ISSN (Online): 2455-9024

A Study on Perceived Ease of Use on Customers Adoption to use Mobile Banking Services

Arthika Rajaratnam

Department of Business & Management Studies, Trincomalee Campus, Trincomalee, Sri Lanka-31000 Email address: arthiratnam @ gmail. com

Abstract— People around the world are increasingly experiencing and utilising internet-based services. Among that mobile banking shares a larger proportion. The main reason for the adoption of mobile banking services is increased ease of use and 24/7 days of availability, faster service delivery comparatively with the traditional mode of accomplishing banking needs. This study mainly focuses the impact of the perceived ease of use on the mobile banking adoption. Though there are various studies has been conducted in each country all over the world, the study which are concentrating Sri Lanka is very limited. With this evidence Trincomlaee district in Sri Lanka has been chosen to collect the sample of study. The vital objective of the study is to identify the level, relationship, impact and whether mean difference of adoption of mobile banking. Perceived Ease of Use has been reserved as the independent Variable and Customer Adoption of mobile banking services has been taken as the dependant variable. Using simple random sampling hundred- eighty-nine units of sample has been collected. Self-administered-questionnaire were used for the data collection. Univariate analyse based on mean scores, bivariate analyse using Pearson Correlation Coefficient and Regression Analysis were utilised to analyse the data. In addition, One-Way-ANOVA were used to examine the mean difference in the Perceived Ease of Use of the mobile banking between different age groups of respondents. This research will not only facilitate to enhance the currently available theoretical knowledge but also helpful to the mobile banking service providers to focus even more on customisation based on different age groups. Thereby increased profit and customer comfort by huge utilisation of mobile banking services by almost all the age group will be ensured. And also, as a whole country we will be benefitted from the paperless, environment friendly banking services.

Keywords— Perceived Ease of Use, Customers Adoption, Mobile Banking Services.

I. INTRODUCTION

Usage of mobile banking services are rapidly increasing all around Sri Lanka. People started to use Automated Teller Machine, Cash Deposit Machines, Online Fund Transfer, Online Bill Settlement and Online Shopping rather purely rely on traditional banking services which involves in cumbersome procedure namely massive paper-based operations and time consumption due to the long queue. Mobile banking services finds to be faster, easier and 24/7 days of availability comparatively. Though Mobile Banking Services boost-up the usage banking services through the greater comfortabilities still there are people who solely believe on traditional banking modes. Because they perceive that mobile banking will compromise the trust, security and also, they face technical difficulties in the operation. Mostly people above the age of 40 find it reluctant and less likely to accomplish their banking

needs through mobile banking applications. But younger generation relatively tends to utilise mobile banking services and attaining the maximum benefits out them. This is really a gap needed to be considered by each mobile banking service providers to enable older adults to realise the maximum benefits out of the mobile banking services. One of the main reasons to the underutilisation of mobile banking services is the user-friendliness among older adults who are above the age of 40. Therefore, Perceived Ease of Use is needed the essential focus across different age group of people.

II. PROBLEM STATEMENT

(Davis, 1989) proposed Technology Acceptance Model known as TAM, which is by far the extensively utilised frameworks concerning the attitudes and adoption of technology. This framework is utilized in various research to investigate the factors influencing people's use and adoption of latest technology (V Venkatesh & Davis, 2000). According to (Davis, 1989), the link to, opinion, belief, purpose and conduct in technology acceptance model allows us to anticipate the handling of innovative technologies. TAM is basically a modified version of another theory known as the Theory of Reasoned Action or TRA proposed by (Fishbein, 1967). According to TRA, Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) are the variables which define a person's viewpoint towards his intention to operate a technology where intention actually acts a mediator in utilizing the system (Ali & Raza, 2017). TAM model has extensively been used in many research (V Venkatesh & Davis, 2000; Davis, Bagozzi, & Warshaw, 1992; Thong, Hong, & Tam, 2006; Viswanath Venkatesh, Morris, Davis, & Davis, 2003; Lee, Lee, & Kim, 2007. Nevertheless, TAM does not include economic, demographic and exogenous variables which have constrained the use of this model in determining the attitude and intention of an individual towards M-banking adoption (V Venkatesh & Davis, 2000).

Previously, various researches have been carried out on M-banking adoption (Lu, Tzeng, Cheng, & Hsu, 2015; Luarn & Lin, 2005; Gu, Lee, & Suh, 2009; Zhou, Lu, & Wang, 2010). Many studies have been carried out to investigate the driving factors of M-banking acceptance (Al-Jabri & Sohail, 2012; Hanafizadeh, Keating, & Khedmatgozar, 2014; Alalwan, Dwivedi, Rana, & Williams, 2016) for instance PEOU and PU (Mohammadi, 2015; Shaikh & Karjaluoto, 2015; Aldás-Manzano, Ruiz-Mafé, & Sanz-Blas, 2009; Shin, 2009; Jung, Perez-Mira, & Wiley-Patton, 2009) relative advantage, compatibility (Hsu, Lu, & Hsu, 2007; Chen, Yen, & Chen,

