

Factors Affecting Customer Satisfaction in Mobile App-Based Taxi Services

Perera, M.D.M

Department of Information Technology, University of Sri Jayewardenepura, Sri Lanka

dhanuka.dm@gmail.com

Samarasinghe, S.M.

Department of Information Technology, University of Sri Jayewardenepura, Sri Lanka

malkanathi@sjp.ac.lk

Abstract

With the technology revolution, studying about customer satisfaction has been a major concern for the companies in highly competitive industries. Transportation industry is not an exception, especially, the mobile app-based taxi industry in past few years with the increased usage of mobile applications. A good customer base for a company ensures the long-term survival and competitiveness in the market. Achieving customer satisfaction is the only way to gain and retain a good customer base for the company. Therefore, focusing on the factors affecting the customer satisfaction is important to gain competitive advantage and to become the leader in the industry. Though there were some studies done in this domain, there was a lack of research in relation to mobile app-based taxi service in the Sri Lankan context. Thus, the purpose of this study was to identify the factors affecting customer satisfaction in mobile app-based taxi services and to identify their impact. The research model and the hypotheses for the study were derived based on a comprehensive review of literature. The study followed a positivistic approach with the quantitative method. Convenience sampling method was used due to the time constraint of this research. An online questionnaire survey was administered to collect data for this study. Data analysis was done using structural equation modelling (PLS-SEM). The model was tested by collecting data from hundred mobile app-based taxi users in the Colombo District. Reliability and validity of the measurement instrument were established. Price, Trust and Coupon Redemption had significant effects on Customer Satisfaction in mobile app-based taxi services. The findings of this study provided implications for policy makers and mobile app-based taxi service companies.

Keywords: Customer Satisfaction; Taxi Services; Mobile app-based taxi; Transportation

INTRODUCTION

Transportation system of a country is very important for people since it can be used to carry out business activities and transportation of passengers (Soleh, Harini & Djamaludin, 2018). The use of Information Technology in the transportation sector was started in mid-80's. Ever since many technologies such as GPS, short-range communications, networks have been used (Giannopoulos, 2004). Over the years, taxi services have become one of the major elements in the transportation system as taxi services have been able to provide a flexible and a comfortable service to the customers. However, the taxi industry faced drastic changes over the years and Information Technology has been one of the main reasons behind those changes (Gupta & Tomar, 2018). The expansion of the Internet and real-time data sharing techniques have made it possible to use technology to improve the transportation industry (Thomas & Rajeev, 2018). Thus, the traditional call taxi services transformed into mobile app-based taxi services with the rapid growth of Internet and smartphone usage (Gupta & Tomar, 2018). Prior studies described how traditional taxi companies were affected by mobile app-based taxi services (Cramer & Krueger, 2016). They have identified that with new methods such as transparent prices, flexible payment methods, comfortable and quick rides, most of the users have started to use app-based taxi services as an alternative to public transportation (Phuong & Trang, 2018).

Drastic changes brought by mobile app-based taxi services all over the world, have affected the Sri Lankan transportation services as well. Further, it is identified that the taxi industry in Sri Lanka has grown significantly with the increase of mobile app-based taxi services (Nimeshika & Pradeepa, 2019). Currently, in the Sri Lankan market among many mobile app-based taxi services, the world leader "Uber" and a local company, "Pick Me" is dominating the market. Due to many mobile app-based taxi services in Sri Lanka, the market competition is high. In addition, with the country's ever growing mobile penetration rate and IT literacy rate (Department of Census and Statistics-Sri Lanka, 2018) it is expected that the country's usage level of the mobile app-based taxi services will also be increased as how it happened globally (Siuhi & Mwakalonge, 2016). For mobile app-based taxi service companies, maintaining customer satisfaction is important in order to be competitive and be the market leader. It is identified that in service delivery, maintaining customer satisfaction is important to increase the market share of the company through repeat purchases and referrals (Khurshid et al., 2012).

However, since mobile app-based taxi services operate in an online platform, it is identified that it will be beneficial to uncover the factors that influence on customer satisfaction (Pasharibu, Paramita

& Febrianto, 2018). In this domain, there were studies conducted related to customer satisfaction in mobile app-based taxi services (Kumar & Sentamilselvan, 2018; Mohamed et al., 2018). Nevertheless, less consideration was given in Sri Lanka regarding the factors affecting customer satisfaction in app-based taxi services. There were prior researches which studied different aspects such as the factors affecting when selecting app-based taxi service in Sri Lanka (Nimeshika & Pradeepa, 2019) yet not related to customer satisfaction. Therefore, due to limited studies related to customer satisfaction in mobile app-based taxi services, this study was focused on addressing this research gap in the Sri Lankan context.

LITERATURE REVIEW

As a private transportation option, taxi services have been able to dominate the transportation sector for several years by providing a convenient transportation solution (Alonso et al., 2018). Even though taxi service is not the best alternative, it has been able to eliminate many problems in public transportation and it has been considered as a traditional transportation mode (Tyrimopoulos & Antoniou, 2020). When compared to the public transportation, taxi services were identified as more convenient because of its speed, efficiency, comfortable ride and door-to-door service (Salanova et al., 2011; Thomas & Rajeev, 2018). Among other technological trends, use of smartphone application is very popular around the world. Many businesses had to transform their traditional processes and integrate them into a mobile application to survive (Harding, Kandlikar & Gulati, 2016). In taxi services, the customers were given the ability to use their smartphones to order taxis instead of calling taxi companies (Rasheed, Mazhar & Shahid, 2018). By applying the “Sharing access” concept in taxi industry, it is identified that there was no need for an intermediary between customers and drivers to bring those two parties together (Pepić, 2018). The app-based taxi services changed the entire taxi service industry by offering the service for a cheaper price than the traditional taxi services. As using the app is convenient for customers (Sharma & Das, 2017), traditional taxi companies had to transform their business model to be competitive and survive within the industry (Pepić, 2018). According to Rasheed et al. (2018) transferring into an app-based taxi service itself would not provide the benefit, but the organizations must be updated with the current technologies to gain competitive advantage.

