

# SLJMS

## Sri Lanka Journal of Management Studies

SLJMS, Volume1-Issue (I), August 2019



**The Open University of Sri Lanka**

Faculty of Management Studies

Nawala, Nugegoda

ISSN 2682-7298

## CUSTOMER ACCEPTANCE AND SERVICE CONTINUATION INTENTION OF THE TOUCH TRAVEL PASS TERMINALS IN SRI LANKA

D.N.E. Lakmal  
General Sir John Kotelawala Defence University (KDU)  
Rathmalana, Sri Lanka  
dnelakmal@gmail.com

### Abstract

*The Touch travel pass system is introduced to the Sri Lankan market with the intention of automating the traditional bus ticketing mechanism. After five years of the product introduction, it is revealed that there are less acceptance and service continuation intention amongst the terminal users. Hence, the purpose of this study is to investigate the determinants of customer acceptance and service continuation intention of touch travel pass terminals in Sri Lanka. This study employs a quantitative methodology and survey strategy. Primary data was gathered from a sample of 150 bus owners and 150 bus conductors using a structured questionnaire utilizing a systematic random sampling technique. The theoretical framework and hypotheses were developed based on previous literature. The independent sample t-tests, one-way ANOVA, and multiple regression models were used through SPSS software in testing the hypotheses. Perceived usefulness, social influence, and trust show a significant positive impact on customer acceptance. Trust shows a higher impact on customer acceptance than the other determinants. Further, the findings disclose that demographic factors such as gender, age, marital status, and education do not show any significant impact on customer acceptance and service continuation. Moreover, it is implied that the perceived usefulness, perceived ease of use and government influence have a significant impact on service continuation intention. Government influence shows a higher impact on service continuation intention than the other determinants.*

*The management should focus more on perceived trust, social influence and perceived usefulness in enhancing customer acceptance. Further, the marketers should focus more on perceived usefulness, ease of use, and government influence in enhancing the service continuation. Moreover, the government should also focus on developing a mandatory requirement for the use of travel pass for the enhancement of both customer acceptance and the service continuation. Further, the government should develop the necessary infrastructure facilities to smoothen the process. This study is the first to investigate the factors affecting customer acceptance and service continuation of touch travel pass terminals in the Sri Lankan context.*

**Key Words** – Customer acceptance, service continuation, touch travel pass, Sri Lanka.

## **Introduction**

The touch travel pass mechanism has been identified as a fast and secure payment method for the transportation industry. The bus owners in the Western Province of Sri Lanka can utilize the special Point of Sale (POS) machines to perform transactions, which enabled Near Field Communication (NFC) and General Packet Radio Service (GPRS) technology. GPRS refers to a packet-oriented mobile data service and based on the wireless cellular communication systems. This technology extends a global system for mobile (GSM) voice networks with support for data structures. Near Field Communication enables to perform transactions and data exchange between two parties (endpoints) with wireless communications. As per the bus owner's perspective, this technology gives the opportunity to get the relevant data about transactions, monitor the collections, since the collections are automatically deposits to their bank account.

This growing technology has been developed and implemented in the private bus sector in the Western Province in Sri Lanka in 2013. As per the three in-depth interviews conducted with the management of the touch travel card project in assessing more insights, the interviewees highlighted that the initial objective of implementing the touch project was to acquire and retain 4,000 bus owners within the second half of 2016. But customer acceptance was less than 40% of the expected level and the evaluation of the difference between the desired outcome and an actual outcome has created a strategic planning gap. To address this research gap, it is essential to recognize the determinants of customer acceptance of touch travel pass terminals in Western Province, Sri Lanka. Moreover, the expected usage of the existing POS terminal was 90% from the acquired base. All three interviewees highlighted that the actual active usage was 50% of the acquired base which is below the expected level and this has created the second research gap of this study. Therefore, it is important to identify key factors affecting service continuation of touch travel pass terminals with special reference to the Western Province in Sri Lanka.

The research questions of this study have been identified as 1) what are the determinants of customer acceptance? 2) what are the determinants of service continuation intention? The main objective of this study is to investigate the determinants of customer acceptance and service continuation intention of touch travel pass terminals in Sri Lanka. This study contributes to the marketing literature by being the first study to investigate customer acceptance and service continuation intention of touch travel pass terminals in the Sri Lankan context.

## **Literature Review**

The literature review is focused on a critical assessment of determinants of customer acceptance and service continuation intention with special reference to the technological products.

### ***Customer Acceptance***

There are numerous factors that are being considered for the success of Information Technology Implementation. User acceptance and continuous use of such technology play a vital role in any of the organizations. Meuter et al (2000) emphasized that consumer acceptance as a critical factor for the cashless transactions which required a

change in consumers' behavioural patterns. According to Psychology, it is a confirmatory attitude of changing behaviour based on the factors including context, reference object, and the situation. Here, customers are considered as the acceptance object whereas product and services are considered as the reference objects. Moreover, the context or situation refers to the purchasing situation where there is a mutual understanding. However, between buyer and seller with regard to a specific product, Schmidt et al. (2015) pointed out that the situation does not particularly focus on the point of sale but the product and services offered by a company.

There are multiple theories that explain customer acceptance. For instance, Davis (1989) introduced the Technology Acceptance Model (TAM) based on an earlier theory developed in order to explain the phenomenon; Theory of reasoned action (Ajzen and Fishbein, 1980). Davis (1989) posits that the TAM model as a key explanation for why consumers accept or reject new technological products or services. The model is specifically designed to test the factors affecting consumer adoption of technological products or services in an organizational context and assessing behavioural gaps (Samarasinghe and Ahsan, 2014; Samarasinghe and Samarasinghe, 2013). Davis (1989) identified the key factors of this model as perceived ease of use and perceived usefulness. However, Lu et al. (2003) emphasized that recent research studies used this model in order to explain the setting of private individuals. Accordingly, Lu et al. (2003) argued that the technology acceptance model is widely used outside of the organizational contexts in addition to the inside context of the organization. The model argued that usage intention or consumer adoption is based on the perceived ease of use and the perceived usefulness of such a product.

