hailing services in Tanzania. Guided by the SERVIQUAL and Information System Success models, the study leading to this paper employed an explanatory survey design with a five-point Likert-scale questionnaire to 102 Uber and Bolt customers, through drop by a driver and pick later techniques. The data were analysed using a multiple regression analysis. The findings revealed that perceived cognitive control, information quality, and services quality positively and significantly influenced customer satisfaction. Also, they revealed that the quality of Uber/Bolt systems insignificantly influence customer satisfaction. Hence, ride-hailing service companies should keep perceived cognitive control up; while information quality needs to be kept high, responsive and reliable. Also, responsible bodies need to formulate favourable policies and regulations for smooth, affordable, and secure ride-hailing services.

Keywords: *service quality, ride-hailing services, online transportation logistics, Uber apps, Bolt apps, and customer satisfaction*
https://dx.doi.org/10.56279/NJIY8787/TJDS.v22i2.1

Introduction

Worldwide, ride-hailing technology has revolutionized the taxi transportation industry, thus offering business opportunities to online transport logistics investors. The ride-hailing service—also known as ride-sourcing, on-demand ride services, and ride-booking, among other names (Tirachini, 2020)—enables a customer to request a nearby driver through ride-hailing digital platforms based on the best rider-to-driver match model to take them where they want to go (Wallsten, 2015). Successively, the invention has come with numerous distinctive sets of advantages for both riders and drivers when compared to traditional transportation. According to ITF (2016), the advantages of ride-hailing services over conventional taxi transportation include convenience, transparency (e.g., price matching), localization, ubiquity, resource efficiency (e.g., time and fuel), and accountability. Today, with ride-hailing digital platforms, a customer can order a ride through an Internet-enabled mobile application or smartphone, and a driver can respond to the request via the same app (Silalahi et al., 2017; Joia & Altieri,2018). Indeed, users

[*] MBA graduate, Department of General Management, University of Dar es Salaam: ezekielshayo@gmail.com

[§] Department of General Management, University of Dar es Salaam: masele@udsm.ac.tz. ORCID: https://orcid.org/0000-0001-6474-7187 (Corresponding author).

are now able to track where a driver is, when a driver comes to pick up, and how much they have to pay (Nguyen-Phuoc, et al., 2020). Subsequently, online transport logistics, through ride-hailing technology applications, have exploded into a multi-billion-dollar business (David, 2021; Businesswire, 2021; Adesoji, 2022); with the world's two largest platforms, Uber and Didi, valued at more than $60bn each by early 2021 (David, 2021; Adesoji, 2022).

Today, the biggest names in the ride-hailing business include Uber, Didi, Taxify (now Bolt), Lyft, Sidercar, Carpool, GO-JEK, Grab and Little Cab (Silalahi et al., 2017; Nguyen-Phuoc et al., 2019). By seamlessly linking riders to drivers via apps, more possibilities for riders and more business for drivers are opened ubiquitously. While Uber began as a luxury car service in 2010, and only later expanded to the ride-hailing market with other vehicles, today it provides a range of services, unique to each city in which it operates: ranging from UberX, branded as 'low-cost Uber' to UberBLACK ('original Uber') with a higher base fare and cost per mile, and to UberT; enabling users to order a conventional taxi via the Uber app (Wallsten, 2015).

Accordingly, the emergence of ride-hailing services has become increasingly prevalent across the world, and particularly in developing countries where public transport systems are normally poor due to the lack of investment (Nguyen-Phuoc, 2020). These services are shaping the way that people get around cities due to their advantages (Nguyen-Phuoc, 2019; Thaithatkul1 et al., 2019; Rachbini et al., 2020), thus experiencing rapid growth. In Vietnam, for example, since its inception in 2014 (Roscher, 2018), the GrabTaxi service has become trendy, and has attracted a lot of users (Grab, 2018). In Indonesia, about 8.13% of the Indonesian population had used ride-hailing services in 2019 (Rachbini et al., 2020). Evidences by Thaithatkul1 et al. (2023) further indicate that ride-hailing services have surged in popularity in Southeast Asia. In Nairobi, Kenya, the transportation industry has been dramatically altered by ride-hailing applications due to the increase of competition and service substitution (Ponder, 2019). In Tanzania, ride-hailing services—dominated mainly by Uber and Bolt—have created a significant shift in how city people access transportation (Adesoji, 2022). The increased acceptance of the ride-hailing services is due to the fact that they can be booked ubiquitously via smartphone applications, and that they show the real-time location of the transit service and the estimated fare to be charged at the end of a ride (Vanderschuren & Baufeldt, 2018).

Tanzania is a developing country in which the use of existing privately owned commuter minibuses—popularly known as *daladala*—are the only means of public transport in the country, and have been very limited in recent years. The newly introduced Bus Rapid Transit (BRT) system, popularly known as *Mwendokasi*, is not only available on a few routes of the Dar es Salaam city, but it is also not sufficient; and thus is unreliable and takes longer than usual (Kasmiry, 2019; Elias, 2020). Consequently, commuters have been forced to use available, convenient, and unsafe means of transport, such as motorcycles and bajajs. With the growing number of Internet and smartphone users, people in urban cities—such as Dar es Salaam, Dodoma, Mwanza, and Arusha—enjoy ride-hailing services that have created a big shift on how city people access transportation.

In Tanzania, the most popular companies offering ride-hailing businesses are Uber and Bolt (formerly Taxify), which were introduced in Dar es Salaam; and have currently spread to Dodoma, Mwanza, and Arusha cities (Adesoji, 2022). Others recently introduced in Dar es Salaam city include Paisha, Ping, and InDrive (Adesoji, 2022); marking a growing competition in this transportation sub-sector. Although Uber Tanzania was only established in 2016, it has managed to employ over 1,000 drivers in the country by providing them with permanent and part-time jobs (Uber, 2019; Adesoji, 2022). The number of employed individuals, especially youths, has continued to grow. Taxify (now Bolt) launched its services in Dar es Salaam, Tanzania, in December 2017; with hundreds of drivers having already signed up to the platforms and ready to accept rides (Adesoji, 2022). As social enterprises and corporations, both Uber and Bolt have created a significant shift in how city people access transportation. Similarly, with Bolt-Tanzania, its products include Boda, Bolt, and Bajaji.

However, as in any other businesses, for online transport logistics to be competitive, the customer is the most critical component for effective online transport logistics, including Uber and Bolt services. Accordingly, the individual passenger transport sector, which was formerly monopolized by taxis, has experienced a new market reality with intense competition, pressure for quality, improvement of services provided, more affordable prices, and constant search for customer satisfaction. With more entrants (both local and foreign) joining the business, this has created more intra-company competition to win available customers (Adesoji, 2022). Hence, unless a company is able to satisfy its customers, it will be at a competitive disadvantage. According to Walkers (1995), the quality of service and customer satisfaction are not just limited to offering a regular service; it is a complex experience that involves many variables. While ride-hailing in Tanzania is privately run and new, establishing the determinant of the sector for passenger (customer) satisfaction is important. The authors argue that unless consumers (of Uber and Bolt services) are properly handled and served, they will become dissatisfied (Parasuraman et al., 2005; Lovelock &Wirtz, 2016; Nguyen-Phuoc et al., 2020).

Dominici and Guzzo (2010) indicate that service companies with outstanding performance not only regard customers as the destination point of their services, but also pay a great deal of attention to customer happiness and satisfaction. When a service deteriorates for some reason, customers want the problems to be resolved with an appropriate response as soon as possible; otherwise they may withdraw by boycotting the service, and also by making others aware of their dissatisfaction (Ozuem et al., 2021). As ride-hailing continues to face growing competition and difficulties (Almeida et al., 2021), understanding the factors behind Uber and Bolt customer satisfaction is of enormous importance.

