

# A Study on Finding the Factors, Hindering the use of Digital Wallets among Youth in Developing Countries

Athukoralage Tharindi Nimansa<sup>1</sup> and Dr. N. Kuruwitaarachchi<sup>2</sup>

<sup>1</sup> Sri Lanka Institute of Information Technology

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## Abstract

A digital wallet or eWallet is a mobile base software application that securely persists consumer's payment information and passwords for numerous payment methods. By using an eWallet, users can complete their transactions easily and quickly with technologies such as Quick Response (QR) and near-field communications (NFC). In the modern world, people use digital wallets to engage in financial and non-financial activities using the internet. It stores physical financial instruments digitally and provides high availability to convenience to the user. Typically, to facilitate high security to those financial assets, in the digital wallet of the user, and to maintain reliability and availability, mobile application developing organizations follow different authorization mechanisms. Problem prevailing in a developing country similar to Sri Lanka is the less use of digital wallets in day to day transactions. The final outcome of the research will be to find the factors which affect the use of digital wallets in Sri Lankan students who study in western province universities.

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**Index terms**— eWallet, digital wallet, UTAUT-3, Unified theory of acceptance and use of technology, user adoption, behavioral intention

## 1 Introduction

Information systems and processes in the Corporate environment are rapidly evolving and often subjected to digitalization [1]. In a digital era, more focus is driven towards innovations in financial processes. Organizations in third world countries like Sri Lanka are following a traditional method of transaction settlement [2]. Studies say that Sri Lankans use their debit cards/ account pass books to withdraw their money and use physical cash for their daily expenses and the percentage use of new applications such as mobile cash and online banking has been less than 01% and comparatively insignificant [2]. Employees in the country who have an educational level of GCE Advanced Level and above display a contrast in the previously stated behavior in handling their expenses due to the increase of computer literacy. As per Computer Literacy Statistics -2018 (First six months) Department of Census and Statistics Sri Lanka, a person (aged 5-69) is considered as a computer literate person if he/she could use a computer on his/her own. For example, even if a 5 years old child can play a computer game then he/she is considered as a computer literate person [6]. The statistic also demonstrates that the computer literacy of individuals who have an educational level of GCE Advanced Level and above, is 70% [6]. They tend to use digital banking; wallets and they follow a minimal use of physical cash. Mobile wallets have numerous advantages for the customer as well as the merchant and the most significant benefits are the time saved and the ease of use.

Mobile wallets are one of the prepaid payment instruments [7]. Further, it is a digital alter-ego of the physical wallet [12]. Digital Wallet is a mobile application which allows its consumers to perform electronic financial transactions, just as they hold their physical wallet with cash, debit cards, credit cards, pre-paid cards driver's license, transportation passes etc. Digital wallets allow the user to carry almost everything that a physical wallet does.

## 4 TABLE 1: WALLET USAGE GAP IN SRI LANKA COMPARED TO OTHER COUNTRIES

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At the initial stage of introducing digital wallets to the consumers, banking industry researchers predicted that mobile wallets would rapidly replace consumer's use of cash and plastic cards. The mobile wallets haven't exactly taken off as per the prediction. Consumers are interested in using the mobile wallets, but the reality is that mobile wallets still need improvements to convert into a widespread product. Studies in Sri Lanka shows that embracing or use of digital banking and mobile banking except ATM services by consumers is less than 01% [23]. This percentage is insignificant and Motivation behind this is to find out the preference towards mobile wallets, of a selected sample of consumers in Sri Lanka.

According to the statistics in Tencent 2019 WeChat and AliPay Digital wallets have the highest number of active users which exceeds One Billion users. The next in line is PayPal which has 250 million active users. [1] According to a study done on Impact of ewallets for current generation, [44] following advantages and impact those factors create on current generation is identified.

1. Offers more convenience for many consumers (33.3%) 2. Offer access to new rewards (22.2%) 3. Help you with your Budget (17.8) 4. Can be paid to other services (14.4%) 5. High availability (12.2%)

The statistics showed that Sri Lanka being a developing country has high computer literacy when educated population is considered (GCE Advanced Level or above) and Sri Lankans currently use other latest digital finance services.

## 2 II.

## 3 Literature Review

As per the world development report background papers, the number of young people is reaching unprecedented levels in most developing countries [52]. In many countries, especially in East Asia and Latin America, youth populations are at or near their peak [52]. Sri Lanka is considered as a developing country and as per the world bank reports on Sri Lanka, it is a lower middle income country with an average per person GDP of USD 3,852 and a total population of 21.8 million.

Since the youth represents the future of a country, behaviour of youth towards technology reflects a country's adoption to the same. The youth population in Sri Lanka is estimated to be around 4.4 million or 23% of the total population based on 2012 statistics.