The origination of the technology acceptance model was on the information systems. The researcher of this study intends to apply the same model with special reference to the cashless transactions, attitudes, and behaviour in the transportation industry. There are multiple factors added to the model by the various researchers in the recent past. For instance, Gefen and Keil (1998) proposed that the technology acceptance model is widely important when employing social factors in the phenomenon. Accordingly, Gefen and Keil (1998) added Trust as an antecedent of consumer acceptance. Further, Bradley and Stewart (2002) and Page and Luding (2003) argued that perception of the risk and trust-related issues as key factors influencing the adoption of internet banking. The researcher of this study intends to apply a modified version of the technology acceptance model which focuses on ease of use and perceived usefulness in determining consumer acceptance. Even though bus owners do not use the bust ticketing terminals, we intend to proceed with the perceived ease of use in terms of the bus conductors' perspective.

Moreover, numerous researchers used trust as a significant factor influencing the consumer acceptance with special reference to the technological products (Polatoglu and Ekin, 2001; Kardaras and Papathanassiou, 2001; Dewasiri and Tharanganee, 2014). Hence, the researcher of this study decided to incorporate this variable into the technology acceptance model. Other researches focus on the effect of external pressure and Government support on customer acceptance (Iacovou et al 1995). While, several studies integrated between technology acceptance, Social influences, and perceived cost to investigate its impact on customer acceptance (Venkatesh et al,2012.; Sulaiman, 2000; Alam, et al., 2007). Considering the above literature researcher include five main

determinants namely perceived usefulness, Price value, perceived trust, government support and social influence which could affect customer acceptance.

### **The perceived usefulness**

Doll et al. (1998) identified perceived usefulness as “the extent to which a person finds that using the technology will enhance his or her job performance”. The perceived usefulness of mobile ticketing terminal could be identified as its ability to offer a means-end relationship that will enhance the ticketing performance. Barczak et al. (1997) argued that the means-end relationship as the reason for using a technological product. Venkatesh and Davis (2000) argued that perceived usefulness is formulated in coordination with new technology and its consumer acceptance.

### **Price Value**

The cost is considered as the cost of its development and maintenance in determining the price as emphasized by Karanasios and Burgess (2006). It includes investment in both time and money. The past evidence shows that the product or services cost has an inverse relationship with the acceptance decision. For instance, Premkumar et al. (1994) investigated the same phenomenon and revealed that cost as a key factor affecting consumer acceptance in the Electronic Data Interchange context (EDI). Zeithaml (1988) epitomized that product cost and product quality are considered together to determine the perceived value of the product and services. As Dodds et al. (1991) emphasized, the researcher of this study intends to determine the price value as the tradeoff among perceived benefit and product cost for a better operationalization of the variable. The overall price of purchase costs, operating costs, and disposal costs are too high for the customer and prevent the customer from accepting a product or service. (Schmidt et al 2015) Therefore, if travel pass device purchase, transactions costs are too high and it will lead to creating barriers for customers, hence customers may search for other options. Here, it is assumed that the price value could be positive when the benefits of using new technology are higher than the product cost. Hence, it is expected that the price value and consumer intention or acceptance are positively related. Accordingly, price value is added as a determinant explaining consumer acceptance of using touch travel pass terminals.

### **Social influence**

The impact of social influences on consumer acceptance was investigated in few social-related theories. For instance, the theory of reasoned action argues that consumers' behavioural intentions are affected by both subjective norms and attitude. The research studies in the diffusion of innovation are also revealed that consumer adoption for new technologies is affected by social norms than the IT characteristics and decision styles of the individuals. Cooper and Zmud (1990) and Laudon (1985) supported the argument stating that social influences as key factors influencing the diffusion of innovation. Here, it is possible to argue that the decision to purchase POS machines is affected by social elements such as peer / superior influences and other people's opinions. This argument is supported by the recent studies conducted in the new technology adoption in both organizational contexts and consumer perspectives (Hsu and Lu, 2004; Lu et al., 2003; Venkatesh et al., 2012). Karunanayake and Samarasinghe (2018) investigated the social influence on purchase intention in the Sri Lankan context.

Venkatesh et al. (2012, p. 159) defined the social influence as “the extent to which consumers perceive important others (e.g. close friends and family) believe they should use a particular technology”. Deutsch and Gerard (1955) identified this effect as an internalization mechanism that focuses on the interpretation of human behaviour from others' point of view as evidenced by the behavioural reality (Schepers and Wetzels, 2007). Hence, it is reasonable to argue that behavioural intention to use POS device or touch travel card based on the influence made by the social networks such as his or her own friends, peers, superiors, and other social groups. Schepers and Wetzels (2007) argued that the social influence in the current context is mainly from social media that includes the internet. The aforementioned internet networks and web of relationships could have a direct influence on consumers' opinions, buying decisions, and finally the behaviour of the people.

### ***Perceived trust***

The perceived trust towards a transaction of a technological product or service plays a vital role in consumer acceptance. The trust could be identified as the consumer's confidence over the security of personal information and the money will not be used by a third party without their consent. Abrazhevich (2004) argued that consumers do have a belief towards the vendors that their personal information will not be used even at a stage where there is no perfect system own by the vendor. Accordingly, it is believed that the customers' degree of confidence in their money or personal information is safe and all the stakeholders involved in the business will act as per the consumers' interest. Hence, in terms of using the online payment system, the consumers believe that the transaction is conducted in a proper mechanism where money and transaction information is not stolen and misused. Similarly, if the vendor uses an imperfect payment system, the customers believe that all the stakeholders such as banks, vendors, POS supplying partners will not use their personal information in a harmful way. Conversely, the other stakeholders accepting the payment are also to be trusted that their receipt of the payment is secured and on time while facilitating digital commerce. The bus ticketing terminal is also carrying an online payment in a similar mechanism.

Lim et al. (2007) emphasized that the higher level of trust and confidence towards the Electronic Payment System (EPS) as a key factor for a successful e-commerce implementation and adoption in any country. The success story of Japan revealed that trustworthiness towards the digital systems as a major reason for its acceptance in the country. Abrazhevich (2004) supported the argument revealing that customers will not tend to use any technological system until they perceive that it is trustworthy. This finding was backed by the survey conducted by Abrazhevich (2004), who found that customers will not use systems that they perceive to be less trustworthy. In a similar background, Kniberg (2002) argued that the adoption and acceptance of EPS are positively related to consumer trust. Accordingly, if the perceived trust goes up, there will be an increment in the consumer acceptance which will help to retain and sustain the consumer relationships.

