

# The Factors Influencing On the Customer Adoption of Internet Banking System Special Reference to the Sampath Bank in Colombo District

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**Abstract-** Today, banking sector plays a vital role when providing financial services and managing financial assets. With the development of the information systems and information technology, all banks adopt some new technological advancement for their entity. In a banking sector, customers are the most important part. Conventionally, all the transactions are done by manually. Customers had to go bank branch every time. Therefore, it concerns huge time and cost as well. But nowadays internet banking is becoming popular and it reduces the time and cost. This study based on within the Sri Lankan context and the researcher selected the Sampath bank in Colombo district to do this study. The researcher concerns the factors influencing on the customer adoption of internet banking system: Special reference to the Sampath bank in Colombo district. The main objective of this study is to identify the factors influencing on the customer adoption of internet banking system: Special reference to the Sampath bank in Colombo district. The research framework based on the factors which mainly includes Relative advantage, Perceived ease of use, Perceived usefulness. A Questionnaire survey was conducted to gather the data and 111 complete responses were gathered from random banking customers who were internet users from Colombo district.

The researcher analyzed the collected data by using SPSS 20 package. Correlation Analysis and Regression analysis were used to check the relation and factors influencing on the customer adoption of internet banking system. Therefore, the researcher found the factors influencing on the customer adoption of internet banking and gives recommendations in this study to identify the factors influencing on customer adoption of internet banking in the study area

**Index Terms-** Internet banking, Relative advantage, Perceived ease of use, Perceived usefulness, Sri Lanka

## I. INTRODUCTION

In worldwide, banking environment is changing continuously. Earlier, banks were conducted their transactions manually. It consumes lots of times and money as well. Later on with development of the internet and information technology, banks realized manual systems are not sufficient for their operation. Therefore, they have been decided to adopt internet banking. Internet banking means, provision of banking products and services to banks and customers through the utilization of various electronic delivery channels (Chavan, 2013). Internet banking is

the new trend that becomes popular because of convenience. In order to attract more customers, banks should adopt internet banking. Today all customers are busy with their works. They are seeking innovative and quicker methods for their requirements. Therefore, internet banking helps to customers to get quicker service from banks.

Internet banking was first introduced to the country in late 1998 by Sampath bank as first. Through the internet banking Sri Lankan customers can get credit card payment facilities over the internet. (Wijesiriwardana, 2003). Sampath bank customers are heavily used in internet banking facilities compared with other banks (Jayasiri and Weerathunga, 2008).

There are several factors which influenced to the customers to adopt the internet banking System. Like a relative advantage, perceived ease of use, perceived usefulness, demographic factors, perceived security, compatibility, Service quality, Complexity, Trialability and Social influence.

There are several types of research conducted in several countries to identify the factors influencing on the customer adoption of internet banking system. In Sri Lanka also, few types of research conducted to identify the factors influencing on the customer adoption of internet banking system. Even though in Sri Lanka few types of research conducted to identify the factors influencing on the customer adoption of internet banking system. But no researches conducted to identify the factors influencing on the customer adoption of internet banking especially in Sampath Bank in Colombo district recently. Therefore, there is a gap. Among the commercial banks in Sri Lanka, Sampath bank was firstly introduced internet banking system to the customers to satisfy customer's banking needs and wants. They have the larger customer base for the internet banking than the other banks. Therefore, there is a gap and there is a need to identify the factors influencing on the customer adoption of internet banking system, special reference to the Sampath bank in Colombo district.

## II. LITERATURE REVIEW

This chapter consists of the review of literature of the study. Through the searching of literature, the researcher acquired an immense knowledge of the literature of the present study topic. In this chapter the researcher tries to put the literature for internet banking, adoption of internet banking, the importance of internet banking, Customer adoption of internet banking in Sri Lanka, factors affecting internet banking adoption.

By considering this literature review, the researcher identifies the research gap and does the study to fulfill that gap.

## 2.1 Internet banking

Internet banking facilitates for bank customers to carry out financial transactions on their own through the use of a secured internet website operated by the commercial bank, a retail or virtual bank, credit union or building society (Edojariogba, 2014). Internet banking becomes as the new trend and it comes as the latest technology in the current era. Due to the development of technological advancements ATM's, credit cards, debit cards, Tele-banking, internet banking have become as effective delivery channels. It helps to deliver traditional banking products. Banks have realized that the internet helps to expand their performance local into global (Mavri and Ioannou, 2006).

Internet banking becomes popular day by day. Every person are busy with their works. They are seeking immediate services from the banks to maximize their benefits. Instead of paper banking now moves to the paperless banking systems. It helps to get quicker services with a minimum time and cost. Customers can use internet banking facilities during 24 hours while staying anywhere such as home, business, and etc. Moreover, internet banking calls many names. Such as, E-Banking, Online banking, virtual banking. Bank customers can access their accounts through the internet. Here, Customers are given their own user names and password, by the banks to access their accounts. By using their own user name and password they can do their all transactions without going to the banks (Burnham, 1996).

The concept of internet banking activities performed through electronic networks. It is the most recent delivery channel of banking services which is used for both business to business (B2B) and Business to customers (B2C) transactions. By using internet banking customers can get varieties of services. Such as, payment of bills and invoices, transfer of funds between accounts, applying for loans, payment of loan installments, sending funds to third parties via e-mails or internet connections regardless of where the client is located (Rahman, 2002). Internet banking is the cost effective and cheapest delivery channel which reduces a large number of staff needs. Because no need a large number of employees to do their transactions. All the transactions can be done through the internet. Internet banking provides competitive advantages to the banks (Ortega, Martínez and Hoyos, 2007). With the development of the information technology banking sector's performance boosts day by day. Banks should consider reducing the inconvenience, minimizes cost of transactions and time saving to be important (Kaleem, 2008).

## 2.2 Adoption of internet banking system

The internet has an ever-growing importance in the banking sector because of the advantages. It brings to both the entities and their customers. Age, education level, income and occupation are the most influential demographic factors affecting internet usage. Typical internet banking users tend to be well educated, relatively young and are high income earners. It has been widely recognized that the demographic factors have a great impact on consumer attitudes and behavior towards internet banking (Karjaluo, 2002). The more people feel secure, the

more they will adopt internet banking service. The factors affecting the acceptance and adoption of new innovation is the level of security or risk associated with it (Cooper and Schindler, 2001).