IRJAES INTRACTOR OF THE PROPERTY OF THE PROPER

International Research Journal of Advanced Engineering and Science

ISSN (Online): 2455-9024

2009; Wu & Wang, 2005) and interactivity (T. Lee, 2005) while few research also studied the barriers which could hinder the adoption of M-banking (Mohammadi, 2015). Studies have shown that certain factors such as resistance and risk can negatively influence the attitude and intention to adopt mobile banking (Mohammadi, 2015). However, only a few studies have been carried out in which adoption of M-banking is investigated in developing countries(Al-Somali, Gholami, & Clegg, 2009; Afshan & Sharif, 2016; Mohammadi, 2015). (Liao & Cheung, 2002) even made an invariance analysis concluding that TAM is a well suitable instrument for evaluating Internet banking acceptance, but also that the suitability is independent of the respondent characteristics such as gender, age and information technology competence. Therefore, there were no sufficient studies conducted to investigate Perceived Ease of Use on customers adoption to Use Mobile Banking Services and also whether there are differences in Perceived Ease of Use on the customer adoption to mobile banking services based on age of the respondents.

Considering above evidences, the researcher of this study would intend to conduct a research in order to fulfil the empirical knowledge gaps in connection effect of Perceived Ease of Use on Customers Adoption to Use Mobile Banking Services.

A. Research Objectives

- To identify the level of Perceived Ease of Use in the use of Mobile Banking Services in Trincomalee District.
- To identify the level of Customers Adoption to use Mobile Banking Services in the use of Mobile Banking Services in Trincomalee District.
- To examine the relationship between Perceived Ease of Use and Customers Adoption to use Mobile Banking Services in Trincomalee District.
- To evaluate the impact of Perceived Ease of Use on Customers Adoption to use Mobile Banking Services in Trincomalee?
- To identify whether there are differences among different age group of people on the Perceived Ease of Use of Mobile Banking Services in Trincomalee?

III. LITERATURE REVIEW

At the moment, the rapid growth and innovation in technology, including the introduction of mobile phones, has created various opportunities for the potential business which can be utilized (Barnes & Corbitt, 2003). Considering the innovations in the financial sector, mobile banking (Mbanking) is one of those inventions which has made the life of the consumers much easier by adding the immense flexibility in the consumption of services and by allowing them an easy access to the banking services even in the regions with less economic growth (Raza & Hanif, 2013; Oliveira, Faria, Thomas, & Popovič, 2014; Van Der Boor, Oliveira, & Veloso, 2014; Anderson, 2009). Financial institutions, helped by these technological advancements, have reacted to the challenges by embracing a new tactic which focuses on the attempt to create customer satisfaction by proposing advanced good services

while simultaneously cutting the operational cost (Sadiq Sohail & Shanmugham, 2003).

M-banking, also known as cell phone banking, is the utilization of mobile terminals like cell phone and handheld devices to approach financial networks through wireless application protocol (Zhou et al., 2010). Consumers of M-banking can easily access the services of banks like transfer of funds, information inquiry, bill payment, etc. (Luarn & Lin, 2005) Consumers of M-banking can carry out banking activities like obtaining the real-time information about their accounts or making payments whenever and wherever they want (Zhou et al., 2010). According to (Shaikh & Karjaluoto, 2015) M-banking is the product and facility proposed by a financial institute (bank), a microfinance organization or a mobile network operator for carrying out many monetary (fund transfer) and non-monetary (balance inquiry) dealings through mobile devices.

Perceived Ease of Use as explained by (Davis, 1989) and (V Venkatesh & Davis, 2000) is the extent to which the use of M-banking is free of effort. It is actually the opinion of an individual's assessment of the effort utilized on account of using a technology (Davis, 1989). PEOU can also be described as people's perception about the use of technology that it would be without mental stress and people would not need to allocate much of their time and efforts while using the technology. PEOU influences the viewpoint of an individual towards using a technology (Rauniar, Rawski, Yang, & Johnson, 2014). Ease of use will reduce the effort (both time and energy) individual within the study of information Technology (Pranidana, 2011). (Davis, 1989) gives some indicators of the ease of use of Information Technology include: 1) Information technology is very easy to learn; 2) Information Technology easily do what is desired by the user; 3) Skills users will grow by using Information Technology; 4) Information Technology is very easy to operate.

According to the (Lichtenstein & Williamson, 2006) Several converging reference domains and theories suggest numerous potential influences on consumer adoption of E-Banking, including theories of consumer behaviour in mass media choice and use, gratification theories, innovation diffusion, technology acceptance, online consumer behaviour, online service adoption, service switching costs and the adoption of E-Banking. The adoption of E-Banking, a form of trusting behaviour, means that a consumer is "taking" risk, since he puts himself in a possibly vulnerable situation according (K. K. Kim & Prabhakar, 2000). Based on (Frambach & Schillewaert, 2002) The adoption theory generally refers to the decision of any individual or organization to make use of an and it was found that Internet adoption in firms can be based on the perceived characteristics (Bultum, 2014) was mentioned that of the innovation. Different forms of E-banking system are as Automated Teller Machines (ATM), Point-of-Sale Transfer Terminals (POS), Internet / extranet banking, Mobile banking.