### ***Government support***

The government plays a vital role in the implementation of any technological product or service through legislation and infrastructure development to suit the technology. Tan and Teo (2000) supported this argument stating that any government could

influence the acceptance of new technologies based on the support they tend to provide for a successful implementation. Here, Tan and Teo (2000) suggest that the government could play a supporting role in terms of leadership and intervention with special reference to innovation diffusion. Thus, there is a possibility to measure government support as per the level of support provided by the government. In a similar ground, it is possible to argue that there is a positive relationship between government support and the acceptance of such technology. Here, it is expected to have a similar positive relationship between the government support and the touch travel pass acceptance by the consumers. Iacovou et al. (1995) identified government influence as external pressure or support when implementing a technology acceptance model.

As Hernandez et al. (2006) emphasized, external factors such as government support are also playing a vital role in determining the consumer acceptance of new technology. Therefore, the government of Sri Lanka is currently playing a noteworthy role in determining the rules and regulations in the bus industry as well as providing subsidiaries to the bus owners.

### ***Service Continuation Intention***

Service continuation is also playing a vital role in the acceptance of new technology introduction since that is supporting to continue such service which will help the customer acceptance in the long-run. Liao et al. (2009) introduced the technology continuation theory (TCT) stating that consumers' intention of continuation towards new technology is vital in consumer acceptance. Liao et al. (2009) developed the theory of technology continuation based on three theories of technology, information systems, and consumer acceptance; Technology acceptance model (Davis, 1989), Expectation Confirmation Model (Bhattacharjee, 2001), and Cognitive Model (Oliver, 1980).

Perceived ease of use and perceived usefulness have been explicitly investigated in explaining the technology continuation intention. It is argued that a consumer's continuous usage of service is judgmental. Agarwal and Prasad (1999) argued that there is a substantial effect from usefulness on the service/product continuation. For instance, from the business to the consumer market, people tend to use touch POS terminals through wireless networks like GPRS/GSM/WiFi. The stakeholders believe that these online activities will enhance the ultimate performance of the product offerings to both consumers and the service providers. Moreover, perceived behavioural control, social influence, and government influence were considered as the key factors affecting service continuation intention (ex: Bandura et al., 1977; Bandura et al., 1980; Venkatesh et al., 2012; De Valck et al., 2009; Tan and Teo, 2000).

### ***Perceived usefulness and Service Continuation***

Perceived usefulness plays a vital role in service continuation intention as proposed in the service continuation theory, suggested by Bhattacharjee (2001). It is expected to have a positive influence from perceived usefulness on service continuation intention as suggested in the original argument. Accordingly, if a consumer believes in the information systems, it will enhance the job performance and finally, the degree of positivity of perceived usefulness towards continuance will increase. There are numerous studies conducted in analyzing the impact of perceived usefulness on service continuation

intention and most of them have found a positive relationship between two variables; Al-Maghrabi et al. (2011) and Ho and Kuo (2010). It is expected to set the expectations at an achievable extent in the first phase. If a company sets up the initial expectations at a higher level, there will be discontinuation when the consumer's expectations are not fulfilled. Thus, the level of new expectations could motivate or demoralize consumers in continuous usage. Moreover, the continuation of service indicates some level of satisfaction. Hence, the service user is at a voluntary level and expectation levels are reached, a significant positive relationship is expected amongst the perceived usefulness and the touch travel pass service continuation.

### ***Perceived ease of use and Service Continuation***

Davis (1989) defined the Perceived Ease of Use as “the degree to which a person believes that using technology will be free from effort”. It is argued that if the new system is easier to use, the end consumers are keen on using it to learn new features and continuation is carried forward. Chiu & Wang (2008) explained that perceived ease of use is completely related to the service continuation in the Web using and learning context. Adams et al. (1992), Subramanian (1994), Hendrickson et al. (1993), Igbaria et al. (1995), Gefen and Straub (1997), Agarwal and Prasad (1999), and Gefen and Keil (1998) epitomized that there is a universal consensus between perceived ease of use and service continuation. Gefen and Straub (2000, 2003) also provided evidence for such a relationship in the context of touch travel pass terminals.

### ***Perceived behavioural control and Service Continuation***

Ajzen (1991, p.183) argued that "perceived behavioural control added to the research model because the availability of human resources for a person must (at least to some extent) dictate the intention to perform a behaviour". Bandura (1977) proposed that "perceived behavioural control is concerned with the perceived ability to perform a behaviour (or sequence of behaviours) and is therefore very similar to the idea of self-efficacy by Perceived behavioural control which reflects the internal and external constraints on behaviour". There are several systematic literature studies conducted by Bandura et al. (1980) explaining the role of perceived behavioural control on the service continuation (Bandura et al., 1977; Bandura et al., 1980). These studies have proposed that consumers' behaviour is highly affected by their confidence in the ability to control it. According to the theory of planned behaviour and theory of service continuation, the perceived behavioural control could be employed to assume incessant social achievement together with the behavioural intention. Here, bus conductors involve in the process of smart card acceptance and continuous use of the travel pass terminals in the travel pass process. Hence the behavioural control has significant impact on the service continuation.

### ***Social Influence and Service Continuation***

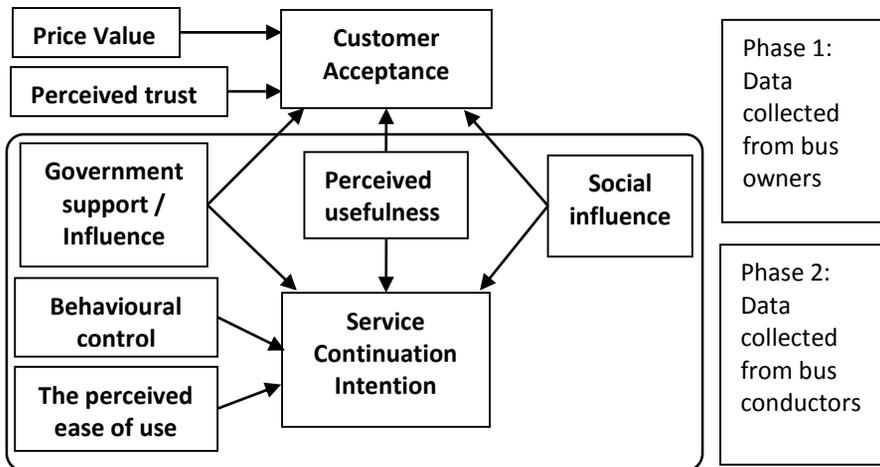
Social influence (SI) is also playing a vital role in explaining the service continuation of a technological product. SI is defined as the importance of the opinions of others including family, friends, relatives, peers, and colleagues on the consumers' decision towards service continuation as emphasized by Venkatesh et al. (2012). Further, De Valck et al. (2009) emphasized on the consumers' social network impact on the service continuation behavior. For instance, social influence shows a significant positive impact