Technological advancements are very essential for people and human life. Because it helps to save time and money. Information technology is becoming expansion nowadays and people tend to use it. New technological advancements have introduced varieties of changes in the world and business era (Qureshi, Zafar and Khan, 2008).

There are several factors which influence to the internet banking adoption. (Laforet and Li, 2005). They highlighted that person's demography, motivation and behavior towards different banking technologies and individual acceptance of new technology. It has been highlighted that consumer's attitude toward online banking are influenced by basic experience of computer knowledge new technological advancements.

When customers are adopting the internet banking they should consider several factors. Such as, password integrity, privacy, data, encryption, hacking, and the protection of personal information (Benamati and Serva, 2007). Consumer involvement is very essential for internet banking, as it requires the consumer to maintain and regularly interact with additional technology (a computer and an internet connection) (Jane, Hogarth and Hilgert, 2004) consumers are using internet banking an ongoing basis and need to acquire a certain comfort level with the technology to keep using it (Kaestner, 2008).

## 2.3 Importance of internet banking

Internet banking is very important for both customers and banks. Because, internet banking gives significant importance to the banks and customers. It has been said that low cost internet banking sites will be to commoditize convenience. It simplifies banking performance. Therefore banks can get competitive advantage. On the other hand customers can possess convenience when they are getting service from banks. As well as it is a low cost alternative to the customers (Hamilton, 1996).

The types of product and services offered through the internet frequently use less staff. No need to deploy a large number of employees to carry out the transactions. Ideally, internet banking should not be charged any fees and that are free from charge.

However, certain transactions, such as check cancellations and wire transfers would still require administrative charges. Since the cost of operating internet banking services is low, Internet banks should look for opportunities to lower the charges and transfer the cost saving to customers (Tan and Teo, 2000).

Internet banking facilitates benefits to the both banks and customers. Comparing to the traditional banking, it gives some valuable benefits to the customers and banks. Customers can possess lowers transaction cost; provide 24-hour services; ensure increased security and control over transactions; reduces fraud risk; performs higher volume of transactions with less time; increases number and volume of value payment through banks; allow remote transactions facilities that replace physical presence of a customer in a bank branch and; increases transactions speed and accuracy. But traditional banking is more time consuming and high cost method (Rahman, 2002). Internet banking very essential for long-term survival of banks (Burnham,

1996).customers can access their accounts 24 hours a day even 7 days a week. Therefore, it has been said that internet banking is more accessible than traditional banking. It is a very cheapest method to customers and free from charges. Furthermore, e-banking from customer's point of view is that most banks provide account aggregation services at least internally (Sathye, 1999).According to the (Shah and Clarke, 2009) Customer first approach is very essential for internet banking. Customers' very important part when providing the internet banking facilities. Bank should identify the different needs of the customers. In modern trend shows that customers want great choice.

#### 2.4 Customer adoption of internet banking in Sri Lanka

In Sri Lankan context, banks are not real use of internet banking adequately. As a developing country, it may be happened due to the various difficulties and problems. Due to the lack of infrastructure and lack of technological advancements, banks are not real use of internet banking (Jayasiri and Weerathunga, 2008). In Sri Lanka most of the people unawareness about the internet banking and what are the benefits of that. Most of the private banks are providing internet banking facilities than state banks in Sri Lanka. Sri Lankan customers are not using IT driven banking services very much. Most of the Sri Lankans are not very much familiar with the technology and they are not adopting technological services very much (Suraweera et al., 2011).

#### 2.5 Factors affecting on the internet banking system

There are several factors which influence to the customer adoption of internet banking system. They are,

##### 2.5.1 Relative advantage

"Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes"(Rogers, 1983).Further, he stated that relative advantage is mostly referred to in terms of expediency, saving of money, effort and time, and reduced inconvenience in using or adopting an innovation. Relative advantage is giving economic profitability. Some specific types relative advantages are need to be considered by adopters when they are adopting the new innovation. Such as economic and social. Therefore, relative advantages are very important to the adopters.

In the e-service context, users may perceive a relative advantage in assessing the internet and use its website services from any location at any time of the day. Online services present other advantages for the organizations in addition to providing continuous access. They potentially contribute to valuable promotions of the company; enhance the quality and speed of customer services; create competitive advantages; entice shoppers and encourage customer interaction; support core business functions that are integral to business strategy, and provide new business opportunities by increasing market presence and facilitating online purchasing.(Polatoglu and Ekin, 2001).

Relative advantages are very important when adopting the new innovation (Tornatzky and Klein, 1982). Internet banking gives various relative advantages to the customers. Such as, customers can access their accounts at any location, 24 hours services, convenience to users; they can check their account

easily(Tan and Teo, 2000).Internet banking facilitates many advantages than the traditional banking. There are two types of perceived benefits. Such as direct and indirect advantages. Direct advantages mean immediate and tangible benefits of internet banking. Such as, faster transaction speed and information transparency. On the other hand, time saving, no need many paper documents, accurate information available at any time. Indirect advantages mean that are less tangible and difficult to measure. Such as 24 hours services, news updates, stock quotations (Lee, 2008).

##### 2.5.2 Perceived ease of use

Perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort." that means freedom from difficulty. Further, he found that less effortful system increase person's job performance (Davis, 1989).

Perceived ease of use had a significant effect on usage, intention, it is an important predictor. Perceived ease of use can be an important determinant, perhaps even more than perceived usefulness, of information system success when process-oriented issues are at the forefront of users' minds (Venkatesh and Davis, 2000).

Perceived ease of use directly or indirectly effects on perceived usefulness. Information technology that is easy to use will be less threatening to the individual. (Moon and Kim, 2001)Perceived ease of use positively influences on internet banking adoption. The more the consumer perceives electronic banking as easy to use, the more he or she is likely to adopt internet banking (Blachander, 2001).

##### 2.5.3 Perceived usefulness

Perceived usefulness is very important and has been widely recognized in the field of internet banking. Using a particular system will enhance his or her job performance (Davis, 1989)it is the primary prerequisite for mass market technology acceptance, which depends on consumers' expectations about how technology can improve and simplify their lives. Perceived usefulness has a positive effect on the adoption of information technology (Safeena, Date and Kammani, 2011).