(Ongkasuwan & Tantichattanon, 2002) defined Internet banking as a banking service that allow customers to access and perform financial transactions on their bank accounts with their computers via an Internet connection. Internet banking



ISSN (Online): 2455-9024

includes a system that enables customers of financial institutions, individuals, or businesses to access accounts, transact business, or obtain information on financial products and services on public or private networks including the Internet (Khan, 2007). (B.-M. Kim, Widdows, & Yilmazer, 2005) defined Internet banking as an act of conducting financial intermediation on the Internet. (Mansumitrchai & N. AL-Malkawi, 2011) highlighted eight characteristics of the adoption of Internet Banking, namely; difficulty, trust, compatibility, third party concerns, human contact, and social influence, security, and computer proficiency.

(Amin H., 2007) developed a technology acceptance model for Internet banking, a conceptual framework, to explain the factors influencing undergraduate students' acceptance of Internet banking in Malaysia. According to (Premarathne & Gunatilake, 2016) the theoretical framework of the research was based on modified version of the Technology Acceptance Model (TAM) which employs perceived usefulness (PU), perceived ease of use (PEOU), perceived credibility (PC), and computer self-efficiency (CSE) whereas PU, PEOU, and PC had a significant relationship with behavioural intention. (Chan & Lu, 2006) investigated adoption/use behaviour within the context of Hong Kong Internet banking services.

IV. METHODOLOGY

This study quantitatively measures the effect of Perceived Ease of Use on Customer Adoption of the Mobile Banking Services. Also, it attempts to analyse whether there are any differences in adoption to mobile banking based on age of the respondents. Mobile banking customers who are in Trincomalee District are the participants of this study. Initially 200 questionnaires were provided using simple random sampling technique of which 189 questionnaires were properly completed and utilised for the data analyse of this study. The survey questionnaire was adopted from online and modified according to the context of the study. Furthermore, questionnaire was distributed using online google form and shared the link through social media such as Facebook, WhatsApp so on and paper-based questionnaire was also used for the respondents who cannot be accessible through internetbased platforms.

Altogether ten items were used to measure Perceived Ease of Use and Customer Adoption on Mobile Banking Services and respondents needed to select one of those number from the Likert Scale which ranking from 5- Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree, and to 1- Strongly Disagree. Since the respondents are diverse in the language English and Tamil were used so that to increase the validity of the survey. A part from the survey questions seven questions were asked to identify and examine the demographic characteristics of the respondent. In addition, at the time of issuing questionnaires respondents were asked whether they used mobile banking services at least once. If the answer is yes then only questionnaires were provided to increase the validity. Univariate, Bivariate, Regression Analysis and One-way-Anova Test were used to analyse hypothesis.

Figure 1 portrays the conceptual framework of this study. This includes Perceived Ease of Use as the independent variable and Customer Adoption of Mobile Banking Services as the Dependant Variable.



Fig. 1: Conceptual Framework

Below mentioned hypotheses were formed for the data analysis based on the following literature.

- H1a: Perceived Ease of Use has significant impact on Customers Adoption to use Mobile Banking Services.
- H2a: Perceived Ease of Use significantly differs across different age group.

A number of physical changes associated with the aging process, such as decline in sensory and motor skills, cause delays in learning of web skills (Van de Watering, 2007). Even when the level of computer and Internet experience is controlled for, older adults experience significantly more usability issues on the Internet than younger adults (Chadwick-Dias, McNulty, & Tullis, 2003).

A considerable number of studies have found that younger adults have greater intention to adopt new technologies compared to older adults (Morris & Venkatesh, 2000; Michael G. Morris, Venkatesh, & Ackerman, 2005). Older adults are often slower in adjusting to technological changes as habits become stronger with age((Harrison & Rainer, 1992; Majchrzak & Cotton, 1988). (Modahl, 2000) suggests that older adults are less likely to adopt a new technology due to a sceptical attitude toward technology compared to their younger counterparts. Similarly, older adults are more reluctant to try out new technologies (Gilly & Zeithaml, 1985; Phillips & Sternthal, 1977) and purchase new technological devices. Thus, adoption rate of older adults to mobile banking services significantly differs from the newer adults.

V. FINDINGS AND DISCUSSION

To prove the internal consistency of the data reliability test will be conducted. Cronbach's Alpha Coefficient would be recommended to measure the internal consistency of the instrument. Cronbach's Alpha coefficient will lie in between Zero and one. It close to the one which indicates the stronger internal consistency. Table 1 shows the Reliability Analysis using Cronbach Alpha Coefficient values whereas Perceived Ease of Use and Customer Adoption of Mobile Banking was 0.850, 0.721 respectively. This indicates that there is a strong internal consistency and also it is evidenced that the instrument is reliable to conduct the survey.