Customer Satisfaction has been a popular topic among researchers for a very long time (Kotler & Keller, 2016; Tverdokhlebova & Rozhkov, 2019). Kotler and Keller (2016) defined customer satisfaction as the persons’ judgment on the perceived performance of a product or a service

compared to the expected performance level. If the perceived performance is more than the expected performance, it will make customers satisfied (Mohamed et al., 2018). While many researchers have given different opinions and definitions regarding customer satisfaction, most of their opinions were focused on two major factors. Those were the expected value and the value customers received after consumption, which have been identified as very critical factors (Tverdokhlebova & Rozhkov, 2019). Additionally, organizations have been able to analyze the customers' expected and actual product evaluations, for them to be competitive in the market (Tverdokhlebova & Rozhkov, 2019). It is identified that maintaining customer satisfaction is one of the major factors that help organizations to gain competitive advantage (Rasheed, Mazhar & Shahid, 2018). Thus, many researchers have studied the factors that affect customer satisfaction which can be followed by organizations to be successful in their marketplace (Bekele, 2019; Pasharibu, Paramita & Febrianto, 2018). Prior studies have identified factors such as price, reliability, availability, drivers professionalism, ease of use etc. that have an impact on customer satisfaction in mobile app-based taxi services (Bekele, 2019; Justitia et al., 2019; Khuong & Dai, 2016; Tverdokhlebova & Rozhkov, 2019). Taxi companies have provided their services in a very dynamic and competitive environment (Pasharibu, Paramita & Febrianto, 2018) and cost of the efforts taken to retain an existing customers have been much lower than the cost of attracting new customers (Imam, 2014). Therefore, it was very important for them to identify the factors that affect customer satisfaction. As a result, they have given more attention towards identifying and managing customer satisfaction in app-based taxi services (Bekele, 2019; Gupta & Tomar, 2018).

When it comes to customer satisfaction, many different frameworks and models that have been developed and studied by different scholars in different contexts. Further, there are many studies conducted to identify the importance of customer satisfaction and factors affecting customer satisfaction in the transportation domain (Balachandran & Hamzah, 2017; Khuong & Dai, 2016; Kumar & Sentamilselvan, 2018). Prior studies have identified some factors that have a strong effect on customer satisfaction in app-based taxi services. Price is one of the significant determinants of customer satisfaction with taxi services that has been identified in prior studies (Kotler & Keller, 2016; Narteh, 2018; Thomas & Rajeev, 2018). Also, in the mobile app-based taxi services, Trust was identified as a significant determinant of customer satisfaction because customers always used to reconsider before using online services (Mittendorf, 2017; Pasharibu, Paramita & Febrianto, 2018). Further, Service Quality was identified as a major factor that customers consider when using services (Khurshid et al., 2012). Many different aspects of service quality have been considered by customers when they determine their satisfaction with the service received (Berry, Parasuraman & Zeithaml,

1988) which is also applicable in the transportation sector as well (Pasharibu, Paramita & Febrianto, 2018). Coupon redemption is another factor that is used very often when studying how customers are attracted to online environment to do e-commerce transactions (Kabra, Belavina & Girotra, 2016). It was identified that Coupon Redemption has a significant influence on customer behaviour (Lovelock & Wright, 2000) and since customers are price conscious they will be satisfied especially when using taxi services (Kumar & Kumar, 2016).

Theoretical Research Gap

Based on the literature it can be identified that the influence from the technology has rapidly transformed traditional business models into mobile app-based models with the aim of grabbing the largest market share before competitors. This could be a huge potential for becoming highly competitive in this sector. Therefore, it will be an advantage for existing and new entrants to the industry to be aware and to focus on the factors that can be used to be competitive in the market and to attract more customers (Khurshid et al., 2012). However, among many factors customer satisfaction is identified as one of the major factors that the businesses must focus on, in order to survive within the industry (Pasharibu, Paramita & Febrianto, 2018; Rasheed, Mazhar & Shahid, 2018). By reviewing the literature, it was identified that customer satisfaction in mobile app-based taxi services has not addressed in the Sri Lankan context. Therefore, this study focused on identifying the factors affecting customer satisfaction in mobile app-based taxi services in Sri Lanka.

RESEARCH MODEL

Based on the literature it was identified that among many constructs, Price, Service Quality, Trust and Coupon Redemption as much important factors when studying customer satisfaction in mobile app-based taxi services (Akbar & Parvez, 2009; Mohamed et al., 2018; Pasharibu, Paramita & Febrianto, 2018). Therefore, the research model proposed in this study used four constructs; Price, Service Quality, Trust and Coupon Redemption as these constructs had a significant influence on Customer Satisfaction in mobile app-based taxi services (Clewlow, Gouri, & Mishra, 2017; Harding, Kandlikar, & Gulati, 2016; Pasharibu et al., 2018; Thomas & Rajeev, 2018). Therefore, studying the impact of above identified factors on customer satisfaction is important for new and existing app-based taxi service providers, especially in Sri Lanka. Thus, this research examined the impact of Price, Service Quality, Trust and Coupon Redemption on Customer Satisfaction in app-based taxi services in Sri Lankan context (see Figure 1).