Internet banking can be used for various purposes. It is used for doing many tasks. The decision to use new technology is determined by the extent to which a person believes that it is cost effective in providing goods or services compared to the current method.(Davis, Bagozzi and Warshaw, 1989)

##### 2.5.4 Demographic factors

Demographic factors, age income, education, occupation were significant factors for internet banking adoption. Consumers who are younger, affluent, well educated, with computer ability, with experience of other banking technologies, with occupation related to computer or the internet, and with a long time horizon for saving and spending are more likely to adopt internet banking.(Min Kim, Widdows and Yilmazer, 2005)The age of the customer is directly affecting the rate of usage of e- banking. Since the younger generation is more familiar with internet based work, so they tend to use e-banking more than the others(Jayasiri and Weerathunga, 2008).The individuals who tended to use the internet early in European

Countries were young males, with a high level of income and education. People with high educational attainments may have the talent for computers and acquire good information processing skills. These qualities are affecting in the context of internet banking and, therefore, a relationship can be seen between formal education and adoption (Madden and Savage, 2000). Age, education level, income, and occupation are the most influential demographic factors affecting internet usage (Karjaluoto, Mattila and Pentto, 2002). The adopter of a new technology is typically younger, has a good income appropriate level of education and more reactive to new innovation than the non-adopter. Innovative individuals have positive attitudes, ability to communicate with others and a high level of social participation (Rogers, 2003).

#### 2.5.5 Security

Security concept means, the ability to protect against potential threats. Further, he explained that security helps to protect consumer information and their financial transaction. Security describes e-commerce website is perceived to be secured and ability to protect other information from potential threats. In online environments, security is defined as the ability of the online company website to protect consumer information and their financial transactions data from being stolen during transmission (Hua, 2009).

#### 2.5.6 Compatibility

Compatibility can be defined as which the innovation fits with the potential adopter's existing values, previous experience and current needs (Rogers, 2003). New innovation should be matched with the potential adopter's needs. An innovation should be matched with the individual's job responsibilities and value system. (Tornatzky and Klein, 1982) Internet banking can be recognized as a delivery channel that is compatible with the profile of the modern day banking customer, who is likely to be computer-literate and familiar with the internet. Therefore, more people use the internet, and people perceive that the internet as compatible with his or her life styles, the more likely that the individual will adopt internet banking (Tan and Teo, 2000). Compatibility with online services was found to be highly related to experience with computers and English language comprehension (Carter, 1997). Compatibility can be designed as English interfaces. Most E-services are designed with English interface to serve western users. Therefore; language is one of the major obstacles potentialities affecting E-service adoption in Saudi Arabia. The Saudis speak Arabic as do many Arab nations in the Middle East and English. Yet most software and Internet applications are developed and designed in English (Ghaith, Sanzogni and Sandhu, 2010).

#### 2.5.7 E-service quality

Service quality has been recognized as an important factor in an electronic service environment. Over the last 20 years, service quality and ways to measure it has been analyzed great deal (Buckley, 2003). However, there are disagreements in what e-service quality really means (Zeithaml, Parasuraman and Malhotra, 2000). E-service Quality is very essential for service providers when delivering online services. That means, quality could be seen as a representation of the entire service

delivered through the online service providers (Gronroos, 2000) and characteristics such as age, gender, income level and experience and technology tendency may affect the customer perceptions and evaluations of the service and consumer satisfaction (Zeithaml, Parasuraman and Malhotra, 2000).

#### 2.5.8 Complexity

"Complexity is the degree to which an innovation is perceived as difficult to understand and use" (Rogers, 2003). Complexity or ease of use is very important factors which affect on users intentions to use or to adopt a new technology (Venkatesh and Davis, 2000). Further, they found that in the online context perceived ease of use variable on adoption of e-services. An innovation with substantial complexity requires more technical skills and needs greater implementation and operational efforts to increase its chances of adoption. As the internet is very user-friendly with its "point and click" interface, it is likely that potential customers may feel that internet banking services are less complex to use, and hence, would be likely to use such services (Tan and Teo, 2000).

#### 2.5.9 Trialability

Trialability has affected on internet banking adoption. Trialability is the degree to which an innovation may be experimented with on a limited basis (Rogers, 1983). Potential adopters who are allowed to experiment with and innovation will feel more comfortable with the innovation and are more likely to adopt it (Rogers, 1983). Thus, if customers are given the opportunity to try the innovation, certain fears of the unknown may be minimized. This is especially true when customers find that mistakes could be rectified, thus providing a predictable solution (Tan and Teo, 2000).

#### 2.5.10 Social influence

Social influences can be occurred through the face to face communication. The opinion of friends and neighbors, the judgment of one's peers or the influence of the family are all social influences (Du Plessis and Rousseau, 1999). Social pressures plays an important role in the concept of internet banking. Internet is such broadly discussed topic that social pressure plays an important part in explaining its usage. It follows therefore that social pressures may also affect internet banking. Social pressures can start from any group such as parents, colleagues, and friends. whilst would be difficult to predict how a particular group could influence an individual in the adoption of internet banking it is never the less possible to assert that there is some influence by others on an individual's intention to adopt internet banking (Cheung, Chang and Lai, 2000).

Classmates and friends are likely to have an influence on potential adopters and users of internet banking. Social factors are a dominant force that not only influence consumers to adopt internet banking, but also influences them to continue banking by internet. This suggests that strategies should be implemented to attract potential adopters through the reference of friends, colleagues and family members. This can be achieved by offering member referral rewards (Cheung, 2000). The opinion of reference group is an important factor influencing the adoption of internet banking. To bring internet banking to the attention of

