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Factors Influencing the Usage of Mobile Self-Care Services of the Telecommunication Sector among Undergraduates in Sri Lanka

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ABSTRACT

Comparing with the situation before Covid-19, the telecommunication industry plays a vital role among the customers today in Sri Lanka. Rapid growth of technology has transformed traditional methods of paying bills, manage their own mobile, broadband, and TV services, check balances, transferring money, etc. handle by the mobile service providers into selfservice technologies managed by the customers themselves. To improve the services, provide by the telecommunication companies and to give better and unique experience to the customers, services providers are increasingly using the technology. Even if the telecom industry has introduced these convenient mobile self-care services, customers may not intend to use because of the trust issues, technological issues and behavioral reasons. Even though some researches have been carried out regarding factors affecting for the mobile money services, there is lack of researches have been carried out about m obile self-care services and this research is covering several districts in Sri Lanka regardless of particular area. Therefore, this is an empirical study on exploring the factors affecting to the usage of mobile money

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services among undergraduates in Sri Lanka. The data collection was carried out through a structured questionnaire distributed to 382 undergraduates of first 5 top ranking universities in Sri Lanka using convenience sampling method. Data was analyzed using quantitative data analysis techniques using SPSS software package. The findings of the study reveal that perceived usefulness, perceived trust, perceived risk and technology anxiety have a positive impact on usage of mobile self-care services.

Keywords: *Perceived Usefulness, Perceived Trust, Perceived Risk, Technology Anxiety, Usage of Mobile Self-Care Services*

INTRODUCTION

With the rapid growth of the technology, everything has changed than before including telecommunication industry. This technology h as transformed the business environment and significantly changed the way customers interact with service providers, shifting from “low tech, high touch” to “high tech, low touch” (Bitner, Brown, & Meuter, 2000). Individuals have transformed the way of conduct the transactions with mobile self-care services. This mobile self-service concept has become more popular among the customers nowadays, especially among the young customers, because these services offer convenience for the busy lifestyle of the individuals, adaption for technology, easy and quick accessibility for the services that allowing individuals to perform re-charging mobiles, broadbands, TVs, reloading other’s accounts, bill payments and accounts handling etc. without the need of traditional ways. To give the better, unique and trusted mobile self-care services, telecommunication industry always tries to use the best and updated technology at every time. However, still there is some varying of adaption to the mobile self-care services due to less

technological literacy, lack of trust about online systems, addicted to traditional methods and socio-economic influences.

Undergraduates as young generation are a tech-savvy group that could influence the uptake of mobile self-care services. Perceptions of efficiency and security, peer pressure, and accessibility all influence their financial behavior. Although mobile money services promote financial inclusion, their use may be impacted by security, awareness, and regulatory framework problems. In order to improve accessibility and trust, financial institutions, legislators, and service providers must have a thorough understanding of the major elements driving young generations' adoption of mobile self-care services. By examining these variables, this study hopes to shed light on the drivers and obstacles influencing Sri Lankan undergraduates' use of mobile self-care services as young and educated customer group and aid in the creation of a more effective and equitable digital financial system.

Research Problem

Sri Lanka, as a developing country, mobile self-care services has become an interesting topic to study and worth to research. Because when time to time new technologies emerging and individuals are learning and adapting to new things, the research results also can be rapidly change by time to time. So, the relevant parties like service providers, policy makers, government and technological organizations can get an up-to-date knowledge about the market behavior by examining the situation continuously. Even many researches have been carried out regarding mobile money services usage of outside countries, there is lack of researches have been carried out regarding mobile self-care services in Sri Lankan context. Among those researches, they have covered only few geographic areas. In this study, the

researcher is collected the data from undergraduates of first 5 top ranking universities to cover several areas in Sri Lanka.

Research Objectives

With the above problem statement in mind, the objectives of this research are set as below:

I. To examine the levels of perceived usefulness, perceived trust, perceived risk, technology anxiety, and the usage of mobile self-care services in the telecommunication sector among undergraduates.

II. To examine the relationship between perceived usefulness, perceived trust, perceived risk, technology anxiety, and the usage of mobile self-care service in the telecommunication sector among undergraduates.