Some variables must be understood when investigating Uber and Taxi transportation (Almeida et al. (2021). A study conducted in San Francisco (USA) by Rayle et al. (2015) presented eleven (11) reasons that influence consumer preferences for Uber

transportation. These factors include 'ease of payment', 'short waiting time', 'the fastest way to get there', and 'ease of calling a car'. Others included 'did not want to drive after drinking', 'did not need to park', 'reliable', 'comfort/safe', 'cost - cheaper than alternatives', 'no public transportation', and 'could not get taxi' (Rayle et al., 2015). Laurell and Sandstrom (2016) noted that ride-hailing is preferred over traditional taxis because of price, service, convenience, safety, punctuality, experience, and reliability: all making it preferable to conventional taxis. Wade (2015) states that Uber has found a winning formula with a clear value proposition: ease of use, high-quality service, market transparency, flexibility, and competitive prices. Cramer and Krueger (2016) revealed that Uber drivers have a higher efficiency than conventional taxi drivers. For example, according to Cramer and Krueger (2016) Uber drivers have a 30% higher efficiency in taking their passengers to the requested destinations than traditional taxis. In addition, the Eye for Travel (2015) study on Uber services states that all Uber cars must be less than 10 years old or newer to be allowed in the network. Additionally, Uber partner drivers undergo rigorous background checks to ensure customer relationships (empathy) during service delivery (ITF, 2016). In addition, in both Uber and Bolt, once a driver has accepted a ride, passengers will be able to see her/his name, photo, car-make and model, and registration; as well as be able to track the driver making his or her way towards them in real time: all of which makes it easy to be sure that they get safely into the correct vehicle with the correct driver.

Different models—such as the SERVQUAL and the Information System (IS) Success Model—suggest a number of dimensions of predicting customer satisfaction. SERVQUAL dimensions for electronic service quality—reliability, assurance, tangibles, empathy and responsiveness (RATER)—were then developed to cover electronic service (e-service) quality delivery through websites (Parasuraman et al., 1988). The IS success model by DeLone and McLean (1992, 2002), on the other hand, postulates that information quality, system quality, and service quality: all influence intention to use and user satisfaction; all of which influence net benefits. In the context of online transport services, Silalahi et al. (2017) reviewed three (3) IS success models—service, information, and system dimensions—and 20 sub-dimensions to measure online transportation service quality on a technological aspect; and found that the best aspects in each category are: perceived cognitive control, ease of use, and perceived website innovativeness.

However, the literature on customers' perceptions of ride-hailing services and their influence on customer satisfaction in Tanzania is silent. The cited empirical evidence on ride-hailing services above is from abroad; with most of it being from developed countries. Existing evidence in the Tanzania remains anecdotal and not comprehensive. For example, the Tanzania Business Insight (2021) indicates that customers complain that Uber rates are higher than Bolt rates, but Uber is run professionally. Given the underdevelopment of conventional public transport systems, as well as taxis in recent years (Kasmiry, 2019; Elias, 2020) in comparison to the potentials manifested by ride-hailing services in Tanzania, there is a need for

further research on this phenomenon. Also, given the importance of service quality on customer satisfaction, and the extent to which transportation services are competitive in the country, a need arises to reveal an understanding of the quality factors towards ride-hailing; a drive that triggered this study.

This study seeks to identify the determinants of customer satisfaction in the provision of ride-hailing services. It tests the variables extracted from both the reviewed empirical and theoretical models: ease of use, perceived cognitive control, reliability, and responsiveness. The findings are expected to be useful in bridging the service quality gap in relation to customer satisfaction with ride-hailing services. The general objective of the study is to investigate the determinants of customer satisfaction with ride-hailing services in Tanzania. Specifically, it is centred on the objectives of determining: the influence of the ease of use of ride-hailing services' apps on customer satisfaction; the influence of ride-hailing services' perceived cognitive control on customer satisfaction; the influence of ride-hailing services' reliability on customer satisfaction; and the influence of ride-hailing services' responsiveness on customer satisfaction.

Literature Review

Theoretical Underpinning the Study

The service quality (SERVQUAL) model, as invented by Parasuraman et al. (1988), assumes that customers can articulate both their expectations of the general characteristics of service quality and their perceptions of actual service quality by a specific service provider (Caro & Garcia, 2016; Parasuraman et al., 2015). According to Grubor et al. (2009), because quality is intended for consumers, service quality is achieved when customers are satisfied or have exceeded their expectations. This theory emphasizes the importance of observing customers' insights into service quality (Parasuraman et al., 1995; Parasuraman et al., 2005). Service Quality (SERVQUAL) is a well-tested quality measurement tool that focuses on five dimensions of service quality: tangibility (related to physical appearance), reliability (being dependable and accurate), responsiveness (willingness to help customers and provide prompt service), assurance (ability to convey trust), and empathy (individual care and attention) (Parasuraman et al., 1988; Negi, 2009). SERVQUAL has widely been applied in studying customer satisfaction in different contexts, such as retail company businesses (Haming et al., 2019), patient satisfaction (Liu & Chujuarjeen, 2022), transportation services (Valenzo-Jiménez et al., 2019), ride-hailing services (Ziyad et al., 2020), and many others. As most services are being provided online, Parasuraman et al. (2005) developed E-SQUAL to measure electronic service (e-service) quality delivered through websites. E-SQUAL also covers technical aspects, such as efficiency, fulfilment, system availability, ease of use, speed of browsing, privacy, and security issues (Silalahiet al., 2017).

While this study found the SERVQUAL model useful in informing important service quality variables that might explain customer satisfaction in ride-hailing services, it was supplemented by the Information Systems (IS) success model by Delone and

McLean (1992; 2002). According to the IS success model, information systems usage (which is influenced by information quality, system quality, and service quality) influences user information satisfaction and organizational impact through individual impact (DeLone & McLean, 1992). Later, the modified model redefined organizational impact through individual impact, constituting net system benefits (DeLone & McLean, 2003). User satisfaction refers to users' level of satisfaction with system outputs such as reports, websites, and support services. User satisfaction is considered a measure of the effectiveness of an information system (Kalankesh et al., 2020). According to Petter et al. (2008), information-quality attributes include relevance, understandability, accuracy, conciseness, completeness, currency, timeliness, and usability. The desirable characteristics of system quality include ease of use, reliability, ease of learning, system intuitiveness, sophistication, flexibility, and response times. Service quality attributes, in line with the SERVQUAL model, include responsiveness, accuracy, reliability, technical competence, and empathy of personnel staff. Given the wider usage of IS success models in information systems research (e.g., Choi et al., 2013; Petter et al., 2008; Negi, 2009; Mlimbila & Mbamba, 2018), this study used this model to supplement the missing attributes from SERVQUAL, such as perceived cognitive control. According to Jay and Zhang (2016), customers who feel in control are more likely to have positive experiences, and exhibit higher levels of satisfaction.

Silalahi et al. (2017) reviewed the three dimensions of service, information, and system quality; and 20 sub-dimensions to measure online transportation service quality on a technological aspect. These include (1) service quality (website design, reliability, responsiveness, trust, personalization, perceived risk, perceived cognitive control, privacy, compensation, contact, billing, punctuality, and valence); (2) information quality (content usefulness, content adequacy), and (3) system quality (ease of use, accessibility, interactivity, perceived website innovativeness, and system availability). They found that the best aspects in each category were: perceived cognitive control, ease of use, and perceived website innovativeness. Accordingly, synthesizing from the two theories—E-SERVQUAL as well as IS success model—the current study considered systems quality, perceived cognitive control, information quality and services quality as important predictor variables on customer satisfaction towards ride-hailing services.

Empirical Literature Review

The role of customer satisfaction in improving a firm's competitiveness has already been overemphasized. According to Lovelock and Wirtz (2016), a happy consumer is more likely to show loyalty to a company through frequent transactions and improved customer retention; and high rates of customer satisfaction are often thought to result in increased sales arising from word-of-mouth referrals. Unless there is an understanding of what customers expect, and meeting or exceeding those expectations, customers end up being dissatisfied. The literature review for this study was conducted along its objectives that entailed assessing the influence of a system's ease of use, perceived cognitive control, reliability of service provision, and responsiveness of service provisions on customer satisfaction.