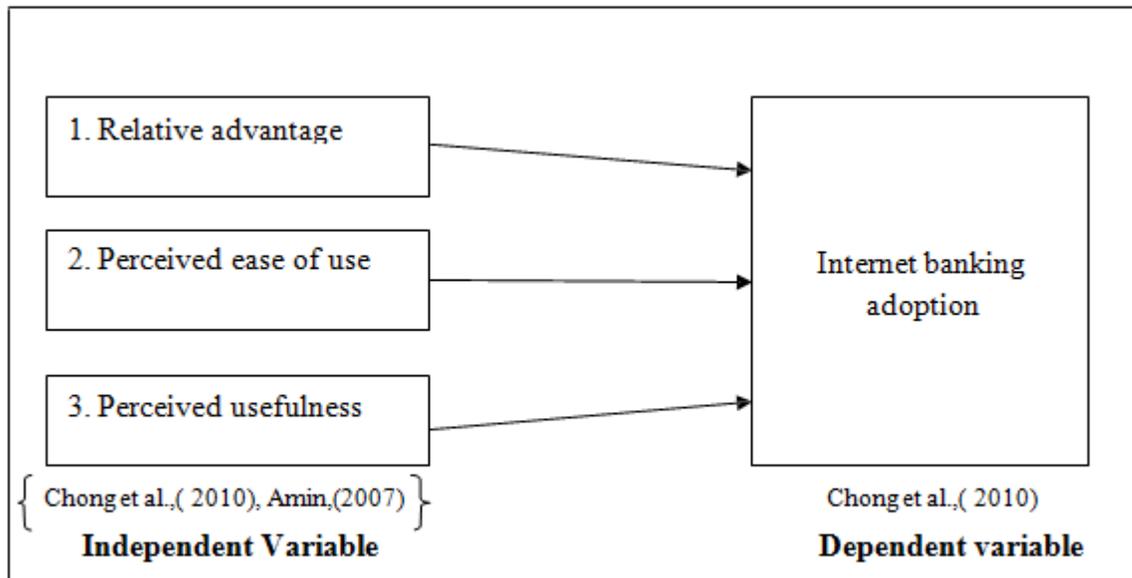
reference groups, banks should be more actively promoting their online services. With greater awareness people are more likely to start discussing the advantages and disadvantages of internet banking. Once people perceive that its positive aspects outweigh any negative aspects, they are more likely to adopt internet banking (Du, 2002). Because consumers are often influenced by the opinion of others, it is important therefore that marketers identify these influences and understand the impact they have on the adoption of internet banking.

Among these factors most of the researchers identified the following factors are strongly influence on the customer adoption of internet banking system. They are relative advantage, perceived ease of use, perceived usefulness (Amin, 2007).

Therefore, based on authors, this research also considering perceived usefulness, perceived ease of use and relative advantage are the important factors.

### III. RESEARCH METHODOLOGY

Concepts or Constructs are ideas that represent the phenomenon. Conceptualization is the process whereby these concepts are given theoretical meaning. The concepts of the study can put in a conceptual framework. The conceptual framework consists of concepts that are placed within a logical and sequential design. By considering about the literature review, the researcher got the knowledge regarding the main concepts of the study and developed the conceptual framework. The study concerns about the factors influencing on the customer adoption of internet banking concepts. The researcher used three main factors (relative advantage, Perceived ease of use, Perceived usefulness) as independent variables and the internet banking adoption as dependent variable. This conceptual model is used to indicate the relationship between the variables or constructs, which are involved in this study. The researcher has developed own conceptual model for the purpose of the study. The ideas are generated after the relevant literature is reviewed. The following conceptual model (shows in figure 3.1) is summarized as follows.



**Figure 3.1 Conceptual framework**

#### 3.1 Internet banking adoption

According to the several literatures the following concepts come under the internet banking adoption.

Adoption of internet banking showed there are several factors predetermining the consumer's attitude towards internet banking such as person's demography, motivation and behavior towards different banking technology and individual acceptance of new technology. It has been found that consumer's attitudes towards internet banking are influenced by the prior experience and of computer and new technology (Laforet and Li, 2005). According to the (Benamati and Serva, 2007) the adoption internet banking forces consumers to consider concerns about password integrity, privacy, data encryption, hacking, and the protection of personal information. There are nine dimensions under the internet banking adoption. Those dimensions can be shown as follows.

Awareness of the information technology comfort level with the technology, security and privacy, basic experience of computer knowledge, consumer interest, easy to access, easy to use, accessibility and reliability internet access.

#### 3.2 Relative advantage

Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes (Rogers, 1983). There are five items under this dimension. Those are, managing finance, time saving, Comfortable communication, managing transaction, 24 hours service.

#### 3.3 Perceived ease of use

Perceived ease of use is "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). There are five items under this dimension. Those

are, Clear and understandable, does not require a lot of mental effort, Easy to use, Learning to use, flexible.

### 3.4 Perceived usefulness

Perceived usefulness means, using a particular system will enhance his or her job performance (Davis, 1989). There are five items under this dimension. Those are improve performance, easier to do banking activities, enables to accomplish banking activities, increase the quality or output of banking activities, internet banking site useful for banking activities.

### 3.5 Hypotheses

From the conceptual model researcher has developed the following hypotheses.

H1: There is a positive impact of relative advantage on customer adoption of internet banking

H2: There is a positive impact of perceived ease of use on customer adoption of internet banking

H3: There is a positive impact of perceived usefulness on customer adoption of internet banking

### 3.6 Methodology of the study

#### 3.6.1 Sample

Sampling is a process of selecting a subset of a randomized number of members of the population of a study and collecting the data. The researcher used a survey study to do this research. In this research, the researcher considered the Sampath bank in Colombo district. The Researcher selected research sample of 111 customers of Sampath bank in Colombo district. It has been distributed among customers. Questionnaires were issued on the basis of convenience sampling method.

#### 3.6.2 Data collection

In this study, researcher has used primary data and secondary data collection method. Primary data were collected by using questionnaire. Primary data collection method is the important data collection method in this study. The researcher issued questionnaires to collect primary data. Questionnaires were distributed by the researcher individually. Each completed questionnaires were checked immediately and was entered for data analysis. Those were responded by the customers of the Sampath bank in Colombo district.

Secondary data were used to get the knowledge about the factors and internet banking adoption concepts, to get the information about the literature of this study and for write some descriptions regarding the concepts and variables of the study. The secondary data were collected by using internet and journal articles.

#### 3.6.3 Questionnaire development

The researcher prepared the questionnaire for the study by including three sections in the questionnaire. All the questions were prepared as closed ended questions. Section A of the questionnaire consists of the questions to get demographic details of the respondents. Under the demographic details Gender, Age category, Employment types were included by the researcher. Section B of the questionnaire consists of the statements to get the data regarding the factors influencing on customer adoption of internet banking system concepts. Under

the factors,(relative advantage, perceived ease of use, perceived usefulness) were used as variables. Under the internet banking adoption, 9 statements were included to identify the factors influencing on customer adoption of internet banking.