TABLE 1: Reliability Analysis

Variable	Cronbach's Alpha Coefficient
Perceived Ease of Use	0.850
Customer Adoption	0.721

Table 2 portrays One-Way Frequency Table for demographic characteristics. Based on the above tablein 189



ISSN (Online): 2455-9024

collected questionnaires 85 were female which is 45 percent and 104 were male which is 55 percent. Age group lies between 20 to 40 is 60.3 percent, 41 to 60 is 33.9 percent and above 60 is 5.8 percent. Based on the Education Level majority of the respondents as a percentage 42.3 percent were passed General Certificate of Education in Advanced Level. Also, 44.4 percent of respondents are occupying in government jobs and 2.1 percent are job-less. Based on the income level 42.9 percent of respondents are earning more the 20,000 Rupees as the monthly salary as per the (Rajaratnam, 2019).

TABLE 2: One- way Frequency Table for Demographic Variables

Demograpl	hic Variables	Frequency	Percentage
Gender	Female	85	45.0
Gender	Male	104	55.0
	20 - 40	114	60.3
Age Group	41 – 60	64	33.9
	Above 60	11	5.8
	Executive Level	13	6.9
	Student	30	15.9
Occupation	Government	84	44.4
	Retired	9	4.8
Occupation	Business	17	9.0
	Agricultural Sector	8	4.2
	Unemployed	8	4.2
	Private sector	24	12.7
	Ordinary Level (O/L)	30	15.9
Education	Advanced Level (A/L)	80	42.3
	Diploma Level	27	14.3
	Degree Level	52	27.5

Especially Table 3 shows Contingency table for gender & Perceived Ease of use More than 70 percent of the people agreed on ease of use and user friendliness of the mobile banking services whereas around 30 percent approximately 56 respondents find still difficulties in using mobile banking services.

TABLE 3: Contingency table for gender & Perceived Ease of use

Gender		Perceived Ease of Use					Total		
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree			
Gender	Male	2	3	18	31	31	85		
Gender	Female	0	8	25	40	31	104		
To	tal	2	11	43	71	62	189		

According to the Table 4, the descriptive statistic suggests that there are high level of Perceived Ease of use and customer adoption to mobile banking with mean score of 3.6746 and 3.6173 with the variance of 0.835 and 0.813 respectively.

According to Table 4.1 Descriptive Statistics for Perceived Ease of use and customer adoption based on the age group portrays mean values. Whereas it significantly differs across different age group of respondents. Age group 20-40 has high level of mean values for Perceived Ease of Use and Customer adoption to mobile banking services and respondents who are above 60 has relatively low level of mean

values for Perceived Ease of Use and Customer adoption to mobile banking services. Since the sample size of the age group defined as 20 -40 and 41-60 is so large Shapiro-Wilk test (Table-5) for normality would not be recommended.

TABLE 4: Descriptive Statistics for Perceived Ease of use and customer adoption

Descr	iptive Statistics	Perceived Ease of Use	Customer Adoption
N	Valid	189	189
11	Missing	2216	2216
	Mean	3.6746	3.6173
	Median	4.0000	3.6667
	Mode	4.00	4.00
St	d. Deviation	.91381	.90175
	Variance	.835	.813
	Skewness	645	421
Std. E	rror of Skewness	.177	.177
	Range	4.00	4.00
	Minimum	1.00	1.00
	Maximum	5.00	5.00

TABLE 4.1: Descriptive Statistics for Perceived Ease of use and customer adoption based on the age group

Age group Mean Perceived Ease of us		Mean for customer adoption
20-40	3.7741	3.7135
41-60	3.5703	3.5000
Above 60	3.2500	3.3030

Histograms will therefore become as the recommended test for normality and that suggest both the latter mentioned age groups follow a normal distribution. Age group named as Above 60 also follows normal distribution provided that p-value is greater than 5 percent significance level (0.204) > 0.05 for Shapiro-Wilk test. Therefore, there is no evidence to conclude that the variable does not follow normal distribution.

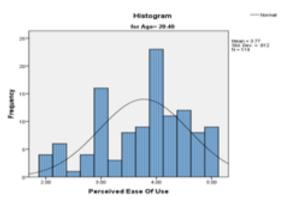


Fig. 2: Histogram for Perceived Ease of use for age group 20-40

TABLE 5: Test of Normality (Shapiro-Wilk)

A 60 6 moun	Shapiro-Wilk			
Age group		Statistic	df	Sig.
Perceived Ease of Use	20-40	.945	114	.000
	41-60	.941	64	.004
	Above 60	.903	11	.204

TABLE 6: Levene's Statistic for homogeneity of variances to test the equality of variances between the age groups

Levene Statistic	df1	df2	Sig.
2.711	2	186	.069



ISSN (Online): 2455-9024

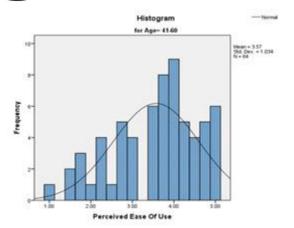


Fig. 3: Histogram for Perceived Ease of use for age group 41-60

Hypothesis:

 H_0 : There is equal variance assumed among different age group.

H₁: Equal variance is not assumed among different age group.

According to the Table 6 Levene's Statistic for homogeneity of variances to test the equality of variances between the independent groups P-value is greater than the 5 percent significance level ((0.069) > 0.05), there is no evidence to conclude that the equal variance is not assumed. To test whether all means are equal F-test of ANOVA will be recommended since equal variance assumed.