Systems quality (as measured by a system app's ease of use, reliability, flexibility/ adaptability, portability, functional effectiveness, and ability to integrated with other platform), is a key construct in the research field of information system. In the context of online shopping through websites, easy navigation is essential to attract both experienced and new customers (Kumar & Lata, 2021). Studies assert that ease of use (EoU) allows users to easily understand the use of technology with little effort in terms of skills, time, and sweat (Salameh & Hassan, 2015). Studies by Salameh and Hassan (2015), and Zehir (2016), have assessed e-service quality and e-recovery service quality on value perception and loyalty intention, and revealed that customer satisfaction is influenced by the quality of ease of use of an e-service. Other studies by Kumar and Lata (2021), and Trong et al. (2014), argue that promoting sites must not only be easy to navigate, but also possess an effortless lookup facility such that shopping becomes enjoyable and fulfilling. A study by Sarwar (2016) on factors influencing customer satisfaction with e-shopping in Malaysia indicated that a system's ease of use of e-commerce services, flexibility and portability: all influenced customer satisfaction to a great extent. According to some authors (e.g., Shin et al., 2015; Kurniadi et al., 2019; Wang & Hwa, 2019), online transportation itself is a type of application-based transportation that can be accessed flexibly wherever and whenever in real time, whereas users can easily mobilize it anywhere by accessing this application. Therefore, factors that can affect the ease of application are very important to note (Aulawi et al., 2020; Kumar & Lata, 2021). Thus, this study presumes a positive relationship between ease of use and customer satisfaction. The first hypothesis of the study is:

H1: Ride-hailing systems' quality has a positive influence on customer satisfaction.

Perceived cognitive control is a mental state of the flow experience that generally refers to the perception that a person has in response to his or her disposal that can influence an event (Salameh & Hassan, 2015). Cognitive control requires a person to predict the likely sequence of events, and consider the implications of these sequences. In the context of online transport services, perceived cognition shows how the information flow in an online transportation application matches a user's understanding (e.g., when a user orders an online transport service, the user will get an approximate distance and price) (Silalahi et al., 2017). Once a person understands this, s/he will be in a position to understand the requirements of one's needs. According to Silalahi et al. (ibid.), cognitive regulation decreases ambiguity and increases the importance of the service experienced by customers. This also clarifies the situation, particularly regarding the need for involvement in services (ibid.). The perceived cognitive influence of a consumer will have an effect in a retail setting, as perceived cognitive control strongly correlates with a consumer's decision as to whether the atmosphere would encourage or frustrate the achievement of its target (Salameh & Hassan, 2015). Su and Johnson (2019) studied the effects of perceived safety, involvement, and perceived service quality on loyalty intention among ride-sourcing passengers; and found that perceived cognitive control positively and significantly influenced the satisfaction of ride-

sourcing passengers. Therefore, it is assumed that there is a possible beneficial association between perceived cognitive competence and overall custody. Thus, this study also tested the following hypothesis:

H2: Ride-hailing service's perceived cognitive control has a positive influence on customer satisfaction.

According to Parasuraman et al. (2005), information quality (as measured by consistency, accuracy, relevance, timeliness and completeness) is associated with the extent to which it is available, dependable and functions properly. Information quality is measured by assured certainty, dependability, and consistency of information as crucial and relevant (Negi, 2009; Souca, 2011). New service-delivery experiments—with computer technology choices—realized that the reliability and accuracy of information supplied by a system are essential dimensions of the SQ measurement, which in turn predicts customer satisfaction (Salameh & Hassan, 2015). This is important for m-commerce companies because customers are constantly moving, and often in time-critical circumstances. Where information provided is not accurate, relevant, complete and timely, it cannot be useable. Rabiul et al. (2014) had similar findings in a study measuring customer satisfaction with bus transportation; which concluded that reliability, accuracy and completeness of information on prices charged, and waiting time were the most important causes of passenger satisfaction. Where these lacked, complaints and eventual cancellation of trips were the consequences. Also, a study conducted in China by Asmi et al. (2016) concluded that information quality is a strong predictor of satisfaction with Uber and Taxi services. Thus, this study tested the following hypothesis:

H3: Ride-hailing system's information quality has a positive influence on customer satisfaction.

Service quality (as measured by responsiveness, empathy, reliability, assurance) is a measure of an organization's willingness to respond to customers' needs, and providing timely solutions that meet their expectations (Parasuraman et al. 1995; Negi, 2009; Salameh & Hassan, 2015). In the context of ride-hailing services, Ziyad et al. (2020) defined responsiveness as a predictor of how willingly ride-sharing companies and drivers want to serve consumers and deliver instant services. Responding quickly and empathically to customer requests shows that a business is customer-oriented. In the context of ride-hailing services—such as those of Uber/Bolt—service quality entails the ability of the Uber/Bolt logistics company to help customers and deliver services as per customers' enquiry within the shortest time possible (Caro & Garcia, 2016). Being responsive and reliable refers to the ability of Uber/Bolt drivers to arrive on time at pick-up locations, and the ability to answer customer requests or complaints within the shortest time possible. Empathy, on the other hand, is the ability of the Uber/Bolt company to understand what a passenger experiences when s/he uses Uber/Bolt transport services. This can reduce confusion and complaints; and hence increase customer satisfaction (Silalahi et al., 2017). According to several studies (Handfield &

Bechtel, 2002; Tiedemann et al., 2009; Zygiaris et al., 2022), services quality is the best way to provide and control customer satisfaction. Thus, this study tested the following hypothesis:

H4: Ride-hailing service's quality has a positive influence on customer satisfaction.

Figure 1 presents a conceptualized relationship between the postulated independent variables (ease of use, perceived cognitive control, reliability, and responsiveness) and Uber/Bolt customer satisfaction as the dependent variables. Table 1 lists the constructs used.

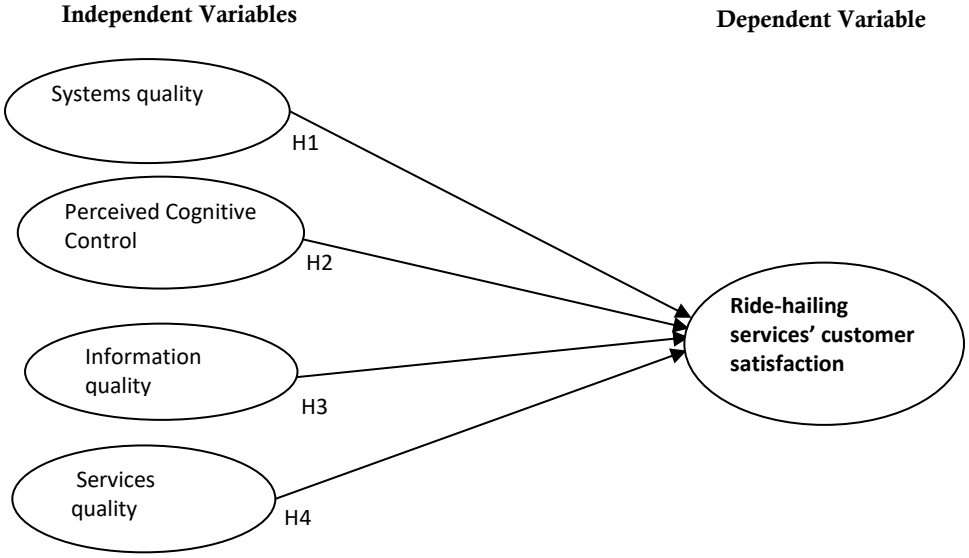

Figure 1: Conceptual Model

Table 1: Operationalization of Constructs Used in the Conceptual Model

Construct	Definition	Item indicators/statement	Citation sources
Systems quality	This term refers to the assessment of the system performance on the intended performed tasks and how it meets the needs of its users efficiently. This includes features like usability, functionality, performance, and reliability.	1. Uber/Bolt system app is easy to use 2. Uber/Bolt system has effective functionality and features. 3. Uber/Bolt system is reliable/dependable and consistent. 4. Uber/Bolt system is flexible and adaptable to choose or cancel the trip. 5. Uber/Bolt system provides high-quality and accurate data. 6. Uber/Bolt system is portable and accessible. 7. Uber/Bolt system integrates smoothly with other digital platforms (smartphones, and respective M-payments systems such as MPESA, Tigo-Pesa, Airtel Money, Halopesa etc.).	Salameh & Hassan (2015); Silalahi *et al.* (2017); Sulisworo, 2016); Moumane, Idri & Abran, 2016).