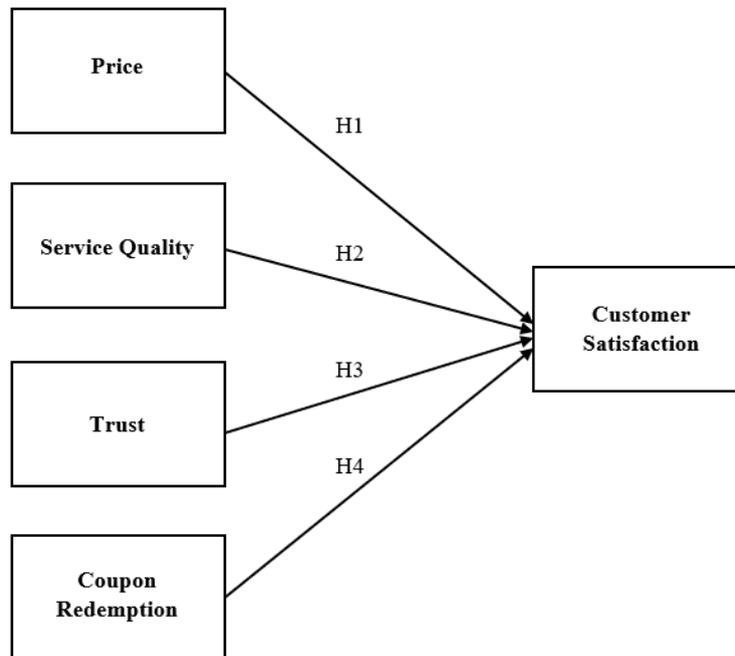


Figure 1: Research Model

HYPOTHESIS OF THE STUDY

Price and Customer Satisfaction

Price is defined as the amount of value the customer is willing to exchange for products or services to fulfil their needs (Kotler & Keller, 2016). With the use of the prices the organizations can quickly adapt to market changes. Therefore, it is considered as a very important factor for the organization. From the perspective of the customer, it is one of the factors they consider when purchasing a product or a service (Pasharibu, Paramita & Febrianto, 2018). Prior studies have identified that Price has a significant positive impact on customer satisfaction in different domains (Hanif, Hafeez & Riaz, 2010; Narteh, 2018). More specifically, studies related to mobile app-based taxi services have justified the significant impact of Price on Customer satisfaction (Khuong & Dai, 2016; Soleh, Harini & Djamaludin, 2018). Moreover, it is identified that customers always expect lower prices when using app-based taxi services and in online platforms customers always prefer to pay lower (Rasheed, Mazhar & Shahid, 2018). Therefore, based on the above justification following hypothesis (H1) is formulated:

Hypothesis 1: Price has a positive effect on Customer Satisfaction

Service Quality and Customer Satisfaction

Service Quality is defined as the difference between the customer expectation regarding a service and actual performance customers received from the service (Parasuraman, Zeithaml & Berry, 1985). Among the organizations, it is identified as a prerequisite to deliver superior service quality to their customers. By maintaining superior service quality many organizations have succeeded in their industry (Berry, Parasuraman & Zeithaml, 1988). Prior studies have identified service quality as an influencing factor of customer satisfaction (Chiou & Droge, 2006; Ramamoorthy et al., 2018). Furthermore, studies related to app-based taxi industry also have identified that Service Quality has a significant positive impact towards customer satisfaction (Cheewathanakornkul & Jiratchot, 2018; Mohamed et al., 2018; Sharma & Das, 2017). Customers always consider factors such as convenience and the reliability of the service provided (Berry, Parasuraman & Zeithaml, 1988). When making decisions regarding continuous usage, customers prefer the quality of the service they receive to be the same or higher than they expected (Pasharibu, Paramita & Febrianto, 2018). Therefore, based on the above justification following hypothesis (H2) is formulated:

Hypothesis 2: Service quality has a positive effect on Customer Satisfaction

Trust and Customer Satisfaction

Trust is identified as the mindset one party has that the other party will not take any actions or behave in any way that will injure or harm them (Soleh, Harini & Djamaludin, 2018). However, Trust plays a major role when maintaining business relationships. It is identified that the customers' trust towards the organization will help the organization to establish strong relationships and ensure customer retention (Garbarino & Lee, 2003). As long as customers trust the organization, they are willing to transact continuously with such organizations (Chen & Huang, 2013). When it comes to online platforms, customers rely more on trust because in such platforms the human interaction is less and there are many incidents on misuse of information (Garbarino & Lee, 2003). According to prior studies, Trust was identified as a significant determinant of Customer satisfaction in different domains (Akbar & Parvez, 2009; Chen & Huang, 2013). Similarly, studies conducted in relation to app-based taxi services have also justified this effect (Mittendorf, 2017; Pasharibu, Paramita & Febrianto, 2018). Therefore, based on the above justification following hypothesis (H3) is formulated:

Hypothesis 3: Trust has a positive effect on Customer Satisfaction

Coupon Redemption and Customer Satisfaction

Coupons are short-term incentives offered by an organization to their customers to stimulate and control their purchasing behaviour (Lovelock & Wright, 2000). By doing so organizations plan to attract new customers and increase customer retention (Kotler & Keller, 2016). However, these promotions include different forms such as coupon redemption, discounts, free gifts and products (Lovelock & Wright, 2000). Among them Coupon redemption is one of the major promotion tools that is used by many organizations for promotions (Balachandran & Hamzah, 2017). The main intention of using such incentives is to ensure customer retention by increasing their loyalty and satisfaction. Prior studies have identified Coupon redemption as a factor influencing customer satisfaction (Kabra, Belavina & Girotra, 2016; Kumar & Kumar, 2016). Studies in app-based taxi services have also found Coupon redemption as a factor influencing customer satisfaction (Balachandran & Hamzah, 2017; Tverdokhlebova & Rozhkov, 2019). Therefore, based on the above justification following hypothesis (H4) is formulated:

Hypothesis 4: Coupon Redemption has a positive effect on Customer Satisfaction

METHODOLOGY

The purpose of this study was to identify the factors affecting customer satisfaction and their impact on customer satisfaction in mobile app-based taxi services, that followed the deductive approach and the quantitative method. The total population of this study consisted of all the mobile app-based taxi service users in Sri Lanka. Uber app users were selected as the sample for the current study and the sample was drawn using convenience sampling method from the Colombo district as most of the service providers are operating in the Colombo district. The current study used the questionnaire survey method where an online survey was conducted. The questionnaire used in this study was developed using already validated items identified from literature. The questionnaire consisted of 5 sections with a total of 32 questions. The first section consisted questions to collect the demographic information of the respondents. Other sections consisted the questions to measure Price, Service Quality, Trust, Coupon Redemption and Customer Satisfaction. The responses were gathered using a 5-point Likert scale ranging from 1-Strongly disagree to 5-Strongly agree. One hundred usable responses were used in the data analysis. SPSS (version 26) and Smart PLS 3.0 software were used in this study to analyse the data.

ANALYSIS AND FINDINGS

Demographic data were analysed using SPSS (Version 26). Gender, age, previous and current app usage, income level and frequency of usage were analysed. Smart PLS (Version 3.0) software was used to analyse the research model using measurement model analysis (See Figure 2) and structural model analysis (See Figure 3).

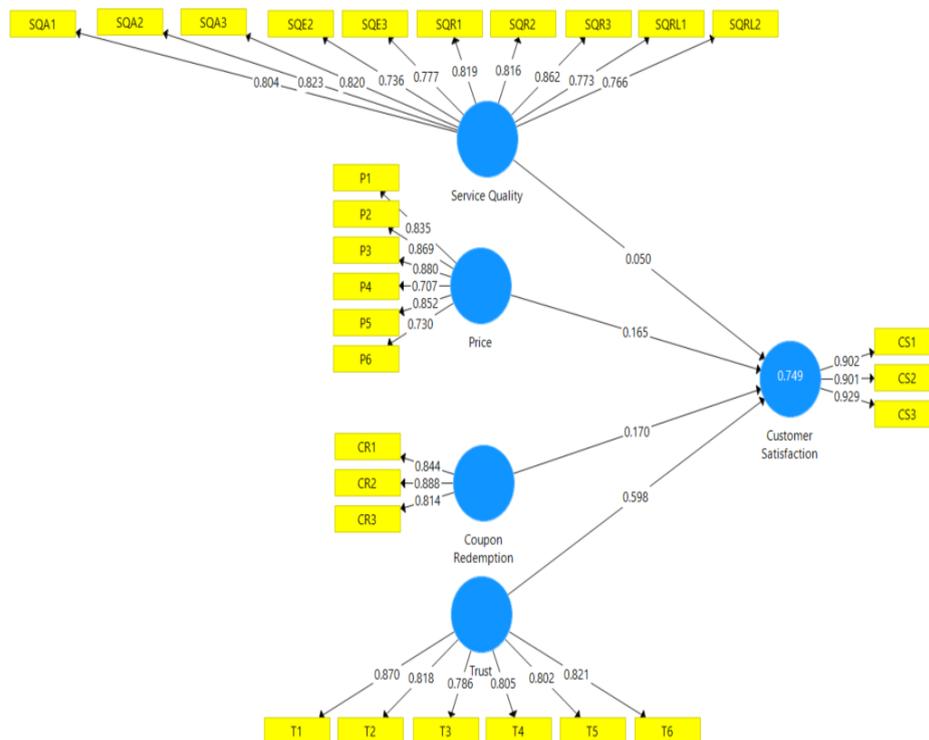


Figure 2: Measurement Model

Measurement Model Analysis

Measurement model analysis was used to test the validity and reliability of the measurement instruments. Reliability was tested using indicator reliability and internal consistency reliability. Outer loadings were used to measure the indicator reliability with a 0.7 threshold value (Hair, Ringle & Sarstedt, 2011). Internal consistency was tested using Cronbach's alpha value and Composite reliability with a threshold value of 0.7 (Hair, Ringle & Sarstedt, 2011). Under indicator reliability five items were removed as they had factor loadings less than 0.7. Outer loadings were measured again after removing those items. According to the analysis, the loadings were above the threshold values, thus establishing indicator reliability (see Table 1).