TABLE 7: F test of ANOVA

Groups	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.808	2	1.904	2.312	.000
Within Groups	153.180	186	.824		
Total	156.988	188			

Hypothesis

Gabriel test.

H₀: There is equal means assumed among different age group. H₁: Equal means are not assumed among different age group.

Table 7 F test of ANOVA whereas P-value is less than the 5 percent significance level (0.000) < 0.05) indicates that there is at least one mean value is different. Appropriate Post-hoc test will be conducted to identify which mean value is different. Since the sample size is different. Thus, recommended post hoc test for the pair-wise comparison is

TABLE 8: Gabriel Post-hoc test for different age group

(I)Age	(J) Age	Mean Difference (I-J)	Sig.
20-40	41-60	.20381	.030
20-40	Above 60	.52412	.020
41 – 60	Above 60	.32031	.019

TABLE 9: Summary table for mean analysis among age group

\mathbf{H}_{0}	\mathbf{H}_{1}	P-Value	Decision	Difference
$U_1 = U_2$	$U_1 = U_2$	0.030	Reject H ₀	$U_1 > U_2$
$U_1 = U_3$	$U_1 = U_3$	0.020	Reject H ₀	$U_1 > U_3$
$U_2 = U_3$	$U_2 = U_3$	0.019	Reject H ₀	$U_2 > U_3$

Table 9 portrays the Summary table for mean analysis among age group with the decision whereas U_1 , U_2 , U_3 stands mean value of age group 20-40, 41-60, Above 60 respectively

based on the Gabriel Post-hoc test for different age group. Therefore, it can be concluded that $U_1 > U_2 > U_3$. Respondents whose age fall in between 20 to 40 have relatively high mean value which evidences respondents perceive high level of perceived ease of use in other words they experience little difficulty in operating mobile banking services.

Figure 4 Means plot for Perceived Ease of Use for different age group graphically reveals that mean value among different age group significantly differs whereas respondents above 60 finds technical difficulties in operating mobile banking services. It is usual awareness that as the experience in mobile banking grows up the adoption rate will also tend to increase. But this result tends to conflicting. As it indicates as the respondents age servery determines the adoption rate.

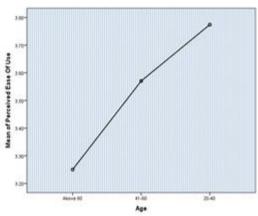


Fig. 4: Means plot for Perceived Ease of Use for different age group

Because respondents become over 60, they have relatively less mean value for the Perceived Ease of Use. This has been supported by few empirical result in few studies namely (Abeka, 2012; Karjaluoto, Mattila, & Pento, 2002).

There is a sufficient evidence to conclude that Perceived Ease of Use significantly differs across different age group according to the One-Way-ANOVA test. Therefore, above mentioned research hypothesis will be accepted based on the result of One-Way-ANOVA.

TABLE 10: Pearson's Correlation Coefficient for Perceived Ease of use and customer adoption on mobile banking services

De	Detail		Customer Adoption
Perceived	Pearson Correlation	1	.898**
Ease of Use	Sig. (2-tailed)		.000
	N	189	189
Customer	Pearson Correlation	.898**	1
Adoption	Sig. (2-tailed)	.000	
	N	189	189

To identify the relationship between Perceived Ease of Use and Customer Adoption on mobile banking services Pearson's Correlation Coefficient will be conducted. Table 10 displays Pearson's Correlation Coefficient (r) is 0.898 where the P-value is less than the significance level of 5 percent (0.000<



ISSN (Online): 2455-9024

0.05). This therefore concludes that there is a strong positive linear relationship exists between Perceived Ease of Use and Customer Adoption on mobile banking services.

According to the Table 11 the P-value for Perceived Ease of Use is less than the 5 percent significant level (0.000 <0.05). Hence Perceived Ease of Use significantly contributes to the model.

TABLE 11: Significance of the Model Coefficient for Perceived Ease of use and customer adoption on mobile banking

Model	Unstandardized Coefficients		Std. Coefficients	t	Sig.
	В	Std. Error	Beta		
(Constant)	.363	.120		3.011	.003
Perceived Ease of Use	.886	.032	.898	27.838	000

a. Dependent Variable: Customer Adoption

The regression equation can be presented as,

Customer Adoption = 0.363 + 0.886 (Perceived Ease of Use)

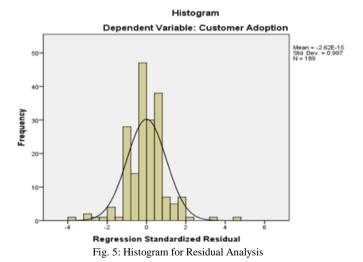
Thus, for every unit increase in Perceived Ease of Use, Customer Adoption will increase by 0.886 units.

TABLE 12: Test for Model Adequacy

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.898 ^a	.806	.805	.39864

- a. Predictors: (Constant), Perceived Ease of Use
- b. Dependent Variable: Customer Adoption

According to the Table 12 model summary R² is 0.806 means that the fitted regression model explains 80.6% of the variation in Customer Adoption. Therefore, the model is adequate.