Perceived Cognitive Control	This is the degree to which the process of thinking or recalling something by understanding or looking at it in a specific way is regulated.	1. I believe using Uber/Bolt will save my time due to its convenience. 2. I believe using Uber/Bolt will cut cost due to attractive rates/price they offered. 3. I believe Uber/Bolt price transparency as influence me to use their services. 4. I believe Uber/Bolt enable customer to choose services that fit its need.	Wade (2015).
Information quality	This term refers to the quality of the information that a system provides. This kind of quality includes features like accuracy, timeliness, completeness and relevance.	1. Accuracy of information is guaranteed with Uber/Bolt systems. 2. Timeliness of information is guaranteed with Uber/Bolt systems. 3. Completeness of information is guaranteed with Uber/Bolt systems. 4. Relevance of information is guaranteed with Uber/Bolt systems Consistency of information is guaranteed with Uber/Bolt systems.	Silalahi *et al.* (2017); Salameh & Hassan (2015); Negi (2009); Al-Fraihat, Joy & Sinclair, 2020); Laumer, Maier & Weitzel, 2017).
Service quality	A term refers to quality of support that users get from the information technology service provided. This includes features like reliability, assurance, responsiveness, and empathy provided by the service provided.	1. Uber/Bolt services are responsive to customer requests, feedback, questions and issues. 2. Uber/Bolt services are prompt, delivered efficiently, and in quick manner. 3. Uber/Bolt services are user friendly and empathic. 4. Uber/Bolt services are reliable and dependable. 5. Uber/Bolts platforms has a platform for customers to give feedbacks. 6. Customer requests or complaints were well attended. 7. With Uber/Bolt services you have assurance.	Silalahi *et al.* (2017); Salameh & Hassan (2015); Negi, 2009; Nilashi, et al, 2021); Delone & McLean (2003)
Uber/Bolt Customer Satisfaction	A term used to describe a situation in which an exchange (service) meets the needs and desires of its customer.	1. The services I received through Uber/Bolt met what I expected. 2. Where there are choices, I will recommend to other to travel and use Uber/Bolt service provider. 3. I intend to continue using Uber/Bolt in the next travel trip. 4. I plan to continue using Uber/Bolt often to facilitate my movement.	Ayieko (2015); Lovelock & Wirtz (2016); Laurell & Sandstrom (2016).

Methodology

This study was conducted in Dar es Salaam, Tanzania. The study was carried out in Ubungo, Ilala, Temeke, Kinondoni, and Kigamboni municipal councils. These areas were selected because of their population congestions, which favour short trips from one point to another that are vital for the provision of goods and/or services. The study adopted a positivism philosophy, a deductive approach, and a cross-sectional explanatory survey design to assess the determinants of customer satisfaction with ride-hailing services in Dar es Salaam. The philosophy was adopted as there were already some known realities and theories that helped to systematically gather and precisely quantify through statistical methods (Saunders et al., 2019). The units of analysis were Uber and Bolt service customers. Convenience sampling was used to

capture Uber and Bolt service customers, where a questionnaire was sent to respondents who were easily reached through physical contact. This technique was considered suitable owing to the difficulty in obtaining a sampling frame to enable simple random sampling. Respondents were selected only from those who had already used either Uber or Bolt. The sample size was of 102 out of 110 respondents as calculated using Cochran's formula ($n = Z^2pq/e^2$); where e is the margin of error (tolerate 10%), p is the proportion of the population (estimate 50% for unknown population), q is 1-p (1-0.5=0.5), Z is the score measure of standard deviation (95% Confidence Interval, Z=1.96). This sample size is a 92.7% response rate.

The research that led to this paper collected information related to independent variables (systems quality, perceived cognitive control, information quality, and service quality) that were hypothesized to influence Uber/Bolt customer satisfaction. To gather enough information from the respondents, a structured questionnaire in the form of a five-point Likert scale was used. The questionnaire was administered in person through an Uber or Bolt driver. Note that the researchers had to strike a deal with Uber and Bolt drivers to drop the questionnaires to their customers, and establish contacts so that they could be picked up later.

Respondents were informed in advance about the purpose and procedures of the research. They were assured that participation was voluntary; and that they could withdraw from the study at any time without any consequences. Participants were also informed that the information they provided would be treated anonymous, and the results of the study would be published in academic journals without revealing the identities linked with their responses. Upon boarding the customers, questionnaires were distributed using the 'drop and pick later' process, as it was difficult to distinguish customers from the public. Questionnaires were then obtained from vehicle drivers on a later date.

A multiple regression analysis was performed to assess the influence of the hypothesized predictor variable on the outcome variables. The regression model is as follows:

$$\text{CS} = b_0 + b_1\text{SYQ} + b_2\text{PCC} + b_3\text{INFQ} + b_4\text{SVQ} + \text{Error}$$

Where
CS = Customer Satisfaction
SYQ =Systems Quality
PCC = Perceived Cognitive Control
INFQ = Information Quality
SVQ = Service Quality
b_0 to b_4 = the intercept on the regression model

The questionnaire was subjected to pilot testing with 10 Uber customers before the instrument was used on a wider scale. Any ambiguities arising from the respondents' misunderstandings were subsequently corrected (MacKenzie &

Podsakoff, 2012). The collected data from the pilot study were used to calculate the Cronbach's alpha. A Cronbach's alpha coefficient of 0.736 was obtained, implying that the instrument was both reliable and valid.

Results and Discussion

Demographic Characteristics of the Respondents

The demographic information of the respondents, as presented in Table 2, included their sex, age, education, and occupation. The gender distribution indicated that 62(61.8%) respondents were male, and 38(38.2%) were female. This indicates that more males used online transport more than females, as shown by the gender imbalances in the results. Age-wise, the findings indicate that 67(65.7%) of the respondents were aged below 31 years, 22(21.6%) of the respondents' ages ranged between 31–40 years; and that the ages of 9(8.8%) respondents ranged between 41–50 years; while 4(3.9%) respondents were aged above 50 years. Thus, the data shows that a large number of the respondents 89(87.3%) were at age below 41 years. This implies that the majority of people who use ride-hailing services are young. The probable reason might be that most people above 40 years of age are economically well (some are employed with reliable income) in managing private means of transport compared to the youth, particularly students. The educational qualifications of the respondents indicated that 81(79.4%) had bachelor's degree, while 14(13.7%) had diplomas, 2(2.0%) had advanced secondary education, 4(3.9%) had ordinary secondary certificate, and 1(1.0%) had STD VII educational qualification. The implication here is that most of the respondents (93.1%) had university degree qualifications and above. Occupation-wise, the results indicated that, of the respondents, 1(1.0%) was livestock keeper, 2(2.0%) were farming, 16(15.7%) were businesspeople, 30(29.4%) were formal employees/staff, and 53(52.0%) were students.

Table 2: Demographic Characteristics of the Respondents

Item	Categories	Frequency	Percentage
Sex of the Respondents	Male	63	61.8
	Female	39	38.2
Age of the Respondents	Below 31 years	67	65.7
	Between 31 and 40 years	22	21.6
	Between 41 and 50 years	9	8.8
	Above 50 years	4	3.9
Education Qualifications of Respondents	University level	81	79.4
	College level	14	13.7
	Advance Secondary level	2	2.0
	Ordinary Secondary level	4	3.9
	Primary School level	1	1.0
Occupation of respondents	Livestock keeping	1	1.1
	Farming	2	1.9
	Businessman/woman	16	15.7
	Employee/ staff	30	29.4
	Student	53	51.9

Source: Field data

Inferential Statistics on the Determinants for Uber/Bolt Customer Satisfaction

Recall, the hypothesized predictor variables used in this study were systems quality, perceived cognitive control, information quality, and service quality. A regression analysis was used to determine the influence of the hypothesized predictors on customer satisfaction. Before the regression analysis, a factor analysis was conducted to calculate the factor scores that would be used for the regression analysis. Table 3 provides the details.