from the formation of attitudes with special reference to the technology used as epitomized by Sapio et al. (2010), Venkatesh et al. (2012), and Laroche et al. (1996). Muk and Chung (2014) revealed that social influences like referents affect the consumer intention towards brand pages in the web. Similarly, in the case of teenagers, it is vital to substantiate their selections with colleagues as proposed by Muk and Chung (2014). Therefore, Social Influence could be considered as a significant factor influencing consumer's intention to the continuation and on the other hand bus, passengers have significant influencing power to appeal regarding travel pass usage and continuation.

### ***Government Influence and Service Continuation***

The researcher of this study discussed the importance of government support on consumer acceptance in the early literature. Tan and Teo (2000) revealed that government support could help in the formation of new technologies and their continuation. Nasri and Charfeddine (2012) divulged the importance of studying how individuals and firms perceive the government influences on service continuation. Shih and Fang (2004) epitomized that "Government Influence often includes technical aspects due to the large amounts of money required". Here, it is possible to argue that the internet and other infrastructure development and its continuation have also played a vital role in the service continuation as emphasized by Nasri and Charfeddine in 2012. Therefore, Touch travel pass technology often requires support for service continuation from the government of Sri Lanka.

### **Conceptual Model**



*Figure 1: Conceptual Framework*

*Source: Author has developed the same based on previous literature*

The conceptual model is developed based on previous literature on customer acceptance and service continuation intention. Here, the determinants of customer acceptance and service continuation intention of touch travel pass terminals are investigated. Hence, the customer acceptance and service continuation intention are the dependent variables of the study. Independent variables were identified as price value,

perceived trust, government support, perceived usefulness, social influence, behavioral control, and perceived ease of use. Figure 1 represents the conceptual framework of the current study.

### **Research hypotheses**

The research hypotheses were developed based on the rigorous literature review to achieve research objectives of the current study. Given below are the main hypotheses (12) developed to test the conceptual model developed in the current study.

- H1: There is a significant relationship between perceived usefulness and customer acceptance.
- H2: There is a significant relationship between price value and customer acceptance.
- H3: There is a significant relationship between social influence and customer acceptance.
- H4: There is a significant relationship between government support and customer acceptance.
- H5: There is a significant relationship between perceived trust and customer acceptance.
- H6: There is a significant relationship between perceived behavioral control and service continuation.
- H7: There is a significant relationship between perceived ease of use and service continuation.
- H8: There is a significant relationship between perceived usefulness and service continuation.
- H9: There is a significant relationship between government support and service continuation.
- H10: There is a significant relationship between perceived usefulness and service continuation.
- H11: There is a significant relationship between demographic factors and customer acceptance.
- H12: There is a significant relationship between demographic factors and service continuation.

### **Research Methodology**

Dewasiri et al. (2018) argued that it is appropriate to use the quantitative methodology if the research questions are started in 'what' form. Hence, this study uses quantitative methodology in order to suit the research questions of the study. Moreover, this study intended to gather information from variant respondents. Hence, this study can be considered under the data triangulation approach since it uses a person variation in data (Dewasiri et al., 2017; Dewasiri et al., 2018; Baker et al., 2019; Thurmond, 2001). Here, the acceptance decision and the service continuation decision are respectively made by the bus owner and conductor. Hence, the researcher has selected 150 bus owners as the sample through the systematic random sampling technique to measure customer acceptance. Service continuation is also measured by selecting 150 bus conductors as the sample through the same sampling technique. The population is counted as 4126 bus owners and conductors. The sample frame is the registered database of western province road passenger transport authority and it is gathered from the WPRPTA database. The data was

collected by the researcher during the period from January 2019 to March 2019. The researcher used direct communication methods such as face to face interactions and telephone conversation techniques in order to obtain the responses from the sample through a structured questionnaire. The questionnaire included instruments designed for measuring key concepts such as service continuation, customer acceptance, perceived usefulness, price value, social influence, government support/influence, perceived trust, and perceived ease of use, perceived behavioural control, and demographic characteristics. The operationalization of the key concepts is indicated in Appendix 1.

The data analysis was conducted using SPSS software employing analytical techniques such as independent sample t-tests, one-way ANOVA tests, and multiple regression analyses.

### Validation of Measurement Properties

The concepts and constructs measured in this study were operationalized based on the rigorous literature survey conducted by the researcher. Hence, constructs and concepts used in the survey consist of high content validity. There are several measures to ensure the construct validity, but the researcher of this study proceeded with the confirmatory factor analysis considering the easiness of its interpretation. Here, the factor analysis tends to confirm how the indicators are operationally defined and its' suitability in terms of validity.

**Table 1: Validity and Reliability of the Constructs**

Dimension	Indicators	Validity	Reliability (Conbranch's Alpha)
Perceived Usefulness (OPU)	OPU1	.892	.963
	OPU2	.967	
	OPU3	.965	
	OPU4	.969	
Price Value (OPV)	OPV1	.956	.899
	OPV2	.956	
Social Influence	OSI1	.941	.871
	OSI2	.941	
Customer Acceptance	OCA1	.907	.782
	OCA2	.907	
Perceived Ease Of Use (CPE)	PEU1	.696	.706
	PEU2	.792	
	PEU3	.690	
Government Support	OGS1	.798	.796
	OGS2	.824	
	OGS3	.934	
Service Continuation (SC)	SC1	.959	.913
	SC2	.959	

Accordingly, the indicators were selected for each dimension if the component values are greater than 0.7 benchmarks as emphasized by Sekaran (2007). Moreover, the researcher used inter-item consistency reliability in assessing the reliability of the constructs. Here, the researcher used Cronbach's alpha in measuring the same (Cronbach, 1946). Convergent validity is demonstrated by each factor ensuring loadings in excess of 0.5 (Moyano-Fuentes et al, 2012). Table 1 reflects the validity and reliability of the constructs investigated in the current study.