Based on the Figure 5 Histogram for Residual Analysis portrays that residual is symmetrical and bell shaped. Therefore, the assumption of the normality for the residual term is met. In the Figure 6 residual plot presented shows all points lie within \pm 3.3 are randomly scattered in a horizontal

band around a residual value of zero. Therefore, linearity and constant variance assumptions are met.

Scatterplot

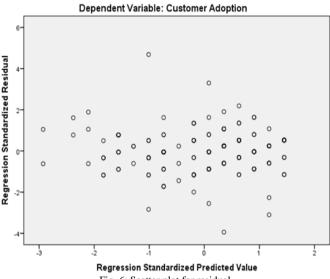


Fig. 6: Scatter plot for residual

Therefore, regression equation can be used to predict the customer adoption.

Customer Adoption = 0.363 + 0.886 (Perceived Ease of Use)

CONCLUSION AND LIMITATION

As the summary it can be concluded that there is a strong positive correlation between Perceived Ease of Use has the and customer adoption to use mobile banking services and based on the simple regression analysis Perceived Ease of Use can be considered as an significantly influencing factor to induce the customer adoption rate on the mobile banking usage. One-Way-Anova states that the mean value for Perceived Ease of Use significantly differs among different age group specifically age group above 60 has relatively low mean value as per the Figure 4: Means plot for Perceived Ease of Use for different age group. As the user friendliness or Perceived Ease Use on the usage of mobile banking services increases customer adoption rate will also increase. Thus, it is recommended for state banks and private banks to focus on to reduce the difficulties faced by customers when deal with mobile banking services. Especially customised applications specifically cater the needs of age group above 60. And make them familiar and comfortable in the usage of mobile banking is main responsibility of every banks around Sri Lanka.

This study is approximately limited to the period of 2018 to 2021. After that due to the changes in macro-economic factors these results may subject to change. Also, it focuses only on Trincomalee district. Thus, generalisation of the result to Sri Lanka as a whole will not be appropriate. Therefore, future studies can be possible to evolve using the limitation of this study. Future researchers can focus on different geographic region in Sri Lanka as well as foreign countries. Correspondingly various factors such as Perceived Trust, Security, Social Influences, Risk, Usefulness and Personal



ISSN (Online): 2455-9024

Preferences can be added to the frame work to evaluate the differences among respondents based on age, gender educational status so on. Also, mediation and moderation effect can be added based on different variables.

REFERENCES

- [1] Abeka, S. O. (2012). Perceived Usefulness, Ease of Use, Organizational and Bank Support As Determinants of Adoption of Internet Banking in East Africa. *International Journal of Academic Research in Business and Social Sciences*, 2(10), 2222–6990.
- [2] Afshan, S., & Sharif, A. (2016). Acceptance of mobile banking framework in Pakistan. *Telematics and Informatics*, 33(2), 370–387. https://doi.org/10.1016/j.tele.2015.09.005
- [3] Al-Jabri, brahim M., & Sohail, M. S. (2012). Mobile banking adoption: Application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13(4), 379–391.
- [4] Al-Somali, S. A., Gholami, R., & Clegg, B. (2009). An investigation into the acceptance of online banking in Saudi Arabia. *Technovation*, 29(2), 130–141. https://doi.org/10.1016/j.technovation.2008.07.004
- [5] Alalwan, A. A., Dwivedi, Y. K., Rana, N. P. P., & Williams, M. D. (2016). Consumer adoption of mobile banking in Jordan: Examining the role of usefulness, ease of use, perceived risk and self-efficacy. *Journal of Enterprise Information Management*, 29(1), 118–139. https://doi.org/10.1108/JEIM-04-2015-0035
- [6] Aldás-Manzano, J., Ruiz-Mafé, C., & Sanz-Blas, S. (2009). Exploring individual personality factors as drivers of M-shopping acceptance. *Industrial Management & Data Systems*, 109(6), 739–757. https://doi.org/10.1108/02635570910968018
- [7] Ali, M., & Raza, S. A. (2017). Service quality perception and customer satisfaction in Islamic banks of Pakistan: the modified SERVQUAL model. *Total Quality Management and Business Excellence*, 28(5–6), 559–577. https://doi.org/10.1080/14783363.2015.1100517
- [8] Amin H. (2007). Internet Banking Adoption Among YoungIntellectuals. *Journal of Internet Banking and Commerce*, 12(3), 1–11. https://doi.org/10.1007/978-3-531-92534-9_12
- [9] Anderson, J. (2009). M-banking in developing markets: Competitive and regulatory implications. *Info*, 12(1), 18–25. https://doi.org/10.1108/14636691011015358
- [10] Barnes, S. ., & Corbitt, B. (2003). Mobile banking: concept and potential', International Journal of Mobile Communications. 1(3), 273– 288.
- [11] Bultum, A. G. (2014). Factors Affecting Adoption of Electronic Banking System in Ethiopian Banking Industry. *Journal of Ma Manag. Inf. Syst.* E-Commerce, 1(1), 1–17.
- [12] Chadwick-Dias, A., McNulty, M., & Tullis, T. (2003). Web usability and age: How design changes can improve performance. ACM Conference on Universal Usability, 30–37.
- [13] Chan, S. C., & Lu, M. Te. (2006). Understanding internet banking adoption and use behavior: A Hong Kong perspective. Advanced Topics in Global Information Management, 5, 308–330. https://doi.org/10.4018/978-1-59140-923-6.ch014
- [14] Chen, J. V., Yen, D. C., & Chen, K. (2009). The acceptance and diffusion of the innovative smart phone use: A case study of a delivery service company in logistics. *Information and Management*, 46(4), 241– 248. https://doi.org/10.1016/j.im.2009.03.001
- [15] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly: Management Information Systems, 13(3), 319–339.
- [16] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. *Journal of Applied Social Psychology*, 22(14), 1111–1132. https://doi.org/10.1111/j.1559-1816.1992.tb00945.x
- [17] Fishbein, M. (1967). Readings in Attitude Theory and Measurement. New York: John Wiley & Sons, 389–400. https://doi.org/10.1007/978-3-642-51565-1 25
- [18] Frambach, R. T., & Schillewaert, N. (2002). Organizational innovation adoption: A multi-level framework of determinants and opportunities for future research. *Journal of Business Research*, 55(2), 163–176. https://doi.org/10.1016/S0148-2963(00)00152-1
- [19] Gilly, M. C., & Zeithaml, V. A. (1985). The Elderly Consumer and Adoption of Technologies. *Journal of Consumer Research*, 12(3), 353–