4, 5, 6 questions in the section B consist of the statements regarding the factors. Among those questions, 4.1-4.5 are regarding the relative advantage variable, 5.1-5.5 are regarding perceived ease of use variable and 6.1-6.5 are regarding perceived usefulness variable. Section C consists of the statements regarding internet banking adoption.

The researcher instructed to the respondents to mark their answers on the questionnaire by using mark (√) for the relevant answer. The section B and C of the questionnaire were developed by using five- point Likert Scale. The Five-point Likert Scale was used by ranking in below way.

**Table 3.2 Scale of measurement**

1	Very Dissatisfied
2	Dissatisfied
3	Neutral
4	Satisfied
5	Very satisfied

*Source: developed by the researcher*

#### Data analysis method

Data analysis is an approach to de-synthesizing data, informational, and/or factual elements to answer research questions. Data were analyzed through questionnaire issued to the customer in Sampath bank those who are using internet banking system in Colombo district. The questionnaire consisted of a number of statements. This process of data processing and of converting raw data into meaningful statements is called an analysis and interpretation of data. It consists calculation of mean, median, and standard deviation and percentage. Data analysis is more sensitive part of this research work. In the research process to analyze the collected data researcher used the statistical package for social science (SPSS Version 16.0) and MS Excel 2007 for data preparation. The researcher used frequency table and bar chart and pie chart to show the personal information. By using descriptive statistics, researcher considers the mean, median and mode. The researcher uses model summary table to identify the adjusted r2 value for checking the fitness of the model. By giving numerical values from 1-5 for the five point Likert Scale, researcher analyzed the data of survey study. Data statistics were used to get the results. The researcher used following techniques to analyze data.

#### 3.6.5.1 Correlation analysis

Correlation is an essential for measuring the relationship between two continuous variables. The researcher can use person

correlation coefficient( $r$ ) to determine the strength and direction of the two continuous variables. Pearson correlation coefficient( $r$ ) can take values from -1 to +1 and size of the value of the coefficient indicates the strength of the relationship and sign (-or +) indicates the direction. If the correlation coefficient is 0, there is no relationship between the variables. By using this correlation analysis, researcher identified the relationship between the independent variables (Relative advantage, perceived ease of use, perceived usefulness and dependent variables (internet banking adoption) in the study and tested the hypotheses.

#### 3.6.5.2 Regression analysis

Regression analysis is important for identify the impact of independent variables on dependent variables. Under this analysis, the researcher uses the Beta value and Significance value to identify the factors influencing customer adoption of internet banking system and for testing hypotheses.

#### 3.7 Method of evaluation

Each variable is given a scale from 1-5 to show extent of importance based on response invert measures were calculated for each of the variables. To accomplish this hard job involve in the calculation the descriptive statistics help the Microsoft Excel 2007 for charts and SPSS (version 16.0) used for deriving distribution measures of central tendency, and measures of dispersion. In the evaluation, by considering about frequency tables' percentages, researcher evaluates the demographic profile

of respondents. By using the mean values of descriptive statistics, researcher evaluates the importance of independent variables on dependent variable of the study. Pearson Correlation value( $r$ ) and significance values in correlation tables are used to identify the relationship between the independent and dependent variables and for hypotheses testing. In the evaluation of regression analysis, Beta values and significance values are used to identify the impact of independent variables on the dependent variables and for hypotheses testing.

### IV. DATA ANALYSIS AND FINDINGS

#### 4.1 Introduction

In this chapter, researcher mentioned the analysis of the collected data and the findings. Data analysis is an approach to de-synthesizing data, informational, and/or factual elements to answer research questions. The personal information analysis, Correlation and Regression analysis and the findings of these analyses are included in this chapter.

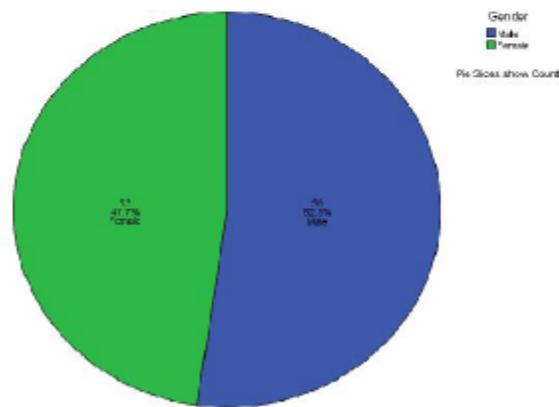
#### 4.2 Personal information

The research information obtained through 111 structured questionnaires to customers. In the questionnaire, section "A" contained personal information such as gender, age category, employment type. The following figures show frequency and percentage of customer respondents of internet banking in Sampath bank, Colombo district.

**Table 4.1 Gender**

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	58	52.3	52.3	52.3
	Female	53	47.7	47.7	100.0
	Total	111	100.0	100.0	

*Source: Survey data 2016*



**Figure 4.1 Frequency of gender of customer**

*Source: Survey Data, 2016*

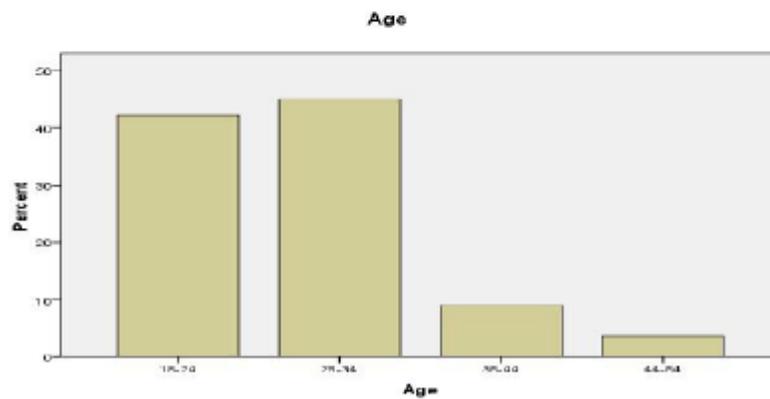
As reflected in figure 4.1, 47.7% of the study participants were females and 52.3% were males. This indicates that both

females and males were nearly equally represented in the sample size of this research

**Table 4.2 Age**

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	47	42.3	42.3	42.3
	25-34	50	45.0	45.0	87.4
	35-44	10	9.0	9.0	96.4
	44-54	4	3.6	3.6	100.0
	Total	111	100.0	100.0	