Table 1: Indicator Reliability

Constructs Items	Coupon Redemption	Customer Satisfaction	Price	Service Quality	Trust
CR1	0.844				
CR2	0.888				
CR3	0.814				
CS1		0.902			
CS2		0.901			
CS3		0.929			
P1			0.835		
P2			0.869		
P3			0.880		
P4			0.707		
P5			0.852		
P6			0.730		
SQA1				0.804	
SQA2				0.823	
SQA3				0.820	
SQE2				0.736	
SQE3				0.777	
SQR1				0.819	
SQR2				0.816	
SQR3				0.862	
SQRL1				0.773	
SQRL2				0.766	
T1					0.870
T2					0.818
T3					0.786
T4					0.805
T5					0.802
T6					0.821

Internal consistency measures the reliability of the constructs. Here, Cronbach's alpha value and composite reliability values were used and they were above 0.7, the threshold value (Hair, Ringle & Sarstedt, 2011) demonstrating internal consistency reliability (see Table 2).

Table 2: Internal Consistency Reliability

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Coupon Redemption	0.808	0.886	0.721
Customer Satisfaction	0.897	0.936	0.829
Price	0.898	0.922	0.664
Service Quality	0.937	0.947	0.640
Trust	0.901	0.924	0.668

Construct validity was tested using convergent validity and discriminant validity. Convergent validity was tested using Average Variance Extracted with a 0.5 threshold value (Hair, Ringle & Sarstedt, 2011). Fornell and Larcker (1981) criterion was used to measure the discriminant validity where the AVE value of each construct should be higher than the construct's highest squared correlational value with any other latent construct (Hair, Ringle & Sarstedt, 2011). All the AVE values were above the threshold value (greater than 0.5), establishing convergent validity (see Table 2).

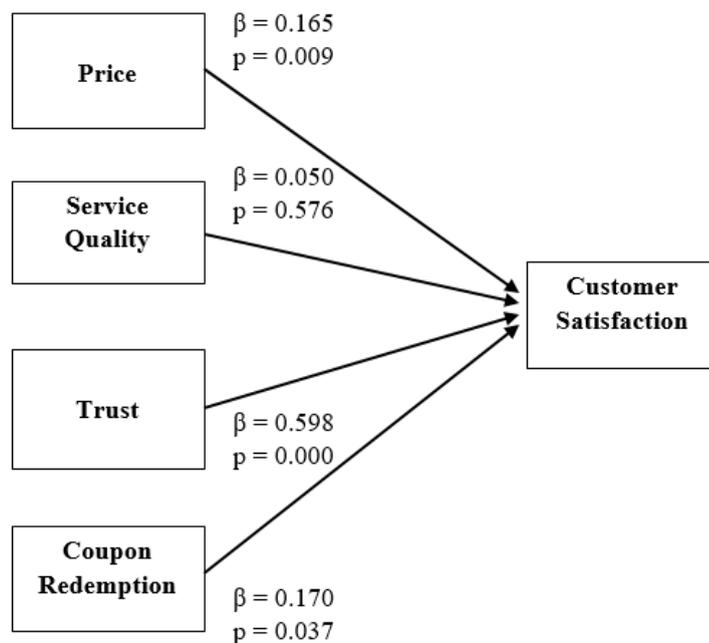
Table 3 provides the discriminant validity analysis. According to the analysis, the square root of AVE values (diagonal values) were above the correlation values given in the respective rows and columns. Further as given in Table 1, all items loaded higher on the relevant construct than on other constructs. Thus, the square root values and the item cross loadings fulfilled the requirements to establish the discriminant validity.

Table 3: Discriminant Validity

	Coupon Redemption	Customer Satisfaction	Price	Service Quality	Trust
Coupon Redemption	0.849				
Customer Satisfaction	0.626	0.911			
Price	0.525	0.651	0.815		
Service Quality	0.523	0.695	0.483	0.800	
Trust	0.575	0.838	0.625	0.798	0.818

Structural Model Analysis

The structural model analysis was carried out to measure the explanatory power of the research model and the association between the constructs. Explanatory power was measured by calculating the coefficient of determination (R^2). It is suggested that higher the R^2 value for the dependent construct, higher the predictive accuracy (Hair, Ringle & Sarstedt, 2011). Finally, to measure the strength of the relationship between constructs, path coefficients (β) was assessed using 95% level of confidence. Hypotheses with p value less than 0.05 were considered as supported and hypotheses with a p value greater than 0.05 were considered as not supported (Hair, Ringle & Sarstedt, 2011). The model explained 74.9% (R^2 0.749) of customer satisfaction. It described that Price, Service Quality, Trust and Coupon Redemption altogether can describe 74.9% of customer satisfaction based on the sample



selected (see Figure 3).

Figure 3: Structural Model

Hypotheses Testing

To identify the cause-effect relationship, the path coefficient values (β) were considered which describes the amount of change in the dependent variable for the one-unit change of the independent variable (Hair, Ringle & Sarstedt, 2011). Based on the path coefficient values, Trust had the most significant impact on customer satisfaction (0.598), followed by Coupon Redemption (0.170), Price (0.165) and finally, the Service Quality with the least impact (0.050) towards Customer Satisfaction (see Figure 3).

Table 4 presents the output of the hypotheses testing process which contains the path coefficient values and the significance of the relationship between the constructs of the study.