It is imperative to note that, some variables (e.g. perceived behavioural control and perceived trust,) were tested using one indicator as suggested in the literature (Tan and Teo 2000). Moreover, those variables were tested and confirmed in the same empirical studies which resultant a good internal validity. According to Table 1, it is evident that all the items contribute above the accepted minimum level of factor loadings of 0.5 as emphasized by Moyano-Fuentes et al (2012) ensuring the convergent validity. Moreover, the reliability is ensured achieving a higher Cronbach's alpha (>0.7) values for each dimension.

### **Data Analysis and Discussion**

The data analysis is conducted in four stages. First, the relationship between bus owner's demographic factors and customer acceptance is investigated. Then, the determinants of customer acceptance are investigated. Third, the relationship between bus conductor's demographic factors and service continuation intention is investigated. Finally, the determinants of service continuation intention are investigated.

#### ***Relation between Demographic factors and Customer Acceptance***

Table 2 represents the results of the appropriate tests conducted in determining the relationship between the bus owner's demographic factors and customer acceptance. This table shows the results of the independent sample t-tests (IS t-t) and one-way ANOVA tests in assessing the said relationship.

**Table 2. Tests for the relationship between Demographic factors and Customer Acceptance**

Demographic Factor	Appropriate Test for the Relationship with Customer Acceptance and Its p-value	Significance
Gender	IS t-t, p-value: 0.115	Insignificant
Age	ANOVA, p-value: 0.178	Insignificant
Marital Status	IS t-t, p-value: 0.266	Insignificant
Education	ANOVA, p-value: 0.351	Insignificant
Ownership (Owner is working in the bus: Yes/No)	IS t-t, p-value: 0.817	Insignificant

The results of the independent sample t-tests and one-way ANOVA tests reveal that there is no significant relationship between the demographic factors and the customer acceptance of touch travel pass terminal.

### Determinants of Customer Acceptance of the Touch Travel Pass Terminal

The multiple regression analysis (Equation 1) is conducted in determining the factors affecting the customer acceptance of the touch travel pass terminal.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon \quad (1)$$

Where

Y =	Customer acceptance(OCA)	X1=	Perceived usefulness(OPU)
X2=	Social influence (OSI)	X3=	Price value (OPV)
X4=	Perceived trust (OPT)	X5=	Government support(OGS)
€ =	Error		

The results of the regression analysis reveal that the significant value is lesser than 0.05 in the ANOVA table, implying that the regression model results in significantly better prediction of customer acceptance. Hence, it can be concluded that,  $\beta_j \neq 0$  for at least one  $j$  ( $j = 1, 2, 3, 4, 5$ ). According to the results stated in the model summary, the adjusted R squared is 0.617. Therefore it could be concluded that 61.7% of the model fitness can be explained by the fitted regression model. The Durbin Watson value is (2.150) closer to 2, it is possible to state that the error terms are uncorrelated. Table 3 represents the coefficient results of the regression model in determining customer acceptance.

**Table 3: Coefficient Results of the regression model in determining customer acceptance**

Variable	Standardized Coefficients	Sig. (p-value)
Perceived usefulness	.093	.001*
Social influence	.723	.001*
Price value	-.021	.935
Perceived trust	1.261	.000*
Government support	.179	.468

The results indicated in the coefficient table stated that p-values of the perceived usefulness ( $p=0.001$ ), social influence ( $p=0.001$ ) and perceived trust ( $p=0.000$ ) are less than 0.05. Hence the results reveal that perceived usefulness, social influence, and perceived trust show a significant impact on the customer acceptance of the touch travel pass terminal. Further, the coefficient results indicate that perceived trust (1.26) has the highest positive impact on customer acceptance. Thus, the results support Abrazhevich's (2004), Lim et al.'s (2007), and Kniberg's (2002) findings who proposed that the perceived trust shows a higher impact on customer acceptance. Moreover, social influence (0.723) shows the second-highest impact as stated by Hsu and Lu (2004), Lu et al. (2003), and Venkatesh et al. (2012). The perceived usefulness (0.093) shows the least significant impact on the customer acceptance of the touch travel pass terminal. These results support the research findings of Davis (1989).

***Relationship between Demographic factors and Service Continuation Intention of the Touch Travel Pass Terminal***

Table 4 represents the results of the appropriate tests conducted in investigating the relationship between the bus conductor's demographic factors and the service continuation intention. This table shows the results of the independent sample t-tests (IS t-t) and one-way ANOVA tests in assessing the said relation.

**Table 4. Tests for the Relationship between Demographic factors of Bus Conductors and Service Continuation Intention**

Demographic Factor	Appropriate Test for the Relationship with Customer Acceptance and Its p-value	Significance
Age	ANOVA, p-value: 0.270	Insignificant
Marital Status	IS t-t, p-value: 0.289	Insignificant
Education	ANOVA, p-value: 0.875	Insignificant
Touch Terminal Experience	ANOVA, p-value: 0.295	Insignificant

The influence of gender on service continuation intention could not be measured since all the conductors are recorded as male respondents. The results of the independent sample t-tests and one-way ANOVA tests reveal that there is no significant relationship between the demographic factors and the service continuation of touch travel pass terminal.

***Determinants of Service Continuation Intention of the Touch Travel Pass Terminal***

The multiple regression analysis is conducted in determining the factors affecting the service continuation of the touch travel pass terminal. The results of the regression analysis reveal that the significant value is lesser than 0.05 in the Anova table, implying that the regression model results in significantly better prediction of service continuation intention of the touch travel pass terminal. The findings further revealed that the adjusted R Square is 0.547 in the model summary. Therefore, it could be concluded that 54.7% of the model fitness can be explained by the fitted regression model. Durbin Watson's value is (2.2297) closer to 2, it is possible to state that the error terms are uncorrelated.