Table 3: Factor Analysis

	Component				
	1	2	3	4	5
Uber/Bolt system app is easy to use.	.877				
Uber/Bolt system has effective functionality and features.	.779				
Uber/Bolt system is reliable/dependable and consistent.	.717				
Uber/Bolt system integrates smoothly with other digital platforms. (smartphones, and respective M-payments systems such as MPESA, Tigo-Pesa, Airtel Money, Halopesa etc.).	708				
Uber/Bolt system is flexible and adaptable to choose or cancel the trip.	.696				
Uber/Bolt system provides high-quality and accurate data.	.696				
Uber/Bolt system is portable and accessible.	.511				
Uber/Bolt services are prompt, delivered efficiently, and in quick manner and responsive whenever inquired.		.740			
Uber/Bolt services are reliable and dependable.		.723			
Uber/Bolt services are user friendly and empathic.		.714			
Interaction with Uber/Bolt Apps is clear and understandable.		.690			
Uber/Bolt Apps allows for error toleration that helped me to correct wrong information.		.589			
Customer requests, complaints and other feedbacks are well attended.		.580			
I believe using Uber/Bolt will save my time due to its convenience.			.875		
I believe using Uber/Bolt will cut cost due to attractive rates/price they offered.			.844		
I believe Uber/Bolt price transparency as influence me to use their services.			.776		
I believe Uber/Bolt enables customer to choose services that fit their needs.			.709		
I believe Uber/Bolt price transparency has influence me to use their services.			.671		
I believe Uber/Bolt enable customer to choose services that fit its need.			.654		
Uber/Bolt systems guarantee accuracy of information.				.765	
Uber/Bolt systems guarantee timeliness of information.				721	
Uber/Bolt systems provide complete information on the routes.				.712	
Uber/Bolt systems guarantee relevance of information.				.704	
Uber/Bolt systems guarantee consistency of information.				.698	
Uber/Bolt systems guarantee accuracy of information.				.657	
The services I received through Uber/Bolt met what I expected.					.801
Passengers felt safe and secured when using Uber.					.797
Where there are choices, I will recommend to other to travel and use Uber/Bolt service provider.					.794
I intend to continue using Uber/Bolt in the next travel trip.					.689
I plan to continue using Uber/Bolt often to facilitate my movement.					.582

Note: *Extraction Method:* Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization.

The purpose of carrying out a factor analysis was to reduce the number of items, thus deriving full variance from the theorized items. According to Hair et al. (2010), this technique extracts the maximum common variance from all variables, and assigns them a common score. These scores can be used as an index of all variables for further analysis. The results were rotated using varimax rotation. Any items that loaded below 0.5 were dropped and not considered for further review (see, also, Hair et al., 2010).

However, before the performance of the factor analysis was interpreted and used for subsequent research, KMO and Bartlett tests were conducted. A KMO value greater than 0.5, and a p-value of less than or equal to the significance point (0.05), indicated that the variables were deemed adequate for analysis (Hair et al., 2010). Table 4 shows that the KMO value was 0.812 > 0.5, whereas the p-value was 0.000<0.05. Thus, the results suggest that it was appropriate to use factor analysis as sampling was appropriate; and that the matrix of correlation was not an identity matrix.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.812
Bartlett's Test of Sphericity	Approx. Chi-Square	1110.066
	df	210
	Sig.	.000

Apart from factor analysis, other regression analysis assumptions checked were normality test, correlation analysis, and the extent of multicollinearity (Figure 2).

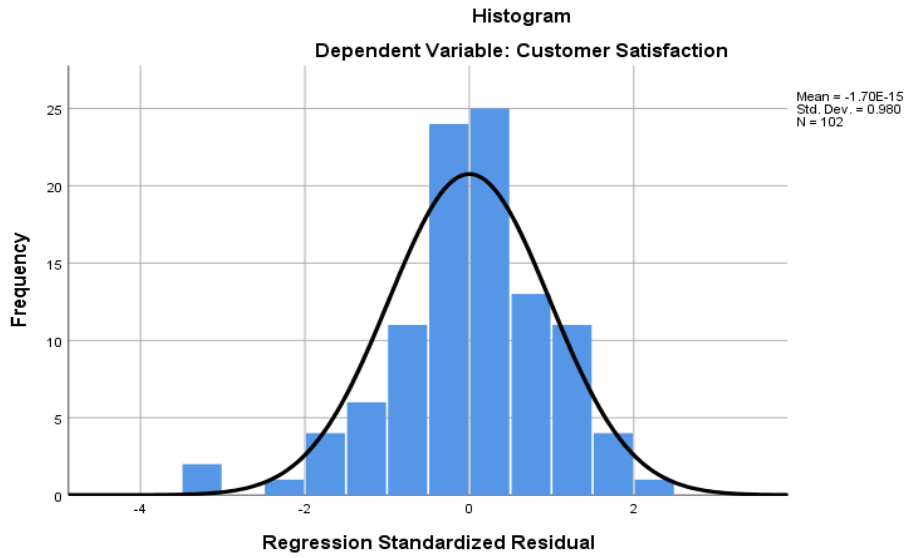

Figure 2: Normal Distribution Curve

The correlation analysis results among the independent variables indicated that no correlation coefficient exceeded 0.7. Table 5 summarizes the results. According to Hair et al. (2010), when correlations among factors (constructs) are below 0.7, the factors are assumed to be independent of each other: suggesting no correlation.

Table 5: Correlation Coefficients among Variables

	Systems Quality Ease	Perceived Cognitive Control	Information Quality	Service Quality	Customer Satisfaction
Systems Quality	1				
Perceived Cognitive Control	0.521**	1			
Information Quality	0.478**	0.609**	1		
Service Quality	0.505**	0.668**	0.545**	1	
Customer Satisfaction	0.388**	0.674**	0.617**	0.646**	1

Note: **. Correlation is significant at the 0.01 level (2-tailed).

The collinearity diagnostic results presented in Table 6 indicate that the VIF ranges between 1.517 and 2.225, which are well below 5 (Hair et al., 2010). In contrast, the tolerance values range between 0.449 and 0.659, which are above 0.2. Thus, these results indicate that there is no evidence of multicollinearity problems in the regression model (see, also, Gujarati, 2006; Saunders et al., 2009).

Table 6: Regression Coefficients

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics	
		ß	*Std. Error*	*ß*			*Tolerance*	*VIF*
1	(Constant)	1.172	0.317		3.694	0.000		
	Systems Quality	0.017	0.116	0.016	1.109	0.270	0.659	1.517
	Perceived Cognitive Control	0.340	0.081	0.406	4.195	0.000	0.449	2.225
	Information Quality	0.257	0.084	0.261	3.042	0.003	0.574	1.743
	Service Quality	0.240	0.079	0.277	3.028	0.003	0.502	1.993

Note: R Square=0.591; Adj R square=0.575; Std. Error of the Estimate=0.41137; F=35.104; p=0.000[b]

The results in Table 6 also show that R^2 and adjusted R^2 were 0.591 and 0.575, respectively. This means that 59.1% of the variability in the customer satisfaction with ride-hailing services can be explained by three factors: service quality, information quality, and perceived cognitive control. The results further imply that 40.9% of the variability in customer satisfaction is explained by other factors not accounted for in the model. The results were supported by the analysis of variance (ANOVA) results, F=35.104; p= 0.000, a value that is smaller than the predicted p=0.05. Thus, the results indicate that the model is useful in predicting customer satisfaction.

Thus, the regression model of the study is:

$$CS = 1.172 + 0.017\,SYQ + 0.340PCC + 0.257INFQ + 0.240SVQ$$

Where,
CS = Customer Satisfaction
SYQ = Systems Quality
PCC = Perceived Cognitive Control
INFQ = Information Quality
SVQ = Service Quality

Hypothesis Testing

According to Ayieko (2015), hypothesis testing is one of the most important principles in statistics, as it shows how you determine if anything actually occurred, if other interventions have beneficial results, whether groups vary from one another, or if one variable predicts another. The following four hypotheses were tested to determine whether the independent variables could be included in the regression model:

H1: Ride-hailing system's quality has a positive influence on customer satisfaction.

H2: Ride-hailing service's perceived cognitive control has a positive influence on customer satisfaction.

H3: Ride-hailing system's information quality has a positive influence on customer satisfaction.

H4: Ride-hailing system's service quality has a positive influence on customer satisfaction.