Table 4: Results of Hypotheses

Hypothesis	Path Coefficient	P Value	Supported/ Not Supported
H1: Price has significant effect on Customer Satisfaction	0.165	0.009	Supported
H2: Service Quality has a significant effect on Customer Satisfaction	0.050	0.576	Not Supported
H3: Trust has a significant effect on Customer Satisfaction	0.598	0.000	Supported
H4: Coupon Redemption has a significant effect on Customer Satisfaction	0.170	0.037	Supported

DISCUSSION

As shown in Table 4, Price had a significant effect on Customer Satisfaction ($\beta = 0.165$, $p = 0.009$). This indicated that when the price charged is reasonable, more the customers are satisfied with the mobile app-based taxi services. This finding is consistent with the previous studies related to customer satisfaction (Khuong & Dai, 2016; Soleh, Harini & Djameludin, 2018). These studies were conducted to identify the impact of price on customer satisfaction in transportation/ taxi service sector. Among those studies, Soleh, Harini and Djameludin (2018) found a similar relationship with the same effect size and Khoung and Dai found the same relationship with relatively larger effect size. Service Quality did not have a significant effect on customer satisfaction ($\beta = 0.050$, $p = 0.576$). This indicated that an increase in Service Quality does not significantly influence on customer satisfaction. Many studies found a positive impact of Service Quality on customer satisfaction in transportation / taxi sector and in the e- commerce domains (Cheewathanakornkul & Jiratchot, 2018; Mohamed et al., 2018). The findings of this study are not significantly consistent with previous research related to customer satisfaction. This could be due to the price consciousness of taxi customers. They might concern more on prices and promotions they receive rather than the Quality of the service (Kumar & Kumar, 2016) in the Sri Lankan context. Trust had a significant effect on customer satisfaction ($\beta = 0.598$, $p = 0.000$). This indicated that when customer Trust is higher, the more the customers are satisfied with the mobile app-based taxi services. This relationship is consistent with previous studies, which were conducted to identify the role and the impact of trust on customer satisfaction in online businesses and taxi sector (Khuong & Dai, 2016; Soleh, Harini & Djameludin, 2018). Coupon Redemption also had a significant effect on customer satisfaction ($\beta = 0.170$, $p = 0.037$). This indicated that when more Coupon Redemptions are offered, the more the customers are satisfied with the mobile app-based taxi services. This relationship is consistent with previous studies conducted to identify the effectiveness and impact of incentives on customer

satisfaction in online businesses and transportation sector (Kumar & Kumar, 2016; Tverdokhlebova & Rozhkov, 2019). Kumar and Kumar (2016), and Tverdokhlebova and Rozhkov (2019) have found a similar relationship with relatively larger effect size. Therefore, hypotheses H1, H3 and H4 were supported and hypothesis H2 was not supported with 95% level of confidence.

CONCLUSION

The main objective of this research was to find the factors affecting customer satisfaction in mobile app-based taxi services. To achieve this objective, this study identified Price, Service Quality, Trust and Coupon redemption as the most influencing factors. According to the findings of the current study, it was identified that Price, Trust and Coupon Redemption have a significant positive impact on customer satisfaction, while Service Quality did not have a significant positive impact on customer satisfaction. Findings in relation to Price, Coupon Redemption and Trust were consistent with previous findings. However, literature provided mixed findings for the effect of Price, Trust and Coupon Redemption on customer satisfaction. Although, previous studies have found a significant positive impact of Service Quality on Customer Satisfaction, the findings of the current study were not significant, thus providing an inconsistent result. The reason for this finding could be the price consciousness of taxi customers might influence them to consider more on Price and Promotions they receive than the Service Quality provided by taxi service (Kumar & Kumar, 2016). Therefore, it was concluded that Price, Trust and Coupon Redemption as important factors in deciding customer satisfaction in mobile app-based taxi services in Sri Lanka. However, this study encountered several limitations such as small sample size, and further the users were drawn only from a single app-based taxi service provider. Further, due to the time constraint this study was carried out as a cross-sectional study. Thus, future research is needed to generalize the findings of this study. Moreover, future research could investigate other mobile app-based taxi services as this study selected only a single mobile app-based taxi service provider. Also, future studies could be conducted to identify other factors and their impact on customer satisfaction in mobile app-based taxi services.

IMPLICATIONS

In the perspective of theoretical implications, it can be identified that in the Sri Lankan context Price, Trust and Coupon Redemption have the most influence on Customer Satisfaction and customers do not rely much on Service Quality, rather they prefer Price, Coupon Redemption and Trust as determinants of their satisfaction.

This study has strong implications for mobile app-based taxi service companies and for their relative authorities. The findings of this research will help and guide mobile app-based taxi service providing companies to improve their operations and eliminate weaknesses of their services in order to increase the level of customer satisfaction. By identifying the determinants of customer satisfaction, managers of the taxi service companies can use these findings to develop new strategies to enhance the level of satisfaction of their customers. Further, the findings of this study would help policy makers to develop industry-wide policies and strategies. The findings of this study would also help to improve the level of social development. When customers are satisfied, they help to increase the customer base, which in turn will expand the online customer network, increase employment opportunities and social mobility among people within this network.