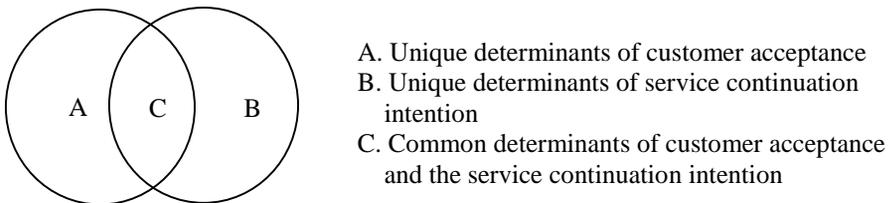
**Table 5 – Coefficient Results of the regression model in determining the service continuation intention**

Variable	Standardized Coefficients	Sig. (p-value)
Perceived usefulness	.177	.006*
Perceived ease of use	.235	.000*
Behavioural control	-.062	.288
Social influence	.115	.252
Government support	.456	.000*

\*Significant at 0.01 level

The results indicated in the coefficient table stated that p-values of the perceived usefulness ( $p=0.006$ ), perceived ease of use ( $p=0.000$ ) and government support ( $p=0.000$ ) are less than 0.05. Hence it implies that perceived usefulness, perceived ease of use, and government support have a significant positive impact on the service continuation intention. Further, the coefficient results indicate that government support (0.456) has the highest positive impact on the service continuation intention. Thus, the findings support the Tan and Teo's (2000), Nasri and Charfeddine's (2012) and Shih and Fang's (2004) results who emphasized on the government influence. Moreover, perceived ease of use (0.235) shows the second-highest impact while perceived usefulness (0.177) shows the least significant impact on the service continuation intention of the touch travel pass terminal. Based on the overall findings, it is not possible to reject H1, H3, H5, H7, H8, and H9 of the current study. Figure 2 represents both common and unique determinants of customer acceptance and the service continuation intention. The results indicate that the perceived usefulness has implications for both customer acceptance and the service continuation intention.

**Figure 2. Comprehensive picture of the determinants of customer acceptance and the service continuation intention.**



Where:

A = Perceived trust and social influence

B = Perceived ease of use and government support

C = Perceived usefulness

## Conclusion

According to the findings of the regression performed, it is possible to conclude that the perceived trust has the highest substantive positive impact on customer acceptance. It could be further concluded that the social influence perceived usefulness has a substantive positive impact on the customer acceptance of the touch travel pass terminal. The second objective of the study is to investigate the determinants of service continuation of touch travel pass terminals in the Sri Lankan context. According to the findings of the regression performed it is possible to conclude that the government influence has the highest substantive positive impact on service continuation intention. Moreover, the perceived ease of use and perceived usefulness can be considered as the other significant determinants of service continuation intention. Further, it is possible to conclude that there is no significant relationship between the demographic factors and customer acceptance or service continuation intention. Finally, it could be concluded that perceived usefulness as the common determinant of customer acceptance and service continuation intention. This

study is limited to the customer acceptance and service continuation intention of the touch travel pass terminals. Hence, future researchers can focus on the determinants of customer acceptance and service continuation intention of the touch travel passes (end consumer acceptance) to have a broader understanding of the phenomenon.

### **Implications of the study**

This study has implications for both managers and regulators. The management should focus more on the factors affecting the customer acceptance of the touch travel pass terminal in order to increase customer acceptance. In particular, they should focus more on perceived trust, social influence, and perceived usefulness. The success of the travel pass project is not only based on customer acceptance but the service continuation. In particular, management should focus more on the factors affecting the service continuation of the touch travel pass terminals such as government influence, perceived ease of use, and perceived usefulness in developing their strategies. The management should especially focus on perceived usefulness since it has implications for both customer acceptance and the service continuation intention. Moreover, the government should also focus on developing a mandatory requirement for the use of travel pass in making this project a success. Further, the government should develop the necessary infrastructure facilities to smoothen the process of the touch travel pass project.

### **References**

- Abrazhevich, D. 2004. Electronic payment systems: A user-centered perspective and interaction design. 1<sup>st</sup>edi, TechnischeUniversiteit Eindhoven.
- Adams, D.A., Nelson, R.R. and Todd, P.A. 1992. Perceived usefulness, ease of use, and usage of information technology: A replication. *MIS quarterly*, 16(2), pp.227-247.
- Agarwal, R. and Prasad, J.1999. Are individual differences germane to the acceptance of new information technologies. *Decision sciences*, 30(2), pp.361-391.
- Ajzen, I. and Fishbein, M. 1980. Understanding attitudes and predicting social behaviour. 2<sup>nd</sup>edi, Prentice-Hall: Englewood Cliffs.
- Ajzen, I.1991. The theory of planned behaviour. *Organizational behaviour and human decision processes*, 50(2), pp.179-211.
- Al-Maghrabi, T., Dennis, C. and Halliday, S.V. 2011. Antecedents of continuance intentions towards e-shopping: the case of Saudi Arabia. *Journal of Enterprise Information Management*, 24(1), pp.85-111.
- Alam, S. S., Khatibi, A., Santhapparaj, A.S. and Talha, M. 2007. Development and prospects of internet banking in Bangladesh. *Competitiveness Review: An International Business Journal*, 17(1/2), pp.56-66.
- Baker, H.K., Dewasiri, N.J., Weerakoon Banda, Y.K. and Azeez, A.A. 2019. Determinants of Dividend Policy: A Triangulation Approach. *Managerial Finance*,

45(1), pp. 2-20.

Bandura, A. 1977. Self-efficacy: toward a unifying theory of behavioural change. *Psychological review*, 84(2), pp.191-215.

Bandura, A., Adams, N.E. and Beyer, J. 1977. Cognitive processes mediating behavioural change. *Journal of personality and social psychology*, 35(3), pp.125-139.

Bandura, A., Adams, N.E., Hardy, A.B. and Howells, G.N. 1980. Tests of the generality of self-efficacy theory. *Cognitive therapy and research*, 4(1), pp.39-66.

Barczak, G., Ellen, P.S. and Pilling, B.K. 1997. Developing typologies of consumer motives for use of technologically based banking services. *Journal of business research*, 38(2), pp.131-139.

Bhattacharjee, A. 2001. Understanding information systems continuance: an expectation-confirmation model. *MIS quarterly*, 25(3), pp.351-370.