The results with the first hypothesis, 'Ride-hailing systems quality has positive influence on customer satisfaction' indicate $\beta=0.016$, $t=1.109$, $p=0.270$; and that the obtained p-value =0.270, which exceed the predicted p-value of 0.05. Therefore, ample statistical proof exists that the null hypothesis is not rejected at the 5 percent significance level. Therefore, '*ride-hailing service's systems quality has no significant influence on customer satisfaction'.*

The results regarding the second hypothesis, 'Ride-hailing service's perceived cognitive control has an influence on customer satisfaction" showed $\beta= 0.406$, $t= 4.195$, $p=0.000$. The obtained $p= 0.000$ is less than the hypothesized p–value of 0.05; therefore, we have an ample statistical evidence to reject the null hypothesis at the 5 percent significance level. Therefore, '*ride-hailing service's perceived cognitive control positively and significantly influences customer satisfaction'.*

The results about the third hypothesis, 'Ride-hailing system information quality has a positive influence on customer satisfaction' showed $\beta= 0.261$, $t= 3.042$, $p= 0.003$, indicating that the obtained p-value=0.003, which is less than the expected significance p-value of 0.05. Hence, and we have enough statistical proof to reject the significance level of the null hypothesis at 5 percent. Therefore, '*ride-hailing system information quality positively and significantly influences customer satisfaction'*.

In addition, with the fourth hypothesis, 'Ride-hailing system's service quality has a positive influence on customer satisfaction,' the results are β= 0.277, t= 3.028, p= 0.003; implying that the obtained p-value=0.003, which is less than the hypothesized p-value of 0.05. Thus, there is an adequate statistical proof to reject the null hypothesis at a significance level of 5 percent. Therefore, '*ride-hailing system service quality positively and significantly influences customer satisfaction'*.

A summary of the hypothesis tests is presented in Table 7. The hypotheses were either accepted or rejected based on the co-efficiency level and p-value, which indicate each hypothesized independent variable's level of prediction and level of significance, respectively. An hypothesis was accepted only when its level of significance was greater than the hypothesized p-value of 0.05 at 95% confidence interval. Based on these criteria, three hypotheses (PCC → CS, INFQ → CS, and SVQ → CS) were accepted; whereas one hypothesis (SYQ → CS) was rejected.

Table 7: Summary of Hypotheses Tests

Hypothesis	Path	Co-efficiency Level (ß)	P-Value	Direction	Significance Level	Decision
H1	SYQ → CS	0.016	.270	Positive	Not Significant	Rejected
H2	PCC → CS	0.406	.000	Positive	Very Significant	Accepted
H3	INFQl → CS	0.261	.003	Positive	Very Significant	Accepted
H4	SVQ → CS	0.277	.003	Positive	Very Significant	Accepted

Discussion

The discussion of the findings is based on the study objectives. Each objective was discussed and placed in the realms of other studies.

This study aimed to determine the influence of ride-hailing system quality on customer satisfaction. The regression analysis revealed that, contrary to expectations, the system qualities of Uber and Bolt apps do not significantly influence customer satisfaction. The results show that although the ride-hailing system quality positively influences customer satisfaction, its influence on customer satisfaction is insignificant in Tanzania. Consequently, it is inferred that passenger satisfaction cannot be increased by improving the system quality of Uber or Bolt apps. The results are contrary to those of Safitri (2017), who stated that a system quality has a significant positive relationship with customer satisfaction. However, the results may not be surprising, as most studies (such as Venkatesh & Davis, 2000; Aulawi et al., 2020), which also studied the variable systems quality, revealed that while good service quality is important, it alone might not be enough to guarantee customer satisfaction when it comes to using technology, as other factors like the technology's usability, functionality, and user experience also play a significant role in determining customer satisfaction. Therefore, it may be logical to determine the insignificant influence of ride-hailing service apps on customer satisfaction.

While the respective apps may have the system quality for a customers' acceptance, their influence on customer satisfaction of the actual ride-hailing services remains insignificant. This might be because the mobile apps on smartphones have become very popular among customers in Tanzania—with about 25m of mobile phone users being connected to Internet services through their handsets by 2022 (Kemp, 2022)—hence rendering it not a significant factor to predict customer satisfaction.

This study also aimed to establish the influence of the perceived cognitive control of ride-hailing services on customer satisfaction. The regression analysis revealed that perceived cognitive control of Uber and Bolt services positively and significantly influenced customer satisfaction. These findings are consistent with those of the studies by Silalahi et al. (2017) and Salameh and Hassan (2015): that perceived cognitive control has the highest degree of influence on a customer to use online transportation services by allowing people to experience the events they like. However, these studies (i.e., Salameh & Hassan, 2015; and Silalahi et al., 2017) were conducted in Asia, which is contextually different from the situation in Tanzania. In transportation services, customers have many alternatives to select from, so when customers freely choose a service out of many services available in the market, it means they have accepted the features of the services; and when these features are truly present, customers are satisfied. This is because customers believe that using Uber/Bolt saves time and convenience, cuts cost, facilitates price transparency, and enables them to choose among several alternatives available; which is consistent with the findings of Wade (2015). Evidence further asserts that since ride-sharing apps were developed based on the idea of a shared economy, these apps usually provide services that provide more economic benefits and price value than other alternatives (Caro & Garcia, 2016; Abd-Elmeguid et al., 2018; Lee et al. (2018).

The findings from the regression analysis support that the ride-hailing service information quality of Uber/Bolt services significantly influences customer satisfaction. These findings are consistent with those of Salameh and Hassan (2015), and Ayieko (2015), who found that customer satisfaction was influenced by information quality as measured by accuracy, timeliness, consistency, and completeness. Other studies also indicate that information quality dimensions are important because they help customers' trust to build confidence in service providers (Harrison, 2016). Information qualities also enables customers find Uber/Bolt to be safe and secured to use; and that their services are dependable. The findings are in line with Gaber and Elsamadicy (2021), who assert that online transportation apps provide a group of benefits for users, including reliability and rapid service. This is also in line with the IS success model by McLean and Delone (2003): that information quality is important in ensuring service consistency and service accuracy.

According to Tan et al. (2016), insufficient, poor quality or missing information are widely considered as an online service failure. Bleier et al. (2019) assert that insufficient product information leads to direct and indirect costs for online retailers, meaning that comprehensive and accurate information provision is crucial. This is also consistent with the findings of Silalahi et al. (2017), Gambo (2016), Salameh and

Hassan (2015), and Negi (2009): who all reported that information quality positively influences customer satisfaction by ensuring that promises are kept and services are provided in a safe condition. Yet, unlike the current study, these studies were not conducted in ride-hailing services, a contribution that this study makes.

The findings of the regression analysis indicate that the service quality of a ride-hailing system positively and significantly influences Uber/Bolt customer satisfaction. This is consistent with those of other authors (such as Silalahi et al., 2017; Salameh & Hassan, 2015; Gambo, 2016; Caro & Garcia, 2016; Ziyad et al., 2020), who reported that service quality—as measured by responsiveness, reliability, empathy, flexibility, and being accommodative to feedbacks—influences the ability of customers to be loyal to companies' products and services. Furthermore, the results are consistent with Ziyad et al. (2020) who observed that an increase in responsiveness, reliability and empathy of services provided, among other factors, leads to an increase in consumer satisfaction. Contrariwise, if the quality of a delivered service does not meet customers' expectations, negative consequences may follow (Petre et al., 2006). Gummerus et al. (2004) posited that responding quickly to customer requests has the highest ability to satisfy customer needs. Unlike the current study, Ziyad et al. (2020) and Gummeruset et al. (2004) conducted studies on online healthcare services in Pakistan and European countries, respectively. This study explains the influence of the hypothesized variables of ride-hailing service quality on customer satisfaction in Tanzania.

Conclusion and Study Implications

User satisfaction has been considered a measure of the success of the effectiveness of an information system. This study, guided by the SERVQUAL and IS success models, has revealed that perceived cognitive control, services quality—as measured by reliability and responsiveness of service provision—are important aspects in ensuring customer satisfaction. The study also observed that information quality—in terms of accuracy, completeness, consistency and timeliness—is a significant determinant that influences customer satisfaction with ride-hailing services. Each hypothesized independent variable showed that a ride-hailing service was positively related to the customer satisfaction of the ride-hailing service.