LITERAURE REVIEW

Most existing research on mobile self-services focuses on health-related applications. Therefore, this study draws on literature related to a similar concept 'mobile money services' to explore relevant factors. **Table 1: Definitions of Variables**

Variable	Definition	Source
Perceived Usefulness	An individual's belief that using a particular system or technology will improve their job performance or enhance their effectiveness in a task.	(Aljarrah, Elrehail, & Aababneh, 2016)
Perceived Trust	An individual's belief that another person, organization, or system will act dependably, honestly, and competently in a given situation, even when they are vulnerable to potential negative consequences.	(Dawood, Liew, & Lau, 2022)
Perceived Risk	An individual's subjective assessment of the potential negative consequences associated with a purchase or usage of a product or service.	(Narc, 2023)

Technology Anxiety	This reflects people's skepticism about using SSTs for banking, leading to a decrease in customer acceptance.	(Galdolage & Rasanjalee, 2022)
Usage of Mobile Money Services	Use of mobile terminals such as cell phones and personal digital assistants to access banking networks via the wireless application	(Zhou, Lu, & Wang, 2010)
	protocol (WAP).	

Source: Developed by the researcher

Perceived Usefulness and MMS

According to the literature, perceived usefulness is a concept from the Technology Acceptance Model (TAM) that refers to an individual's belief of using a particular system would enhance their job performance (Davis, 1989). Erasmus et al. (2015) underscored that perceived usefulness has an overwhelming influence on the attitude of users towards accepting the technology. Their research indicated that users are likely to have a favorable attitude towards systems which they consider to be helpful and to improve their performance.

According to research, MMS consumption is significantly impacted by perceived usefulness. Research has frequently demonstrated that customers are more likely to accept and stick with mobile money services if they think doing so will improve the efficacy and efficiency of their financial transactions (Kelly & Palaniappan , 2023). Similarly, a study conducted on Nigerian university students revealed a strong positive correlation between PU and the behavioral desire to use mobile money services. This suggests that students are more inclined to embrace and utilize mobile money if they believe it to be beneficial.

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Perceived Trust and MMS

One important aspect affecting the uptake and use of different technologies and services is perceived trust. It describes a person's conviction that a system or service is trustworthy, safe, and able to fulfill its promises (Becerra & Gupta, 2003).

Customers' intentions to utilize mobile money applications were examined in a study by Hariguna et al. (2020) in relation to economic and service trust. Their results showed that the intention to use these services is positively influenced by both types of trust.

Additionally, a study by John et al. (2018) found that the use of mobile money services in company operations is strongly impacted by perceived trust, especially with regard to compatibility and integrity.

Perceived Risk and MMS

Perceived Risk can be defined as the consumer's perception of the uncertainty and adverse consequences of buying products or services (Phamthi, Nagy, & Minh Ngo, 2024).

Since consumers frequently consider potential drawbacks before using mobile money platforms, perceived risk has a big impact on the uptake and usage of these services. Security, privacy, financial, and time-loss hazards are among the dimensions of perceived risk that have been discovered by research; each having a distinct effect on user behavior (Noreen, Ghazali, & Mia, 2021).

Technology Anxiety and MMS

According to Meuter et al. (2003), technology anxiety is the term used to describe a person's worry or fear when thinking about or utilizing technology. The acceptance and use of mobile money services are greatly impacted by technology anxiety, which is defined as fear or worry while interacting with new technologies. Higher levels of technology anxiety have been shown to discourage people from using mobile banking apps (Aslam, Luna, & Farhat, 2022).

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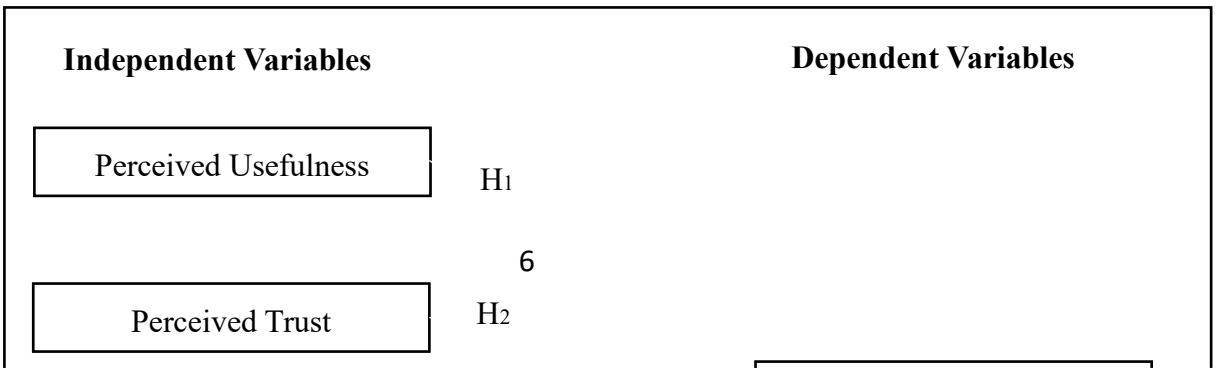
Figure 1: Conceptual Model:



Source: Author developed based on literature

RESEARCH METHODOLOGY

This research used cross-sectional design to measure the relationship between independent and dependent variables. This study used quantitative method because data collection from different sources improves the reliability and validity of data. A questionnaire survey with stratified random sampling method was carried out to collect the data from the undergraduates in the top five state universities in Sri Lanka which are University of Colombo, University of Peradeniya, University of Jayawardhanapura, University of Moratuwa and University of Kelaniya. Pre-test was conducted and measures the reliability with Cronbach's Alpha coefficient in order to determine the reliability of the instrument used. It suggests the values of 0.6 to 0.7 as the acceptable level for reliability measure. The Cronbach's Alpha coefficient of all survey instruments is under the acceptable level (Table 1), this guarantee that the

instrument used, questionnaires, is the good tool for data collecting. By using stratified random sampling method data was collected from 382 undergraduates.

The questionnaire consists of two major sections. Section 1 gather the personal information of the respondents, such as university name, gender, study year, mobile self-care apps they are using and how often they are using mobile self-care services. Section 2 gather information on research variables that are perceived usefulness, perceived trust, perceived risk, technology anxiety and the usage of mobile self-care services. Section 1 were designed using nominal scales, whereas Section 2 was designed using a five-point Likert scale ranging from 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The data obtained were analyzed using the statistical package for social sciences (SPSS-Version 25.0).

Table 2: Reliability Analysis Results of the Pilot Test

Variables	Alpha Value
Perceived Usefulness	0.911
Perceived Trust	0.782
Perceived Risk	0.833
Technology Anxiety	0.882
Usage of Mobile Self-care Services	0.792

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RESULT AND DISCUSSION

In the survey out of 382 respondents, highest respondents are from University of Jayawardhanapura representing 92 students, 89 responses from University of Kelaniya, 77 responses from University of Peradeniya, 74 responses from University of Colombo and least responses of 50 is from University of Moratuwa. The gender distribution of the respondents is 248 students are females and 134 respondents are male students. Most of the questionnaires filled by second year students which represent 216. And also, most of the students using MyDialog app for the mobile money services that represent 202 responds. 146 respondents are using Mobitel Selfcare app, 28 respondents are using Hutch app and 6 respondents are using Airtel selfcare app. The results also revealed that usage of mobile money services among undergraduates are very common thing, because the question of "how often do you using mobile money services?", 127 students respond out of 382 is that they are using mobile money services very often. It represents the largest percentage out of the answers.

Objective 1: To examine the levels of Perceived Usefulness, Perceived Trust, Perceived Risk, Technology Anxiety, and the Usage of Mobile Self-care Services in the telecommunication sector among undergraduates.

Table 3 gives the mean and standard deviation (SD) of the factors influencing for the usage of mobile self-care services among undergraduates in Sri Lanka. Perceive trust has the highest mean (mean = 4.33 and SD = 0.62), followed by perceived risk (mean = 4.27 and SD = 0.66), technology anxiety (mean = 4.23 and SD = 0.67), and perceived usefulness (mean = 4.22 and SD = 0.65) respectively.

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Table 3: Descriptive Statistics

Variables	Mean	Std. Deviation	Level
Perceived Usefulness	4.22	0.65	High
Perceived Trust	4.33	0.62	High

Perceived Risk	4.27	0.66	High
Technology Anxiety	4.23	0.67	High

Objective 2: To examine the relationship between Perceived Usefulness, Perceived Trust, Perceived Risk, Technology Anxiety, and the Usage of Mobile Self-care Service in the telecommunication sector among undergraduates.

The correlation coefficient (r) value was 0.752 perceived usefulness and usage of mobile self-care services at the 0.01 significant levels Table 3 shows that value. Moreover, the value of the correlation coefficient falls under the coefficient range of 0.5 to 1.0. The p-value is equal to 0.000 and less than the Alpha value. It shows that there is a strong positive relationship between perceived usefulness and usage of mobile self-care services.