Source: Survey data 2016



**Figure 4.2 frequency of age of customer**  
 Source; Survey data 2016

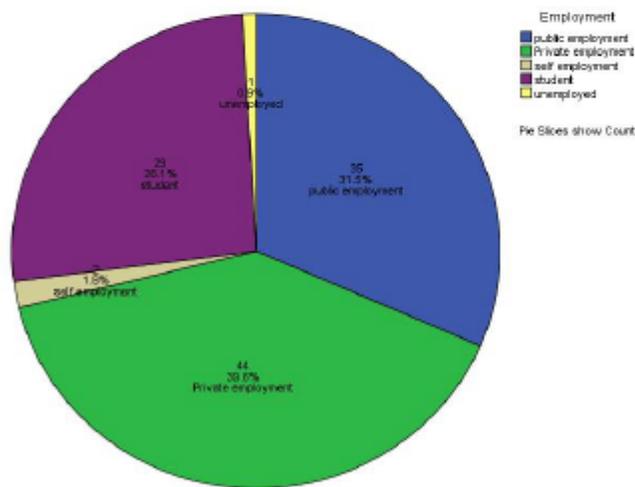
Figure 4.2 Looking into the age of respondents, only 3.6% of internet banking sample customers are between 44-54 from the total number of respondents, 9.0% internet banking sample respondents are between the ages 35-44 from the total respondents, 45.0% internet banking sample respondents are

between ages 25-34 and 42.3% of internet banking sample respondents are between ages 18-24 from the total number of respondents..Therefore, the researcher can identify that the 25-34 age category people are like to get internet banking in Colombo district mostly.

**Table 4.3 Employment**

		Employment			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	public employment	35	31.5	31.5	31.5
	Private employment	44	39.6	39.6	71.2
	self employment	2	1.8	1.8	73.0
	Student	29	26.1	26.1	99.1
	Unemployed	1	.9	.9	100.0
	Total	111	100.0	100.0	

Source: survey data 2016



**Figure 4.3 frequency of employment type of customer**

Source: Survey Data, 2016

According to the figure 4.3, In the case of employment type, from the respondents, most of the respondents are employees in private employment. They represent 39.6% of the respondents. The employee (public) category represents 31.5% of the respondents. Most of the respondents represent these two categories. The people who are in unemployed represent 0.9% of the respondents. Students also represent 26.1%.

Self-employment category has 1.8% respondents. Therefore, researcher can identify the employees in

the private sector are like to get internet banking services in Colombo district mostly.

#### 4.3 Analysis of Descriptive statistics

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. The mean, median and standard deviation can be used to give this simple summary.

**Table 4.4 Descriptive statistics for Relative advantage**

<b>MEAN</b>	4.3099
<b>MEDIAN</b>	4.4000
<b>STD.DEVI</b>	0.54722

Source: Survey Data 2016

From the analysis, the mean value of relative advantage factor in Colombo district was 4.3099. Standard deviation of relative advantage factor was 0.54722. Median value of relative advantage factor in Colombo district was 4.4000.

**Table 4.5 Descriptive statistics for Perceived ease of use**

<b>MEAN</b>	4.20360
<b>MEDIAN</b>	4.40000
<b>STD.DEVI</b>	0.679562

Source: Survey Data 2016

From the analysis, the mean value of relative advantage factor in Colombo district was 4.20360. Standard deviation of relative advantage factor was 0.679562. Median value of relative advantage factor in Colombo district was 4.40000.

**Table 4.6 Descriptive statistics for Perceived usefulness**

<b>MEAN</b>	4.1711
<b>MEDIAN</b>	4.2000
<b>STD.DEVI</b>	0.56365486

Source: Survey Data 2016

From the analysis, the mean value of relative advantage factor in Colombo district was 4.1711. Standard deviation of relative advantage factor was 0.56365486. Median value of relative advantage factor in Colombo district was 4.2000.

4.4 Data analysis

In this section, the researcher used statistical package for social science (SPSS 16.0) for correlation analysis. Researcher applied correlation analysis to evaluate the relationship between independent variables and dependent variable.

4.4.1 Testing of hypotheses

For testing the hypotheses, the researcher used correlation and regression analysis. Before analyzing the correlation and regression, researcher has checked the fitness of the research model by using following Table 4.7 which describes the model summary. The adjusted r2 should be more than 0.5 for the model fitness.

**Table 4.7 Summary of the factors (relative advantage, Perceived ease of use, perceived usefulness) on customer adoption of internet banking**

Model	R	R Square	Adjusted Square	RStd. Error of the Estimate
1	.746a	.556	.552	.363442

Source: Survey Data 2016

In the above model summary, adjusted r2 is 0.552. The customer adoption of internet banking system is explained by relative advantage, Perceived ease of use and perceived usefulness factors by 55.2%. Therefore, this model has good fitness.

4.4.2 Correlation analysis

Correlation analysis means a statistical analysis that defines the variation in one variable by the variation in another, without establishing a cause and effect relationship. The

coefficient of correlation is a measure of the strength of the relationship between the variables; that is, how well changes in one variable can be predicted by changes in another variable. In this study, the researcher uses Pearson Correlation coefficient (r) to determine the strength and direction of the two continuous variables. Pearson Correlation coefficient (r) can take values from -1 to +1 and size of the value of the coefficient indicates the strength of the relationship and (- or +) indicates the direction. If the correlation coefficient is 0, there is no relationship between the variables. Table 4.8 shows the correlation between the factors and internet banking adoption.

**Table 4.8 Correlation results of factors (relative advantage, perceived ease of use, Perceived usefulness) and internet banking adoption**

	Relative advantage	Perceived ease of use	Perceived usefulness	Internet banking adoption
Relative advantage	1	.712**	.646**	.677**
Sig. (2-tailed)		.000	.000	.000
N	111	111	111	111
Perceived ease of use	.712**	1	.694**	.669**
Sig. (2-tailed)	.000		.000	.000
N	111	111	111	111
Perceived usefulness	.646**	.694**	1	.645**
Sig. (2-tailed)	.000	.000		.000
N	111	111	111	111
Internet banking adoption	.677**	.669**	.645**	1

bankin g adopti on	Sig. (2-tailed)	.000	.000	.000	
	N	111	111	111	111

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

In above table 4.8, shows the significant values of factors (relative advantage, perceived ease of use, perceived usefulness) and internet banking adoption. If these are less than 0.01, the researcher can identify a relationship between the factors and internet banking adoption. According to the details in above table, the significant value is 0.000 in all three factors. Therefore, the researcher can identify that there is a relationship between the factors and internet banking adoption in Sampath bank Colombo district. If the Pearson correlation value is plus value, there is a positive relationship between the variables. By seeing the Pearson correlation values, researcher can identify

that there is a positive relationship between the all three factors and internet banking adoption. The relative advantage and internet banking adoption have positive correlation ( $r=0.677$ ). The perceived ease of use and internet banking adoption have positive correlation ( $r=0.669$ ). The perceived usefulness also has positive correlation ( $r=0.645$ ). Therefore, researcher can identify the relative advantage, perceived ease of use, Perceived usefulness have positive relationship with internet banking adoption.