- 357.
- [20] Gu, J. C., Lee, S. C., & Suh, Y. H. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications*, 36(9), 11605–11616. https://doi.org/10.1016/j.eswa.2009.03.024
- [21] Hanafizadeh, P., Keating, B. W., & Khedmatgozar, H. R. (2014). A systematic review of Internet banking adoption. *Telematics and Informatics*, 31(3), 492–510. https://doi.org/10.1016/j.tele.2013.04.003
- [22] Harrison, A. W., & Rainer, R. K. (1992). The influence of individual differences on skill in end-user computing. *Journal of Management Information Systems*, 9(1), 93–111. https://doi.org/10.1080/07421222.1992.11517949
- [23] Hsu, C. ., Lu, H. ., & Hsu, H. . (2007). Adoption of the mobile Internet: an empirical study of multimedia message service (MMS). *Omega*, 35(6), 715–726.
- [24] Jung, Y., Perez-Mira, B., & Wiley-Patton, S. (2009). Consumer adoption of mobile TV: Examining psychological flow and media content. *Computers in Human Behavior*, 25(1), 123–129. https://doi.org/10.1016/j.chb.2008.07.011
- [25] Karjaluoto, H., Mattila, M., & Pento, T. (2002). Factors underlying attitude formation towards online banking in Finland. *International Journal of Bank Marketing*, 20(6), 261–272. https://doi.org/10.1108/02652320210446724
- [26] Khan, S. (2007). Adoption Issues of Internet Banking in Pakistani 'Firms. Lulea University of Technology, 1–101.
- [27] Kim, B.-M., Widdows, R., & Yilmazer, T. (2005). The determinants of consumers' adoption of internet banking. *Purdue University*. *Unpublished Paper*.
- [28] Kim, K. K., & Prabhakar, B. (2000). Initial trust, perceived risk, and the adoption of internet banking. *Icis*, 537–543. https://doi.org/2000-12-10
- [29] Lee, K. S., Lee, H. S., & Kim, S. Y. (2007). Factors Influencing the Adoption Behavior of Mobile Banking: A South Korean perspective. The Journal of Internet Banking and Commerce, 6(2), 1–9. Retrieved from http://www.icommercecentral.com/open-access/factorsinfluencing-the-adoption-behavior-of-mobile-banking-a-south-koreanperspective.php?aid=38487
- [30] Lee, T. (2005). The Impact of Perceptions of Interactivity on Customer Trust and Transaction Intentions in Mobile Commerce. *Journal of Electronic Commerce Research*, 6(3), 165.
- [31] Liao, Z., & Cheung, M. T. (2002). Internet based e-banking and customer attitudes: an empirical study. *Information & Management*, 39, 283–295
- [32] Lichtenstein, S., & Williamson, K. (2006). Understanding Consumer Adoption of Internet Banking: an interpretive study in the Australian Banking Context. *Journal of Electronic Commerce Research*, 7(2), 50– 66. https://doi.org/10.1108/17410391011036085
- [33] Lu, M. T., Tzeng, G. H., Cheng, H., & Hsu, C. C. (2015). Exploring mobile banking services for user behavior in intention adoption: using new hybrid MADM model. *Service Business*, 9(3), 541–565. https://doi.org/10.1007/s11628-014-0239-9
- [34] Luarn, P., & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in Human Behavior*, 21(6), 873–891. https://doi.org/10.1016/j.chb.2004.03.003
- [35] Majchrzak, A., & Cotton, J. (1988). A longitudinal study of adjustment to technological change: From mass to computer-automated batch production. *Journal of Occupational Psychology*, 61(1), 43–66. https://doi.org/10.1111/j.2044-8325.1988.tb00271.x
- [36] Mansumitrchai, S., & N. AL-Malkawi, H.-A. (2011). Factors Underlying the Adoption of Online Banking by Mexican Consumers. International Journal of Business and Management, 6(9), 155–169. https://doi.org/10.5539/ijbm.v6n9p155
- [37] Modahl, M. (2000). Now or never: how companies must change today to win the battle for Internet consumers. In *Choice Reviews Online* (Vol. 37). https://doi.org/10.5860/choice.37-4588
- [38] Mohammadi, H. (2015). A study of mobile banking usage in Iran. *Marketing Intelligence and Planning*, 33(6), 733–759. https://doi.org/10.1108/IJBM-08-2014-0114
- [39] Morris, M. G, & Venkatesh, V. (2000). Age Differences in Technology Adoption Decisions: Implications for a Changing Work Force. Personnel Psychology, 53(2), 375–403. https://doi.org/10.1111/j.1744-6570.2000.tb00206.x
- [40] Morris, Michael G., Venkatesh, V., & Ackerman, P. L. (2005). Gender and age differences in employee decisions about new technology: An