It is shown that eWallet usage needs specific technological skills or computer literacy. Since mostly educated youth are computer literate, this study will be conducted among the university students in Sri Lanka. Highest number of universities are located in western province of Sri Lanka and in my point of view finding the factors, hindering the use of digital wallets among youth in developing countries will be clearly reflected through the responses of Sri Lankan students, who study in universities located in western province of the country.

The mode of delivering services to the customers by financial institutions has changed over the years and the use of information and telecommunication technologies within the financial industry shows an explosive growth. A Journal by an Indian author Bhagyashri R. Pachpande and Aakash Kamble states that the Senior President of Yes Bank said "Prepaid wallets will increasingly replace cash in the near future. The debit and credit cards will not be replaced, but those instruments will be used for specific requirements and micro transactions". Hence it is known that the digital wallets are gradually replacing the traditional transaction mechanisms [3]. A study by the Faculty of Management and Commerce, South Eastern University of Sri Lanka shows that there are 25 commercial banks both state and non-state throughout the country [2]. Nearly all the banks in Sri Lanka provide mobile banking applications and some of the Banking and non-banking institutions provide digital wallets as well.

Due to the unavailability of reliable sources to identify the exact number of digital wallet users in Sri Lanka, the total wallet downloads of each wallet application through Google play is considered. Considering the top five digital wallet applications in Sri Lanka, an average will be derived. According to the annual reports of Lanka Pay, there are five main issuer banks/financial organizations which have enabled JustPay. JustPay is one of the latest trends in payment products of LankaPay, which allows consumers to make retail payments upto Rs. 10,000 in value using smart mobile devices by transferring funds from their account(s) to the merchant's account directly [15]. Assuming that the active users will be in the highest downloaded digital wallet apps group of consumers, five sample apps are taken into consideration. The eWallet usage in Sri Lanka is approximately ~0.38%.

Using the above derived approximate percentage of wallet usage, the gap between the wallet usage of other eight countries and Sri Lanka is compared below [13].

## 4 Table 1: Wallet Usage Gap in Sri Lanka Compared to other countries

Studies conducted in Sri Lanka by researchers have discovered the issues related to Digital and mobile payments [2]. To identify the factors which affect the usage of digital wallets in Sri Lanka negatively, the famous model namely Unified Theory of Acceptance and Use of Technology (UTAUT-3) will be used.

Studies show that the adaptation of modern technology such as digital wallets, mobile banking, online banking etc other than ATM services in Sri Lanka is less than 1% which is very insignificant compared to the rest of the world [2]. When the low rate of 1% is "The study says, eWallet was something majority of people in India was not aware a few years back, but its use saw a huge leap in last couple of years with the surge of smart phones,

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103 high speed internet connectivity using 3G and 4G and the lucrative offers mobile wallets provide in India [7].”  
104 ”The stated study was an attempt to discover the preference towards eWallet among the students studying in  
105 various universities in a indian city called Lucknow city [7].”

106 The study says the majority of the students prefer to use an eWallet to make a recharge to their phone (23.15%)  
107 followed by paying bills (16.84%) and transferring money (15.78%). Avoiding long queues, independent purchase  
108 based on time and place, and paying instantly are the three important factors for the students to opt for mobile  
109 wallets in India. The study also states that 44% of those indian respondents strongly agree with the statement  
110 that they prefer to use other cashless payments methods also, out of all the respondents, 31.57% strongly agree  
111 that they are concerned about transaction safety. Further 40% of students disagree that the cost of data access  
112 is high and a similar percentage (40%) of them have no issue in trusting the online vendors.

113 The study also states that there is no significant association between the gender of the respondent and the  
114 opinion regarding the future of mobile wallet fails to reject. Study has discovered that Significant association  
115 is there between the age of the respondents and the opinion regarding the future of eWallet. From the data  
116 analysis, it is observed that convenience, promotions, direct billing, and prompt service are important, in that  
117 they have a significant impact on the dependent variable [50].

## 118 5 d) A Model of Factors Influencing Consumers Intention to 119 use E-Payment System in Indonesia

120 The study indicates that in recent years, electronic commerce (electronic commerce) in Indonesia has grown  
121 rapidly [51]. E-commerce has become an opportunity for businesses to increase their sales [51]. Electronic  
122 payment (electronic payment) was developed to facilitate e-commerce transactions between the consumer and  
123 the seller [51]. In this study, the researcher investigated the consumer’s intention to use electronic payment  
124 [51]. The proposed research model was developed by extending the Unified Theory of Acceptance and Use of  
125 Technology (UTAUT-3) with the culture and perceived safety in the model, to determine the significant factors  
126 that influence the acceptance of electronic payment technology [51]. The model proposed in the study is used to  
127 investigate the consumer’s intention to use the electronic payment system in Indonesia, based on UTAUT-3. He  
128 states that the factors of UTAUT-3 have a positive effect on the intention to use the electronic payment system  
129 [51].