**4.9 Summary of the Correlation analysis for the Factors (Relative advantage, Perceived ease of use, Perceived usefulness) and internet banking adoption in Colombo district.**

**Correlations**

		Factors	Internet banking adoption
Factor s	Pearson Correlation	1	.746**
	Sig. (2-tailed)		.000
	N	111	111
Intern et bankin g adopti on	Pearson Correlation	.746**	1
	Sig. (2-tailed)	.000	
	N	111	111

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

The correlation relationship between factors (relative advantage, perceived ease of use, perceived usefulness) and internet banking adoption have positive relationship. ( $r=0.746$ ,  $P<0.01$ ).

**4.10 Correlation between relative advantage and internet banking adoption**

**Correlations**

Relative advantage and internet banking adoption	
Pearson Correlation	.677
Sig. (2 tailed)	.000
Number of respondents	111

Source: Survey data, 2016

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

The above table shows that there is a positive relationship between relative advantage and internet banking adoption in Colombo district and Pearson correlation takes a value 0.677.

#### 4.11 Correlation analysis for the Perceived ease of use and internet banking adoption in Colombo district.

	Perceived ease of use and internet banking adoption
Pearson Correlation	.669
Sig. (2 tailed)	.000
Number of respondents	111

Source: Survey data, 2016

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

The above table shows that there is a positive relationship between Perceived ease of use and internet banking adoption in Colombo district and Pearson correlation takes a value 0.669.

#### 4.12 Correlation between Perceived usefulness and internet banking adoption.

	Perceived ease of use and internet banking adoption
Pearson Correlation	.645
Sig. (2 tailed)	.000
Number of respondents	111

Source: Survey data, 2016

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

The above table shows that there is a positive relationship between Perceived usefulness and internet banking adoption in Colombo district and Pearson correlation takes a value 0.645.

#### 4.4.3 Regression analysis

The Regression analysis is used to identify the impact of independent variables on the dependent variable. The present study also has a hypothesis regarding the factors influencing on customer adoption of internet banking system, Sampath bank, Colombo District. The researcher has used the simple regression analysis that is used to analysis how far the Relative advantages, perceived ease of use, Perceived usefulness have an impact on internet banking adoption.

##### 4.4.2.1. Model summary

**Table 4.13 Regression Analysis for factors (relative advantage, perceived ease of use, Perceived usefulness) and internet banking adoption.**

Variables	R	R Square	Adjusted Square	R Std. Error of the Estimate
Factors and internet banking adoption	.746a	.556	.552	.363442

Source: Survey Data, 2016

The above table shows that Adjusted R Square value is 0.552. which means, relative advantage, perceived ease of use and Perceived usefulness factors make the impact of 55.2% on the internet banking adoption in Sampath bank Colombo district.

**Table 4.14 Regression Analysis for Relative advantage and internet banking adoption.**

##### Model Summary

Variable	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Relative advantage	1	.677a	.458	.453	.401738

a. Predictors: (Constant), Average relative advantage

Source: Survey data 2016

The above table shows that Adjusted R square value is 0.453, which means, relative advantage factor makes the impact of 45.3% on internet banking adoption in Colombo District.

**Table 4.15 Regression Analysis for Perceived ease of use and internet banking adoption**

**Model Summary**

Variable	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Perceived ease of use	1	.669a	.447	.442	.405640

a. Predictors: (Constant), Average Perceived ease of use

Source: Survey data 2016

The above table shows that Adjusted R square value is 0.442, which means perceived ease of use factor makes the impact of 44.2% on internet banking adoption in Colombo District.

**Table 4.16 Regression Analysis for Perceived Usefulness and internet banking adoption**

**Model Summary**

Variable	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Perceived usefulness	1	.645a	.416	.411	.416965

a. Predictors: (Constant), Average perceived

usefulness

Source: Survey data:2016

The above table shows that Adjusted R square value is 0.411, which means perceived usefulness factor makes the impact of 41.1% on internet banking adoption in Colombo District.

#### 4.4.4 Coefficients

**Table 4.17 Coefficients of dependent and independent variable**

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
1	(Constant)	B	Std. Error	Beta		
	Average	1.154	.278		4.149	.000
	Factors	.763	.065	.746	11.692	.000

a. Dependent Variable: AA

Source: Survey data 2016

The constant value is 1.154. The coefficient for Relative advantage, perceived ease of use, Perceived usefulness is (B) 0.746. Accordingly the model fit exists. Thus,  
 $Y = a + bx$

Internet banking adoption = 1.154 + 0.746 (Relative advantage, perceived ease of use, Perceived usefulness).

As per the above table, it represents the 0.746 standardized Coefficient value. It means that when factors (relative advantage, perceived ease of use, perceived usefulness) increased by 1, factors (relative advantage, perceived ease of use, perceived usefulness) make 0.746 impact on internet banking adoption. It tells that increase of internet banking adoption depend on the factors (relative advantage, perceived ease of use, perceived usefulness).

**Table 4.18 Coefficient for Relative advantage**

Model	Unstandardized Coefficients		Standardized Coefficients	t
	B	Std. Error	Beta	
1 (Constant)				
Average	1.484	.304		4.881
relative advantage	.672	.070	.677	9.597

a. Dependent Variable: AA

As per the above table, it represents the 0.677 standardized Coefficient value. It means that when Relative advantage factor increased by 1, Relative advantage factor makes 0.677 impacts on internet banking adoption. It tells that increase of internet banking adoption depends on the Relative advantage factor.