REFERENCES

- Akbar, M. M. and Parvez, N. (2009) 'Impact of Service Quality, trust, and Customer Satisfaction on Customers Loyalty', *ABAC Journal*, 29(1), pp. 24–38.
- Alonso, B. *et al.* (2018) 'Modelling user perception of taxi service quality', *Transport Policy*. Elsevier Ltd, 63(January 2016), pp. 157–164. doi: 10.1016/j.tranpol.2017.12.011.
- Balachandran, I. and Hamzah, I. B. (2017) 'The Influence of Customer Satisfaction on Ride-Sharing Services in Malaysia', *International Journal of Accounting & Business Management*, 5(2), pp. 184–196. doi: 10.1098/rstb.2013.0388.
- Banister, D. and Stead, D. (2004) 'Impact of information and communications technology on transport', *Transport Reviews*, 24(5), pp. 611–632. doi: 10.1080/0144164042000206060.
- Bekele, Y. (2019) 'Factors Affecting Customer's Satisfaction of Application Based Taxi Services (The Case of RIDE)', (January).
- Berry, L. L., Parasuraman, A. and Zeithaml, V. A. (1988) 'SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality', *Journal of retailing*, 64(1), pp. 12–40. doi: 10.1016/S0148-2963(99)00084-3.
- Cheewathanakornkul, C. and Jiratchot, C. (2018) 'Customer satisfaction and word of mouth towards online taxi providers: a case study of Grab and Uber', in *Journal of Supply Chain ...*, pp. 66–76. Available at: <https://jscm.au.edu/index.php/jscm/article/view/154>.
- Chen, M. F. and Huang, C. H. (2013) 'The impacts of the food traceability system and consumer involvement on consumers' purchase intentions toward fast foods', *Food Control*. Elsevier Ltd, 33(2), pp. 313–319. doi: 10.1016/j.foodcont.2013.03.022.
- Chiou, J. S. and Droge, C. (2006) 'Service quality, trust, specific asset investment, and expertise: Direct and indirect effects in a satisfaction-loyalty framework', *Journal of the Academy of Marketing Science*, 34(4), pp. 613–627. doi: 10.1177/0092070306286934.

- Clewlou, R., Gouri, R. R. and Mishra, S. (2017) 'Disruptive Transportation: The Adoption, Utilization, and Impacts of Ride-Hailing in the United States', (October).
- Cramer, J. and Krueger, A. B. (2016) 'Disruptive change in the taxi business: The case of uber', *American Economic Review*, 106(5), pp. 177–182. doi: 10.1257/aer.p20161002.
- Department of Census and Statistics-Sri Lanka (2018) *Computer Literacy Statistics - 2018 Department of Census and Statistics*. Available at: <http://www.statistics.gov.lk/ComputerLiteracy/BuletinComputerLiteracy.pdf>.
- Eboli, L. and Mazzulla, G. (2007) 'Service Quality Attributes Affecting Customer Satisfaction for Bus Transit', *Journal of Public Transportation*, 10(3), pp. 21–34. doi: 10.5038/2375-0901.10.3.2.
- Garbarino, E. and Lee, O. F. (2003) 'Dynamic Pricing in Internet Retail: Effects on Consumer Trust', *Psychology and Marketing*, 20(6), pp. 495–513. doi: 10.1002/mar.10084.
- Giannopoulos, G. A. (2004) 'The application of information and communication technologies in transport', *European Journal of Operational Research*, 152(2), pp. 302–320. doi: 10.1016/S0377-2217(03)00026-2.
- Grabner-Kraeuter, S. (2002) 'The role of consumers trust in online-shopping', *Journal of Business Ethics*, 39(1–2), pp. 43–50. doi: 10.1023/A:1016323815802.
- Gupta, A. and Tomar, V. S. (2018) 'Consumer Perception Towards App Based Taxi Sector', (Lxxxvii), pp. 399–416.
- Hair, J. F., Ringle, C. M. and Sarstedt, M. (2011) 'PLS-SEM: Indeed a silver bullet', *Journal of Marketing Theory and Practice*, 19(2), pp. 139–152. doi: 10.2753/MTP1069-6679190202.
- Hanif, M., Hafeez, S. and Riaz, A. (2010) 'Factors affecting customer satisfaction', *International Research Journal of Finance and Economics*, 60(60), pp. 44–52.
- Harding, S., Kandlikar, M. and Gulati, S. (2016) 'Taxi apps, regulation, and the market for taxi journeys', *Transportation Research Part A: Policy and Practice*. Elsevier Ltd, 88(December 2014), pp. 15–25. doi: 10.1016/j.tra.2016.03.009.
- Imam, R. (2014) 'Measuring Public Transport Satisfaction from User Surveys', *International Journal of Business and Management*, 9(6), pp. 106–114. doi: 10.5539/ijbm.v9n6p106.
- Justitia, A., Semiati, R. and Ayuvinda, N. R. (2019) 'Customer Satisfaction Analysis of Online Taxi Mobile Apps', *Journal of Information Systems Engineering and Business Intelligence*, 5(1), p. 85. doi: 10.20473/jisebi.5.1.85-92.
- Fornell, C., & Larcker, D. F. (1981). 'Evaluating structural equation models with unobservable variables and measurement error', *Journal of Marketing Research*, 18(1), pp. 39-50
- Kabra, A., Belavina, E. and Girotra, K. (2016) 'Designing Promotions to Scale Marketplaces'.
- Khuong, M. N. and Dai, N. Q. (2016) 'The Factors Affecting Customer Satisfaction and Customer Loyalty — A Study of Local Taxi Companies in Ho Chi Minh City, Vietnam', *International Journal of Innovation, Management and Technology*, 7(5), pp. 228–233. doi: 10.18178/ijimt.2016.7.5.678.
- Khurshid, R. *et al.* (2012) 'Service Quality and Customer Satisfaction In Public Transport Sector of Pakistan: An Empirical Study', *International Journal of Economics and Management sciences*, 1(9), pp. 24–30.