The correlation coefficient (r) value was 0.796 perceived trust and usage of mobile self-care services at the 0.01 significant levels Table 3 shows that value. Moreover, the value of the correlation coefficient falls under the coefficient range of 0.5 to 1.0. The p-value is equal to 0.000 and less than the Alpha value. It shows that there is a strong positive relationship between perceived trust and usage of mobile self-care services.

The correlation coefficient (r) value was 0.878 perceived risk and usage of mobile self-care services at the 0.01 significant levels Table 3 shows that value. Moreover, the value of the correlation coefficient falls under the coefficient range of 0.5 to 1.0. The p-value is equal to 0.000 and less than the Alpha value. It shows that there is a

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strong positive relationship between perceived risk and usage of mobile self-care services.

The correlation coefficient (r) value was 0.694 technology anxiety and usage of mobile self-care services at the 0.01 significant levels Table 3 shows that value. Moreover, the value of the correlation coefficient falls under the coefficient range of 0.5 to 1.0. The p-value is equal to 0.000 and less than the Alpha value. It shows that there is a strong positive relationship between technology anxiety and usage of mobile self-care services.

Table 4: Correlation among Perceived Usefulness (PU), Perceived Trust (PT), Perceived Risk (PR), Technology Anxiety (TAX) and Usage of Mobile Self-Care Services (MSCS)

Variable		PU	PT	PR	TAX	MSCS
PU	Pearson Correlation	1				
	Sig. (2-tailed)					
PT	Pearson Correlation	.808	1			
	Sig. (2-tailed)	.000				
PR	Pearson Correlation	.808	.847	1		
	Sig. (2-tailed)	.000	.000			
TAX	Pearson Correlation	.850	.783	.736	1	
	Sig. (2-tailed)	.000	.000	.000		
MSCS	Pearson Correlation	.752	.796	.878	.694	1
	Sig. (2-tailed)	.000	.000	.000	.000	

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

Conclusion

The study was carried out to analyze the factors affecting to the usage of mobile self-care services in Sri Lanka. There were four reasons identified based on literature and conceptual framework was developed based on that. Perceived usefulness, perceived trust, perceived risk and technology anxiety are recognized as the main contributors to the user intention of using mobile self-care services. Based on the literature survey it was expected that all the factors are positively influencing the user intention.

Descriptive Statistics for the objective one indicate that there is a high level of all four variables; objective two concludes that there are strong positive and significance relationships between perceived usefulness, perceived trust, perceived risk, technology anxiety, and the usage of mobile self-care service in the telecommunication sector among undergraduates.

This study explores the extent to which consumers are inclined to use this mobile selfcare services and what kind of factors affects to use these mobile self-services among customers, especially among young generation. According to the findings, all the hypotheses are accepted as p values are less than 0.05 level and it concludes that perceived usefulness, perceived trust, perceived risk and technology anxiety positively related with the user intention to use mobile self-care services.

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Limitations of the Study

There is very little published research related to this research topic in the Sri Lankan context. Therefore, due to the lack of Sri Lankan literature, many information and variables were identified through international studies conducted in relation to the respective research topic. Moreover, the study is limited to investigate the effect of the four independent variables on dependent variable, but there can be other variables that may be added to the theoretical framework to enhance its explanatory power. And also, the sample size was small. This study only concerned 382 undergraduates who are using mobile self-care services in Sri Lanka.

This study is limited to undergraduates only, and this is due to the time and resources limitation in collecting the data from other group sets like, elder people and school leavers etc.

Future Research Directions

Future researchers can be taken into actions to improve further research by overcoming the limitation of this study. The research study had a limited sample size of 382 undergraduates those who are using mobile self-care services in Sri Lanka. To enhance the reliability and validity of results, a larger sample size is recommended. Additionally, expansion could involve including not only undergraduates, but also various customer groups like employees, elder people, rural area customers and urban area customers etc. in the sample. Furthermore, conducting similar research with reference to different variables in Sri Lanka would allow for comparisons and deeper discussions on the usage of mobile self-care service trend. Lastly, the study proposes reassessing and expanding

upon the theories, frameworks, or models utilized in the research for comprehensive exploration and understanding.

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