This study has practical, policy, and theoretical implications. Practically, Uber and Bolt managements should keep up perceived cognitive controls, including cost-cutting measures through reasonable rates, price transparency, and offering more product choices. In addition, the managements should ensure that drivers improve services through providing reliable services by keeping promises made to customers to ensure the customers are safe, and that there are no accidents. Third, both Uber/Bolt management and drivers need to be responsive when providing services. This should not be limited only to arriving on time at pick-up locations, but also promptly attending complaints and related feedbacks, customer support with enough information for decision-making, and quick service delivery to influence customer satisfaction. In addition, Uber as well as Bolt company managements should strive to ensure that drivers do not waste time at pick-up locations.

Furthermore, there is a need to formulate suitable policies and regulations to better ride-hailing service provision in the country. Favourable policies will enable ride-hailing services to prosper and appropriately respond to urban mobility challenges that has faced the public transport sector in the country for the past years, including commuters being forced to use relatively unsafe transport means such as motorcycles (*bodaboda*) and *bajajs*. Where services are made smooth through favourable policies and regulations, affordable and secure ride-hailing services will be enhanced.

Theoretically, the study used the IS success model, in combination with the SERVQUAL, to explain the determinants of customer satisfaction in ride-hailing services in the context of Tanzania. This contribution has further extended the explanatory power of the two models in the area of transport, including ride-hailing.

Recommendations

Uber/Bolt companies should ensure that the information presented on their platforms is accurate, reliable, transparent and timely. In ride-hailing services, accuracy, transparency, and clear communication are crucial for maintaining trust between drivers, passengers, and the platform itself. Incidences when Uber/Bolt driver requests more money than the ones displayed on their apps create confusion and undermines the reliability of their systems. This kind of behaviour erodes the overall trust in a platform, which could ultimately impact driver ratings, platform reputation, and customer satisfaction.

Quality customer service—in terms of promptness, responsiveness, and effectiveness—is important. Uber/Bolt companies should strategize to address user inquiries and resolving issues swiftly, as by doing so they can significantly impact overall customer satisfaction and contribute to a positive perception of their platforms.

Policymakers and regulators have a critical role to play in shaping the future of ride-hailing services in the country, especially when it comes to fostering transparency, accuracy, and reliability in app-based services like Uber/Bolt platforms. This has an implication to the safety of both Uber/Bolt customers and drivers. A regulatory framework that prioritizes these principles will not only benefit consumers but also improve the experience for service providers (drivers); and ensure long-term sustainability of platforms like Uber and Bolt.

Limitation of the paper and areas for further research

This research relied on convenience sampling to collect data from respondents. While the convenience sampling technique was preferred as there was no customer sampling frame or database that kept customer records, the technique could have biased the findings. Even the Uber and Bolt managements in the country do not keep records of all their customers in the country. Because there is a weakness in the methodology, the usage of the results in areas beyond those surveyed in the study should be done with great caution. This, in turn, implies the need of carrying out a study on a wider scale using probability sampling techniques that minimize bias.

References

Abd-Elmeguid, S. M., Ragheb, M. A., Tantawi, P. I. & Elsamadicy, A. M. (2018). Customer satisfaction in sharing economy the case of ridesharing service in Alexandria, Egypt. *The Business & Management Review*, 9(4): 373–382.

Adesoji, O. (2022). Why do ride-hailing companies leave Tanzania? https: //alafarika.org/3842/why-do-ride-hailing-companies-leave-tanzania/.

Almeida, D. L. M., Cruz, B. P. A., Cordeiro, D. R. & Montibeler, E. E. (2021). Satisfaction and dissatisfaction on uber and taxi services. *RAD - Revista Administração em Diálogo,* 23(3): 45–59.

Asmi, F., Zhou, R., He, T. & Han, F. (2016). Factors affecting customer satisfaction and intentions to adopt m-Service in China. *IEEE 13th International Conference on e-Business Engineering (ICEBE):* 2016.

Aulawi, H., Mulyani, A., Kurniadi, D. & Septiana, Y. (2020). Technology acceptance model for online transportation. *International Journal of Advanced Trends in Computer Science and Engineering,* 9(1): 31–35.

Ayieko, M. K. (2015). *Service quality dimensions and customer satisfaction in the Kenyan airline industry*. School of Business, University of Nairobi.

Bleier, A., Harmeling, C.M. & Palmatier, R.W. (2019). Creating effective online customer experiences. *Journal of Marketing*, 83(2): 98–119.

Businesswire. (2021). Global ride hailing market report (2021): COVID-19 growth and change to 2030. Https://www.businesswire. com/ news/ home/ 20210 610 005383/en/global-ride-hailing-market-Report-2021–Covid-19–growth-and-change-to-2030.

Caro, L. M. & Garcia, J. A. M. (2016). Measuring perceived service quality in urgent transport service. *Journal of Retailing and Consumer Services*, 14(1): 60–72.

Choi, W. Rho, M.M.J., Park, J. Kim, K.J. Kwon, Y.D& Choi, Y. (2013). Information system success model for customer relationship management system in health promotion centers. *Healthcare Informatics Research,* 19(2): 110–120.

Cramer, J. & Krueger, A. B. (2016). Disruptive change in the taxi business: The case of Uber. *NBER Working Paper No. 22083*.

David T. (2021). Didi Chuxing: Different country, same bad business model. Forbes. Retrieved July 07: 2023: from https: //www.forbes.com/ sites/greatspeculations/ 2021/06/23/didi-chuxing-different-country-same-bad-business-model/.

DeLone, W. H. & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3(1): 60–95.

Delone, W. H. &McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4): 9–30.

Dominici, G. & Guzzo, R. (2010). Customer satisfaction in the hotel industry: A case study from Sicily. *International Journal of Marketing Studies*, 2(2): 3–12.

Elias, M.L. (2020). Factors influencing urban public transport performance: A Case study of Dar Rapid Transit System in Dar es Salaam, Tanzania. Master's Degree Dissertation, Mzumbe University.

Eye for Travel. (2015). *Uber in South Africa: great for riders, what about the drivers?* Cited on www.eyefortravel.com on 24 April 2020.

Gaber, H.R. & Elsamadicy, A. M. (2021). What drives customers to continue using ridesharing apps during the COVID-19 pandemic? The case of Uber in Egypt. *Cogent Business & Management,* 8(1): 1944009.

Gambo, M. K. (2016). Service quality and customer satisfaction among domestic air passengers in Nigeria. *International Journal of Business and Management Studies*, 8(2): 32–49.

Gujarati, D. N. (2006). *Essentials of Econometrics* (3rd ed.). New York: McGraw Hill Companies.

Gummerus, J., Liljander, V., Pura, M. & Riel, A. (2004). Customer loyalty to content-based Web sites: The case of an online health-care service. *Journal of Services Marketing*, 18(3): 175–186.

Hair, J. F., Anderson, R.E., Babin, B.J. & Black, W.C. (2010). *Multivariate data analysis: A global perspective (7*th ed*.)*. New Jersey: Pearson Prentice Hall.

Haming, M., Murdifin, I. & Kusuma, A.H.P. (2019). The application of SERVQUAL distribution in measuring customer satisfaction of retails company. *Journal of Distribution Science*, 17(2): 25–34.

Harrison, D.L.E. (2016). Understanding the impact of information quality on customer relationship management. Doctor of Business Administration thesis, Coles College of Business, Kennesaw State University.

ITF. (2016). App-based ride and taxi services—principles for regulations. Retrieved December 25: 2020: from http: // www.oecd-ilibrary.org/transport/app-based-ride-and-taxiservices_5jlwvz87ngvf-en.

Jay, A.B. & Zhang T. (2016). Towards a unified customer experience in online shopping environments antecedents and outcomes. *International Journal of Quality Services Sciences*, 8(1): 102–119.

Joia, L. A. & Altieri, D. (2018). Antecedents of continued use intention of e-hailing apps from the passengers' perspective. *The Journal of High Technology Management Research*, 29(2): 204–215.