- Kotler, P. and Keller, K. L. (2016) *Marketing Management Global Edition*. doi: 10.1080/08911760903022556.
- Kumar, P. K. and Kumar, N. R. (2016) 'A Study on Factors Influencing In Selection of Cab Services', *International Journal of Social Science and Humanities Research*, 4(3), pp. 557–561.
- Kumar, V. H. and Sentamilselvan, K. (2018) 'Customer satisfaction towards call taxi services a study with reference to Chennai', *International Journal of Pure and Applied Mathematics*, 119(12), pp. 14919–14927.
- Lovelock, C. H. and Wright, L. (2000) *Principles of Service Marketing and Management*, *Journal of Vacation Marketing*. doi: 10.1177/135676670000600309.
- Mittendorf, C. (2017) 'The Implications of Trust in the Sharing Economy: An Empirical Analysis of Uber', *Proceedings of the 50th Hawaii International Conference on System Sciences (2017)*, pp. 5837–5846. doi: 10.24251/hicss.2017.703.
- Mohamed, S. *et al.* (2018) 'Customer satisfaction in sharing economy the case of ridesharing service in Alexandria, Egypt', *The Business and Management Review*, 9(4), pp. 9–10. Available at: http://www.abrmm.com/myfile/conference_proceedings/Con_Pro_75039/conference_65240.pdf.
- Narteh, B. (2018) 'Service quality and customer satisfaction in Ghanaian retail banks: the moderating role of price', *International Journal of Bank Marketing*, 36(1), pp. 68–88. doi: 10.1108/IJBM-08-2016-0118.
- Nimeshika, T. and Pradeepa, J. (2019) 'Evaluate and Identify the Factors Impact on Selecting a Mobile App-Based Taxi Service in Sri Lanka (Users' Perspective)', *Journal of the Eastern Asia Society for Transportation Studies*, 13, pp. 2466, 2467. doi: <https://doi.org/10.11175/easts.13.2466>.
- Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1985) 'A Conceptual Model of Service Quality and Its Implications for Future Research', *Journal of Marketing*, 49(4), p. 41. doi: 10.2307/1251430.
- Pasharibu, Y., Paramita, E. L. and Febrianto, S. (2018) 'Price, service quality and trust on online transportation towards customer satisfaction', *Jurnal Ekonomi dan Bisnis*, 21(2), pp. 241–266. doi: 10.24914/jeb. v21i2.1965.
- Pepić, L. (2018) 'The sharing economy: Uber and its effect on taxi companies', *Acta Economica*, 16(28), pp. 123–136. doi: 10.7251/ace1828123p.
- Phuong, N. N. D. and Trang, T. T. D. (2018) 'Repurchase Intention: The Effect of Service Quality, System Quality, Information Quality, and Customer Satisfaction as Mediating Role: A PLS Approach of M-Commerce Ride Hailing Service in Vietnam', *Marketing and Branding Research*, 5(2), pp. 78–91. doi: 10.33844/mbr.2018.60463.
- Ramamoorthy, R. *et al.* (2018) 'Service quality and its impact on customers' behavioural intentions and satisfaction: an empirical study of the Indian life insurance sector', *Total Quality Management and Business Excellence*. Taylor & Francis, 29(7–8), pp. 834–847. doi: 10.1080/14783363.2016.1240611.
- Rasheed, R., Mazhar, F. and Shahid, M. (2018) 'Mobile App-Based Taxi Services and Customer Satisfaction: An Empirical Review From Lahore City, Pakistan', *International Journal of Economics, Commerce and Management United Kingdom*, VI (5), pp. 330–340. Available at: <http://ijecm.co.uk/>.

- Salanova, J. M. *et al.* (2011) 'A review of the modeling of taxi services', *Procedia - Social and Behavioral Sciences*, 20, pp. 150–161. doi: 10.1016/j.sbspro.2011.08.020.
- Sharma, K. and Das, S. (2017) 'Service Quality and Customer Satisfaction - With Special focus on the Online Cab Industry in India', *International Journal of Business and Management*, 12(7), p. 192. doi: 10.5539/ijbm.v12n7p192.
- Siuhi, S. and Mwakalonge, J. (2016) 'Opportunities and challenges of smart mobile applications in transportation', *Journal of Traffic and Transportation Engineering (English Edition)*. Elsevier Ltd, 3(6), pp. 582–592. doi: 10.1016/j.jtte.2016.11.001.
- Soleh, A. N., Harini, C. and Djamaludin (2018) 'The Effect of Service Quality, Price and Trust to Customer Satisfaction Users of Transportation Service Online Ojek (Study of Customer of Gojek in Semarang City)', *Jurnal Manajemen*, 4(4), pp. 2–3.
- Thomas, T. and Rajeev, S. (2018) 'Customer Satisfaction on "Online Taxi System" - A Regression Model', *Xaverian Research Journal*, 6(1), pp. 1–14.
- Tverdokhlebova, M. V and Rozhkov, A. G. (2019) 'Customer satisfaction factors on the moscow taxi market', (December), pp. 1–22.
- Tyrinopoulos, Y. and Antoniou, C. (2020) *Review of factors affecting transportation systems adoption and satisfaction, Demand for Emerging Transportation Systems*. Elsevier Inc. doi: 10.1016/b978-0-12-815018-4.00002-4.
- Zaim, H., Bayyurt, N. and Zaim, S. (2013) 'Service Quality And Determinants Of Customer Satisfaction In Hospitals: Turkish Experience', *International Business & Economics Research Journal (IBER)*, 9(5). doi: 10.19030/iber.v9i5.8145.