130 The research indicates that the UTAUT model is a conceptual model that can be used to discover the factors  
131 which influence the user’s adoption to ecommerce.

## 132 6 III.

## 133 7 Methodology

134 To prove that the Digital wallets have not taken off as expected by the finance apps using community, a study  
135 should be conducted. Designing the study in an achievable manner and creating proper hypotheses should be  
136 done in the design phase.

137 I propose the model of factors influencing consumer’s intention to use eWallet application in Sri Lanka. The  
138 proposed model is based on UTAUT-3 to investigate consumer’s intention to use eWallet in Sri Lanka. Much  
139 research has been developed and modified based on the UTAUT-3 model to get variables that correspond to the  
140 context of their research.

## 141 8 a) Research Model

142 The objective of this study is to identify factors which affect the use of Digital Wallets in Sri Lankans. The  
143 UTAUT-3 model identifies user goal or intention and adaption as the main dependent variable. [27].

144 UTAUT-3 has constructs namely ”performance expectancy (PE), effort expectancy (EE), social influence (SI),  
145 Habit (HB), Hedonic Motivation (HM), Facilitating Conditions (FC), Personal innovativeness in the domain of  
146 IT (PI) and Price value (PV)”.

147 Primarily to identify the factors which affect the use of eWallets in Sri Lankans, a focus group discussion was  
148 done with ten individuals who are working in a FinTech company as Business Analysts. The discussion was held  
149 for 30 minutes and decided that for the research purpose; most suitable and relevant direct determinants are  
150 ”Performance Expectancy and Effort Expectancy”. The variables of SI, HB, HM, FC, PI, PV have been taken  
151 out due to its irrelevance to the context.

152 The two independent variables PE and EE are hypothesized to be determining the behavioral intention (BI)  
153 and behavior (UB) to the adoption of eWallet.

## 154 9 Performance Expectancy (PE):

155 Performance expectancy is defined as the degree to which an individual believes that using the system will help  
156 him or her to attain gains in job performance [27].

157 The user’s perception of how e-wallets would improve shopping convenience and efficiency is expected to  
158 influence the user’s adoption intentions. Previous Studies have confirmed a significant relationship between

159 performance expectations and technology adoption [47]. Therefore, it is hypothesized that; H 1 : PE influence  
160 user’s behavioral intention to use eWallet Effort Expectancy (EE): Effort expectancy is defined as the degree of  
161 ease associated with the use of the system [27].

162 Therefore, when a user feels that using an eWallet is easy and does not require physical cash or wallet,  
163 then the expectation of the effort becomes a strong predictor of the intention to use eWallet. Empirically,  
164 the link between expectation of effort and behavioral intention has been supported by many authors [46,  
165 [47]]. Therefore, it is hypothesized that; To measure Direct Determinants quantitative survey methodology  
166 will be used, in order to generate answers to the research questions by testing hypotheses. Data was collected  
167 using a questionnaire that was distributed through Google forms among the target population. This model  
168 establishes two key determinants of individual eWallet adoption, namely, performance expectancy (PE) and  
169 effort expectancy (EE), These factors are mediated by behavioral intention to use (BI) in understanding actual  
170 technology utilization behavior (Venkatesh et al., 2012). The extended UTAUT was named as UTAUT-3 with  
171 seven significant determinants of IS adoption behavior prediction but for this research only two of the direct  
172 determinants will be used.

### 173 10 c) Research Design

174 In this chapter, the process of conducting the research is explained. Deriving the hypothesis, population selection,  
175 sample selection and process of gathering data for final data analysis is described. ii. Select Population "The  
176 backbone of the Sri Lankan economy is formed by Small and Medium Enterprises (SMEs) which is an essential  
177 sector in a competitive and efficient market" [35]. According to statistics, Sri Lanka has nearly 230,000 business  
178 owners or entrepreneurs [34]. As per the 2017 LFS reports there are 300,855 Formal entrepreneurs in the  
179 agricultural sector and 279,990 Formal entrepreneurs in the non-agricultural sector [33]. Sri Lankan Government  
180 is planning to launch Innovation and Entrepreneurship Strategy in order to improve the existing low number of  
181 entrepreneurs and additionally, encourage the new businessmen by supporting financially and mentoring them  
182 [34]. Digital wallet usage by business founders is important in order to increase the wallet usage, since consumers  
183 cannot use a digital wallet when buying, if the merchant is not using a digital wallet. Hence identifying what a  
184 merchant requires through a digital wallet and what consumers expect from a digital wallet is important. In Sri  
185 Lanka successful businesses operated mostly by individuals who are graduates or post graduates. Statistics show  
186 that 73% of the Founders of Businesses are having a bachelor’s degree or above while 40% are from computer  
187 science background and 31% are from Business Background [39].