ISSN (Online): 2455-9024

- extension to the theory of planned behavior. *IEEE Transactions on Engineering Management*, 52(1), 69–84. https://doi.org/10.1109/TEM.2004.839967
- [41] Oliveira, T., Faria, M., Thomas, M. A., & Popovič, A. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. *International Journal of Information Management*, *34*(5), 689–703. https://doi.org/10.1016/j.ijinfomgt.2014.06.004
- [42] Ongkasuwan, M., & Tantichattanon, W. (2002). A comparative study of internet Banking in Thailand. *Proceedings Of*, 24–25.
- [43] Phillips, L. W., & Sternthal, B. (1977). Age Differences in Information Processing: A Perspective on the Aged Consumer. *Journal of Marketing Research*, 14(4), 444–457. https://doi.org/10.2307/3151185
- [44] Pranidana, S. A. (2011). Analisis Faktor-faktor yang Mempengaruhi Minat Nasabah untuk Menggunakan. *Undergraduate Thesis, Diponegoro Univesity, Seamarang*.
- [45] Premarathne, W., & Gunatilake, M. M. (2016). Consumer Adoption of Internet Banking in Sri Lanka. *International Journal of Advanced Research*, 4(11), 758–765. https://doi.org/10.21474/ijar01/2142
- [46] Rajaratnam, A. (2019). The Factors Influencing on Internet Banking Adoption in Sri Lanka. *International Research Journal of Advanced Engineering and Science*, 4(1), 160–164.
- [47] Rauniar, R., Rawski, G., Yang, J., & Johnson, B. (2014). Technology acceptance model (TAM) and social media usage: An empirical study on Facebook. *Journal of Enterprise Information Management*, 27(1), 6–30. https://doi.org/10.1108/JEIM-04-2012-0011
- [48] Raza, S. A., & Hanif, N. (2013). Factors affecting internet banking adoption among internal and external customers: a case of Pakistan. *International Journal of Electronic Finance*, 7(1), 82. https://doi.org/10.1504/ijef.2013.051746
- [49] Sadiq Sohail, M., & Shanmugham, B. (2003). E-banking and customer preferences in Malaysia: An empirical investigation. *Information Sciences*, 150(3–4), 207–217. https://doi.org/10.1016/S0020-0255(02)00378-X
- [50] Shaikh, A., & Karjaluoto, H. (2015). Mobile banking adoption: A

- literature review. *Telematics and Informatics*, 32(1), 129–142. https://doi.org/10.1016/j.tele.2014.05.003
- [51] Shin, D. H. (2009). Understanding user acceptance of DMB in South Korea using the modified technology acceptance model. *International Journal of Human-Computer Interaction*, 25(3), 173–198. https://doi.org/10.1080/10447310802629785
- [52] Thong, J. Y. L., Hong, S. J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. *International Journal of Human Computer Studies*, 64(9), 799–810. https://doi.org/10.1016/j.ijhcs.2006.05.001
- [53] Van de Watering, M. (2007). The impact of computer technology on the elderly. Retrieved from http://www.few.vu.nl/~rvdwate/%0AHCI_Essay_Marek_van_de_Wateri ng.pdf.
- [54] Van Der Boor, P., Oliveira, P., & Veloso, F. (2014). Users as innovators in developing countries: The global sources of innovation and diffusion in mobile banking services. *Research Policy*, 43(9), 1594–1607. https://doi.org/10.1016/j.respol.2014.05.003
- [55] Venkatesh, V, & Davis, F. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*, 46(2), 186–204.
- [56] Venkatesh, Viswanath, Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly: Management Information Systems, 27(3), 425– 478
- [57] Wu, J. H., & Wang, S. C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. Information and Management, 42(5), 719–729. https://doi.org/10.1016/j.im.2004.07.001
- [58] Zhou, T., Lu, Y., & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior*, 26(4), 760–767. https://doi.org/10.1016/j.chb.2010.01.013