Bradley, L. and Stewart, K. 2002. A Delphi study of the drivers and inhibitors of Internet banking. *International Journal of Bank Marketing*, 20(6), pp.250-260.

Chiu, C.M. and Wang, E.T. 2008. Understanding Web-based learning continuance intention: The role of subjective task value. *Information and Management*, 45(3), pp.194-201.

Cooper, R.B. and Zmud, R.W. 1990. Information technology implementation research: a technological diffusion approach. *Management Science*, 36(2), pp.123-139.

Cronbach, L. J. 1946. Response sets and test validity. *Educational and Psychological Measurement*, 6(1), pp. 475-494.

Davis, F.D., 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 13(3), pp.319-340.

De Valck, K., Van Bruggen, G.H. and Wierenga, B. 2009. Virtual communities: A marketing perspective. *Decision support systems*, 47(3), pp.185-203.

Dewasiri, N.J., Weerakoon Banda, Y.K. and Azeez, A.A. 2018. Mixed Methods in Finance Research: *The Rationale and Research Designs*. *International Journal of Qualitative Methods*, 17(1), pp. 1-13.

Dewasiri, N.J. and Tharangani, G. 2014. Determinants of customer retention with special reference to Mobile Telecommunication Industry in Sri Lanka. 3rd International Conference on Management and Economics, University of Ruhuna, Matara, Sri Lanka.

Dewasiri, N.J. and Weerakoon Banda, Y.K. 2017. Triangulation Approach in Finance Research. 14th International Conference on Business Management, Faculty of management Studies and Commerce, University of Sri Jayawardenepura, Sri Lanka.

Dewasiri, N.J., Weerakoon Banda, Y.K. and Azeez, A.A. 2018. Triangulation Approaches in Finance Research. *Colombo Journal of Multidisciplinary Research*, 3(2), pp. 87-111.

Deutsch, M. and Gerard, H.B. 1955. A study of normative and informational social influences upon individual judgment. *The journal of abnormal and social psychology*, 51(3), pp.629-630.

Dodds, W.B., Monroe, K.B. and Grewal, D. 1991. Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3), pp.307-319.

Doll, W.J., Hendrickson, A. and Deng, X. 1998. Using Davis's perceived usefulness and ease-of-use instruments for decision making: a confirmatory and multi-group invariance analysis. *Decision Sciences*, 29(4), pp.839-869.

Gefen, D. and Keil, M. 1998. The impact of developer responsiveness on perceptions of usefulness and ease of use: an extension of the technology acceptance model. *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, 29(2), pp.35-49.

Gefen, D. and Straub, D.W. 1997. Gender differences in the perception and use of e-mail: An extension to the technology acceptance model. *MIS quarterly*, 21(4), pp.389-400.

Gefen, D. and Straub, D.W. 2000. The relative importance of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of the association for Information Systems*, 1(1), pp.1-28.

Gefen, D., Karahanna, E. and Straub, D.W. 2003. Trust and TAM in Online Shopping: An Integrated Model. *MIS quarterly*, 27(1), pp.51-90.

Hernandez, T. G., Afonso-Oramas, D., Cruz-Muros, I., Barroso-Chinea, P., Abreu, P., Perez-Delgado, M.D.M., Rancel-Torres, N. and Gonzalez, M.D.C. 2006. Interleukin-6 and nitric oxide synthase expression in the vasopressin and corticotrophin-releasing factor systems of the rat hypothalamus. *Journal of Histochemistry & Cytochemistry*, 54(4), pp.427-441.

Hendrickson, A.R., Massey, P.D. and Cronan, T.P. 1993. On the test-retest reliability of perceived usefulness and perceived ease of use scales. *MIS Quarterly*, 17(2), pp.227-230.

Ho, L.A. and Kuo, T.H. 2010. How can one amplify the effect of e-learning? An examination of high-tech employees' computer attitude and flow experience. *Computers in Human Behaviour*, 26(1), pp.23-31.

Hsu, C.L. and Lu, H.P. 2004. Why do people play on-line games? An extended TAM with social influences and flow experience. *Information and Management*, 41(7), pp.853-

868.

Iacovou, C.L., Benbasat, I. and Dexter, A.S. 1995. Electronic data interchange and small organizations: Adoption and impact of technology. *MIS Quarterly*, 19(4), pp.465-485.

Igbaria, M., Guimaraes, T. and Davis, G.B. 1995. Testing the determinants of microcomputer usage via a structural equation model. *Journal of Management Information Systems*, 11(4), pp.87-114.

Karanasios, S. and Burgess, S. 2006. Exploring the Internet use of small tourism enterprises: Evidence from a developing country. *The Electronic Journal of Information Systems in Developing Countries*, 27(1), pp.1-21.

Kardarasf, D. and Papatthanassiou, E. 2001. Electronic commerce opportunities for improving corporate customer support in banking in Greece. *International Journal of Bank Marketing*, 19(7), pp.292-298.

Karunanayake, T. and Samarasinghe, G.D. 2018. The Effect of Perceived Risk on the Purchase Intention of Alternative Fuel Vehicles. *Sri Lankan Journal of Management*, 23(2), pp. 67-98.

Kniberg, H. 2002. What makes a micropayment solution succeed? Institution for Applied Information Technology. Kista: Kungliga Tekniska Högskolan.

Laroche, M., Kim, C. and Zhou, L. 1996. Brand familiarity and confidence as determinants of purchase intention: An empirical test in a multiple brand context. *Journal of Business Research*, 37(2), pp.115-120.

Laudon, K.C. 1985. Environmental and institutional models of system development: a national criminal history system. *Communications of the ACM*, 28(7), pp.728-740.

Liao, C., Palvia, P. and Chen, J.L. 2009. Information technology adoption behaviour life cycle: Toward a Technology Continuance Theory (TCT). *International Journal of Information Management*, 29(4), pp.309-320.

Lim, B., Lee, H. and Kurnia, S. 2007. Exploring the reasons for a failure of electronic payment systems: A case study of an Australian company. *Journal of Research and Practice in Information Technology*, 39(4), p.231-243.

Lu, J., Yu, C.S., Liu, C. and Yao, J.E. 2003. Technology acceptance model for wireless Internet. *Internet Research*, 13(3), pp.206-222.