Kalankesh, L.R., Nasiry, Z., Fein, R.A. & Damanabi, S. (2020). Factors influencing user satisfaction with information systems: A systematic review. *Galen Medical Journal*, 9: e1686.

Kasmiry, D. K. (2019). Customer satisfaction on transport service delivery: evidence from bus rapid transport system in Dar es Salaam. Master's Degree Dissertation: Mzumbe University.

Kemp, S. (2022). Digital 2022: Tanzania. https: //datareportal.com/reports/digital-2022–tanzania.

Kumar, A. & Lata, S. (2021). The system quality and customer satisfaction with website quality as mediator in online purchasing: A developing country perspectives. *Journal of Operations and Strategic Planning,* 4(1): 7–26.

Kurniadi, D., Mulyani, A., Septiana, Y. & Akbar, G. G. (2019). Geographic information system for mapping public service location. *Journal of Physics Conference Series,* 1402(2): 022073.

Laurell, C. &Sandstrom, C. (2016). Analysing Uber in social media-disruptive technology or institutional disruption? *International Journal of Innovation Management*, 20(5): 1–19.

Lee, Z. W., Chan, T. K., Balaji, M. S. & Alain Yee-Loong, C. (2018). Why people participate in the sharing economy: An empirical investigation of Uber. *Internet Research,* 28(3): 829–850.

Liu, Y. & Chujuarjeen, S. (2022). (Eds.): Application of SERVQUAL model in patient satisfaction survey. ICEHUM 2022: ASSEHR 741: 295–313: 2023. https: //doi.org/10. 2991/978–2–38476–040–4_25.

Lovelock, C. & Wirtz, J. (2016). *Services marketing*. World Scientific Publishing Co. Inc., USA.

Mlimbila, J. & Mbamba, U.O.L (2018). The role of information systems usage in enhancing port logistics performance: evidence from the Dar es Salaam port, Tanzania. *Journal of Shipping and Trade*, 3(10): 1–20.

Negi, R. (2009). User's perceived service quality of mobile communications: Experience from Ethiopia. *International Journal of Quality & Reliability Management,* 26(7): 699–711.

Nguyen-Phuoc, D.Q. Gruyter, C.D. Su, D.N. & Nguyen, V.H. (2019). Exploring the prevalence and factors associated with self-reported traffic crashes among app-based motorcycle taxis in Vietnam. *Transport Policy,* 81(2019): 68–74.

Nguyen-Phuoc, D.Q., Su, D.N., Tran, P.T.K., Le, D.T.T. & Johnson, L.W. (2020). Factors influencing customer's loyalty towards ride-hailing taxi services – A case study of Vietnam. *Transportation Research Part A: Policy and Practice*, 134(2020): 96–112.

Nilashi, M., Abumalloh, R. A., Alghamdi, A., Minaei-Bidgoli, B., Alsulami, A. A., Thanoon, M., Asadi, S. & Samad, S. (2021). What is the impact of service quality on customers' satisfaction during the COVID-19 outbreak? New findings from online reviews analysis. *Telematics and Informatics*, 64: 101693.

Ozuem, W., Ranfagni, S., Willis, M., Rovai, S. & Howell, K. (2021). Exploring customers' responses to online service failure and recovery strategies during Covid-19 pandemic: An actor–network theory perspective. *Psychology & Marketing*, 38(9): 1440–1459.

Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perception. *Journal of retailing*, 64(1): 12–15.

Parasuraman, A., Zeithaml, V. A. & Malhotra, A. (2005): ES-QUAL: A multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3): 213–233.

Petter, S., DeLone, W. & McLean, E. (2008). Measuring information systems success: models, dimensions, measures, and interrelationships. *European Journal of Information Systems,* 17: 236–263.

Ponder, A.R. (2019). The effects of ride hailing applications on consumer behavior and brand engagement in Nairobi, Kenya. Thesis for Business Studies.

Rabiul, I., Mohammed S.C., Mohammad S.S. & Salauddin A. (2014). Measuring customer's satisfaction on bus transportation. *American Journal of Economics and Business Administration*, 6(1): 31–41.

Rachbini, W., Anggraeni, D. & Febrina, D. (2020). Effect of service quality on customer loyalty through satisfaction, perceived value, and customer engagements (Study on Indonesian ride-hailing online. *Advances in Social Sciences Research Journal*, 7(10): 300–310.

Safitri, Y. H. (2017). Security and ease of use effect on customers' satisfaction shopping in Tokopedia. *Journal of Resources Development and Management*, 33(1): 20 -29.

Salameh, A. A. & Hassan, S. B. (2015). Measuring service quality in m-commerce context: A conceptual model. *International Journal of Scientific and Research Publications*, 5(3): 349–357.

Saunders, M. Lewis P. & Thornhill A. (2009). *Research Methods for Business Students*, 5th edition, FT-Prentice Hall.

Shin, D., Aliaga, D., Tuncer, B. & Arisona, S.M. (2015). Urban sensing: Using smartphones for transportation mode classification. *Computer Environment Urban Systems*, 53(8): 76–86.

Silalahi, S. L., Handayani, P. W. & Munajat, Q. (2017). Service quality analysis for online transportation services: Case study of GO-JEK. *Procedia Computer Science*, 124(4): 487–495.

Su, D.N. & Johnson, L.W. (2019). Effects of perceived safety, involvement and perceived service quality on loyalty intention among ride-sourcing passengers. *Transportation,* 48: (2021) 369–393.

Tan, C.-W., Benbasat, I. & Cenfetelli, R.T. (2016). An exploratory study of the formation and impact of electronic service failures. *MIS Quarterly*, 40(1): 1–29.

Thaithatkul, P. Anuchitchanchai, O., Srisurin, P., Sanghatawatana, P. & Chalermpong, S. (2019). Ride-hailing applications in Bangkok: Determining service quality, passenger satisfaction, and loyalty. *International Journal of Technology*, 12(5): 903–913.

Thaithatkul, P., Chalermpong, S., Laosinwattana, W., Liang, J. & Kato, H. (2023). Car versus motorcycle ride-hailing applications: User behaviours and adoption factors in Bangkok, Thailand. *Case Studies on Transport Policy*, 11(2023): 100950.

Tirachini, A. (2020). Ride-hailing, travel behavior and sustainable mobility: An international review. *Transportation*, 47: 2011–2047.

Trong, V. H., Khanh, N. T. V. & Gim, G. (2014). Evaluating factors influencing consumer satisfaction towards online shopping in Viet Nam. *Journal of Emerging Trends in Computing and Information Sciences*, 5(1): 67–71.

Valenzo-Jiménez, M. A., Lázaro-López, D. A., Martínez-Arroyo, J. A. (2019). Application of the SERVQUAL model to evaluate the quality in the transportation service in Morelia, Mexico. *DYNA*, 86(211): 2019.

Vanderschuren, M. & Baufeldt, J. (2018). Ride-sharing: A potential means to increase the quality and availability of motorised trips while discouraging private motor ownership in developing cities? *Research in Transportation Economics*, 69(2018): 607–614.

Wade, M. (2015). How to avoid being 'Uberized'. *International Institute for Management Development,* 26(2): 1–13.

Wallsten, S. (2015). *The competitive effects of the sharing economy: How is Uber changing taxis.* Technology Policy Institute. Retrieved from https: //techpolicyinstitute.org/ publications/economics-of-digitization/the-competitive-effects-of-the-sharing-economy-how-is-uber-changing-taxis/.

Wang, G. & Hwa, T.M. (2019). Designing business model canvas for motorcycle rental based mobile application (Case study at PT XYZ). *International Journal of Advanced Trends in Computer Science and Engineering (IJATCSE),* 8(5): 1841–1855.

Zeithaml, V.A., Parasuraman, A.P. & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science,* 30(4): 362–375.

Ziyad, A., Rehman, Z.U., Batool, Z. & Khan, A.H. (2020). Influence of service excellence on consumer satisfaction of ridesharing industry. *International Journal for Traffic and Transport Engineering*, 10(4): 468–481.

Zygiaris, S. Hameed, Z., Alsubaie, M.A. & Rehman, S.U. (2022). Service quality and customer satisfaction in the post pandemic world: A study of Saudi auto care industry. *Frontiers in Psychology,* 13: 842141.