188 According to the Sri Lanka startup report 2019 the Technical skills and expertise is the factor which affects  
189 enabling of successful startups with 69% of impact [39]. As per the Sri Lanka start up report 2019, 33% Sri  
190 Lankan Startup Founders are between 25-29 [39]. According to the 2018 Startup Genome Report, the trend  
191 has changed in Sri Lanka and most entrepreneurs are the ones who have formal education, experience and whose  
192 median age is 39 years [39]. Due to the above stated reasons and existing statistics, in order to conduct the  
193 research on Finding the factors which affect the use of digital wallets in Sri Lanka, students who are studying at  
194 universities of Colombo District will be considered.

195 Population of the study comprised of the students studying in undergraduate, postgraduate and Ph.D programs  
196 of Western Province universities. According to the Department of Census and Statistics Sri Lanka, western  
197 province has the highest computer literacy in the country with 38.6% in 2017 [6].

### 198 11 iii. Sample

199 Since the population size for the study is above 500, a sample will be selected. Individuals will be selected  
200 independently of the other members of the population which will generate a random sample. According to UGC  
201 Statistics 2015, Universities and HEIs established under the Universities Act, According to the calculations, it  
202 is planned to collect 382 responses for the questionnaire to achieve a confidence level of 95% and 5% margin of  
203 error.

204 Gathering of data will be done through conducting an online survey to the selected random sample. Once  
205 gathered, the data will be analyzed to create useful information and it will be a quantitative analysis.

206 IV.

## 207 12 Conclusion and Future Research Directions

208 Adopting eWallet and related technologies improves the performance of SMEs. As explained in the research  
209 design, university students who have a high level of education have a higher potential for starting SMEs.  
210 Identifying the factors influencing e-wallet adoption through the responses of students studying at universities in  
211 the Western Province will undoubtedly become a major area of study in strategy and development. management  
212 of SMEs. The Western Province is a province which has many business-centric cities and has high computer  
213 literacy compared to other parts of the country. Conducting the study for the selected population using the  
214 conceptual model selected, will be beneficial for e-wallet developers and proprietary companies / banks, to focus  
215 more on the factors that affect eWallet use, and to provide functionality and features in eWallet, based on these  
216 factors.

217 The questionnaire will consist of three sections; the first section was intended to capture demographics of users;  
 218 the second section contained items capturing UTAUT-3 statements on a seven-point likert rating scale with end  
 219 points "strongly disagree" and "strongly agree" [46]. The third section was assigned to capture usage details and  
 220 experience.

221 As a contribution to the field of study, the above-mentioned factors can be tested through a pilot test and  
 222 provide insight to discover a plan to overcome information technology barriers in the implementation of the  
 solution. eWallet in companies. <sup>1</sup>

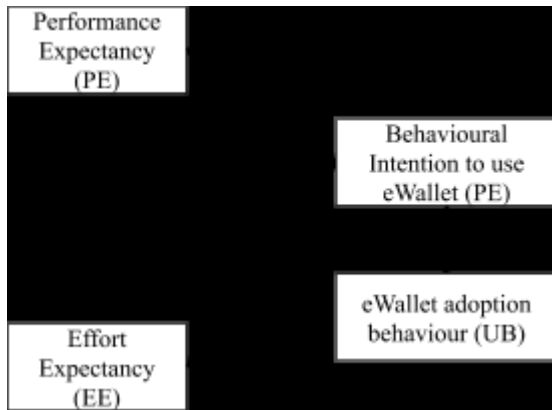


Figure 1: ”

Year 2021

( ) H

Country	Percentage (a)	Gap in Sri Lanka (a)-0.38%
China	47%	46.6200%
Norway	42%	41.6200%
UK	24%	23.6200%
Japan	20%	19.6200%
Australia	19%	18.6200%
Colombia	19%	18.6200%
United States	17%	16.6200%
Singapore	17%	16.6200%

a) eWallet usage in Sri Lanka

Figure 2:

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2

University Program (2015)	Number of Stu- dents
Total Undergraduate Admissions	36,582
Total Postgraduate Admissions	14,120
Total State University Students in Western Province	50,702

Assumptions

1. Average university admissions are approximately equal to admissions in 2015.

Exclusions

To calculate the sample size, following formula is used,

$$n = \frac{N * X}{(X + N - 1)},$$

where,

$$X = \frac{Z_{\alpha/2} * p * (1-p)}{MOE^2},$$

And  $Z_{\alpha/2}$  is the critical value of the Normal distribution at  $\alpha/2$  (e.g. for a confidence level of 95%,  $\alpha$  is 0.05 and the critical value is 1.96), MOE is the margin of error, p is the sample proportion, and N is the population size. Note that a Finite Population Correction has been applied to the sample size formula.

Figure 3: Table 2 :

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## 12 CONCLUSION AND FUTURE RESEARCH DIRECTIONS

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