Meuter, M.L., Ostrom, A.L., Roundtree, R.I. and Bitner, M.J. 2000. Self-service technologies: understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*, 64(3), pp.50-64.

Moyano-Fuentes, J., Sacristan-diaz, M. and Martinez-Jurado, P.J. 2012. Cooperation in the supply chain and lean production adoption; evidence from the Spanish automotive industry, *International Journal of Operations and Production Management*, 32(9), pp. 1075- 1096.

Muk, A. and Chung, C. 2014. Driving consumers to become fans of brand pages: A theoretical framework. *Journal of Interactive Advertising*, 14(1), pp.1-10.

Nasri, W. and Charfeddine, L. 2012. Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance model and theory of planned behaviour. *The Journal of High Technology Management Research*, 23(1), pp.1-14.

Oliver, R.L. 1980. A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), pp.460-469.

Page, C. and Luding, Y. 2003. Bank managers' direct marketing dilemmas—customers' attitudes and purchase intention. *International Journal of Bank Marketing*, 21(3), pp.147-163.

Polatoglu, V. N. and Ekin, S. 2001. An empirical investigation of the Turkish consumers' acceptance of Internet banking services. *International Journal of Bank Marketing*, 19(4), pp.156-165.

Premkumar, G., Ramamurthy, K. and Nilakanta, S. 1994. Implementation of electronic data interchange: an innovation diffusion perspective. *Journal of Management Information Systems*, 11(2), pp.157-186.

Samarasinghe, G.D. and Ahsan, F.J. 2014. Impact of Consumers' Moral Self- Identity on Green Purchase Decisions of Fast Moving Consumable Goods (FMCG). *Colombo Business Journal*, 5(1), pp. 1-15.

Samarasinghe, G.D. and Samarasinghe, D.S.R. 2013. Green decisions: consumers' environmental beliefs and green purchasing behaviour in Sri Lankan context. *International Journal of Innovation and Sustainable Development*, 7(2), pp. 172-184.

Sapio, B., Turk, T., Cornacchia, M., Papa, F., Nicolo, E. and Livi, S. 2011. Building scenarios of digital television adoption: a pilot study. *Technology Analysis & Strategic Management*, 22(1), pp.43-63.

Schepers, J. and Wetzels, M. 2007. A meta-analysis of the technology acceptance model: Investigating subjective norm and moderation effects. *Information and Management*, 44(1), pp.90-103.

Schmidt, D.M., Bauer, P. and Mörtl, M. 2015. PSS for influencing customer barriers and acceptance. *Journal of Economics, Business and Management*, 3(10), pp.990-993.

- Sekaran, U. 2007. *Research Methods for Business; a skill building approach*, 4th Ed., New Delhi: Glorious Printers.
- Shih, Y.Y. and Fang, K. 2004. The use of a decomposed theory of planned behaviour to study Internet banking in Taiwan. *Internet Research*, 14(3), pp.213-223.
- Subramanian, G.H. 1994. A replication of perceived usefulness and perceived ease of use measurement. *Decision Sciences*, 25(5-6), pp.863-874.
- Sulaiman, A. 2000. The status of e-commerce applications in Malaysia. *Information Technology for Development*, 9(3-4), pp.153-161.
- Tan, M. and Teo, T.S. 2000. Factors influencing the adoption of Internet banking. *Journal of the Association for Information Systems*, 1(1), pp. 1-42.
- Thurmond, V.A. 2001. The point of triangulation. *Journal of Nursing Scholarship*, 33(1), pp. 253–258.
- Venkatesh, V. and Davis, F.D. 2000. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), pp.186-204.
- Venkatesh, V., Thong, J.Y. and Xu, X. 2012. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), pp.157-178.
- Zeithaml, V.A. 1988. Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *The Journal of Marketing*, 52(3), pp.2-22

### Appendix 1: Operationalization of the Variables

This table shows the dimensions and respective survey indicators used to measure the key variables.

Dimension	Indicator	Code
<b>Perceived Usefulness</b>	The touch travel pass terminal is important in getting the correct daily income on real time basis	OPU1
	The touch travel pass terminals minimize complaints on non-issuance of tickets and balance inquiry.	OPU2
	Touch travel pass terminal helps in reducing money cheating practices.	OPU3
	The touch travel pass terminal provides relevant and accurate information such as transactions and its history on real time.	OPU4

<b>Price Value</b> Adopted from Venkatesh, Thong, Xin(2012)	Touch travel pass terminal is reasonably priced	OPV1
	Touch travel pass terminal provides a value for the money in terms of benefits against the fixed (terminal) and variable costs (reload and repair and maintains).	OPV2
<b>Social Influence</b> Adopted from Lu et al. (2005)	Other bus owners think I must use Touch travel pass terminal.	OSI1
	Touch travel pass terminal provides me a status sign among my associates.	OSI2
<b>Government Support</b> Tan and Teo(2000)	I am satisfied about government support regarding legislation and infrastructure development in implementing touch travel pass terminal	OGS1
	The government endorses and promotes Touch payment system in Sri Lanka	OGS2
	The Sri Lankan government actively involves in developing infrastructure facilities to empower Touch payment system	OGS3
	The existing legal background provides solid foundation to expand Touch travel pass terminal in Sri Lanka.	OGS4
<b>Perceived ease of use</b> Adopted from Gefen D, (2003)	The use of touch travel pass terminal is clear and understandable	PEU1
	The touch travel pass terminal is very easy to use.	PEU2
	It is easy to become skilful with the touch travel pass terminal	PEU3
<b>Perceived trust</b> adopted from Abrazhevich, Dennis (2004)	I will stop using the touch travel pass terminal, if I understand that it's not trustworthy.	OPT1
<b>Customer Acceptance</b> Mansour and Aref (2015)	I intend to accept Touch travel pass terminal in future	OCA1
	I think accepting the Touch travel pass terminal is important to all bus owners to get maximum outcome from the bus operation	
<b>Perceived Behavioural Control</b> adopted from Herbjørn, Pedersen Helge(2005)	I have required resources and means to use "Touch travel pass terminal	PBC1
<b>Service Continuation</b> adopted from Byoungsoo(2010)	In the future I'm planning to use Touch travel pass terminal for issuing tickets.	SC1
	I will surely continue with Touch payment service on regular basis.	SC2