**Table 4.19 Coefficient for Perceived ease of use****Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.132	.242		8.798	.000
Perceived ease of use	.535	.057	.669	9.394	.000

a. Dependent Variable: AA

As per the above table, it represents the 0.669 standardized Coefficient value. It means that when Perceived ease of use factor increased by 1, Perceived ease of use factor makes 0.677 impacts on internet banking adoption. It tells that increase of internet banking adoption depends on the perceived ease of use factor.

**Table 4.20 Coefficient for Perceived usefulness**

		Coefficients <sup>a</sup>			
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	T
1	(Constant)	1.786	.297		6.018
	Perceived usefulness	.622	.071	.645	8.814
					Sig.
					.000
					.000

a. Dependent Variable: AA

As per the above table, it represents the 0.645 standardized Coefficient value. It means that when Perceived usefulness factor increased by 1, the impact of Perceived usefulness factor on

internet banking adoption is 0.645. It tells that increase of internet banking adoption depends on the perceived usefulness factor.

V. FINDINGS AND DISCUSSIONS OF THE STUDY

**Table 5.1 Factors (Relative advantage, Perceived ease of use, Perceived usefulness) and internet banking adoption.**

Variables	Regression	Conclusion
Factors (Relative advantage, Perceived ease of use, Perceived usefulness) and internet banking adoption.	.552	Moderate Positive impact.

Source: Survey Data, 2016

According to the Table 5.1, it was found that influence of factors (Relative advantage, perceived ease of use, Perceived usefulness) on customer adoption of internet banking. Adjusted R square shows the influence of factors (Relative advantage, perceived ease of use, Perceived usefulness) on customer adoption of internet banking and its value is 0.552. According to the

Adjusted R square, factors (Relative advantage, perceived ease of use, Perceived usefulness) influence on customer adoption of internet banking by 55.2%. Even though the value is more than the 0.5, there is a moderate positive impact of factors (Relative advantage, perceived ease of use, Perceived usefulness) on internet banking adoption.

**5.2.2. Relative advantage and internet banking adoption**

**5.2.3. Table 5.2 Relative advantage and internet banking adoption**

Variable	Regression	Conclusion
Relative advantage and internet banking adoption	.453	Moderate Positive impact

Source: Survey Data, 2016

As per the above table, Adjusted R square shows the influence of relative advantage factor on customer adoption of internet banking and its value is 0.453. According to the Adjusted R square, relative advantage influences on customer

adoption of internet banking by 45.3%. Even though the value is less than the 0.5, there is a moderate positive impact of relative advantage factor on internet banking adoption.

#### 5.2.4. Perceived ease of use and internet banking adoption

**Table 5.3 Perceived ease of use and internet banking adoption**

Variable	Regression	Conclusion
Perceived ease of use and internet banking adoption	0.442	Moderate Positive impact

*Source: Survey Data, 2016*

As per the above analysis table, Adjusted R square shows the influence of perceived ease of use factor on customer adoption of internet banking and its value is 0.442. According to the Adjusted R square, perceived ease of use factor influences on customer adoption of internet banking by 45.3%. Even though the value is less than the 0.5, there is a moderate positive impact of perceived ease of use factor on internet banking adoption.

### 5.2.5. Perceived usefulness and internet banking adoption

**Table 5.4 Perceived usefulness and internet banking adoption**

Variable	Regression	Conclusion
Perceived usefulness and internet banking adoption	0.411	Moderate Positive impact

*Source: Survey Data, 2016*

As per the above analysis table, adjusted R square shows the influence of perceived usefulness factor on customer adoption of internet banking and its value is 0.411. According to the Adjusted R square, perceived usefulness factor influences on customer adoption of internet banking by 41.1%. Even though the value is less than the 0.5, there is a moderate positive impact of perceived usefulness factor on internet banking adoption.

### 5.3 Hypotheses testing

**Table 5.5 Hypotheses testing**

Hypotheses	Independent Variables	Dependent Variable	Beta	Significance value	Adjusted R square	Result
H1:: There is a positive impact of relative advantage on customer adoption of internet banking	Relative advantage	Internet banking adoption	.677	.000	.453	Supported
H2::There is a positive impact of Perceived ease of use on customer adoption of internet banking	Perceived ease of use	Internet banking adoption	.669	.000	.442	Supported
H3:There is a positive impact of perceived usefulness on customer adoption of internet banking	Perceived usefulness	Internet banking adoption	.645	.000	.411	Supported

#### 5.4 Conclusions

The overall study is taken place to identify the factors influence on customer adoption of internet banking system in Colombo district and also identify the relationship behavior of the factors influencing on internet banking adoption in Colombo district.

By referring the previous studies and the other sources of literature three variables were selected as independent variables that affect internet banking adoption in Colombo district.

There are as follows,

- Relative advantage
- Perceived ease of use
- Perceived usefulness

The conceptual frame work and the hypotheses were established based on the above identified variable and data was collected to test the validity of stated hypotheses.

The study was conducted in order to explore these factors and the primary data collection was done in order to get data to be explored. The primary data were collected via a questionnaire and the sample was selected within Colombo district those who are using internet banking system. The sample was limited to 111 respondents and the respondent selection was done based on convenience sampling method.

The collected data was analyzed and interpret by using the SPSS software. Firstly the descriptive analysis of the data was done by using frequency tables and graphical representations. Then the gathered data was deeply analyzed and explore the relationships between the independent and dependent variables. The stated hypotheses were tested by using the statistical tool of regression analysis.

The Regression analysis is used to identify the impact of independent variables on the dependent variable. The results obtained by the analysis are as follows.

- According to the regression analysis of the variables it is identified that the relative advantage has 45.3% positive impact on customer adoption of internet banking.
- According to the regression analysis of the variables it is identified that the Perceived ease of use has 44.2% positive impact on customer adoption of internet banking.
- According to the regression analysis of the variables it is identified that perceived usefulness has 41.1% positive impact on customer adoption of internet banking.

#### 5.5 Recommendations

By conducting this study regarding the factors influencing on customer adoption of internet banking system, Special reference to the Sampath bank in Colombo district, the researcher gives some recommendations for consideration of the interested parties of this study.

According to the findings of the research, recommendations can be written down as follows.

- Awareness of internet banking services is essential for customers to adopt internet banking. To attract more potential customers, information about internet banking should be provided by bank assistants at branches. The information should

include time saving, convenience, at anywhere any time, low cost.

- When consider about all three factors like a relative advantage, perceived ease of use, Perceived usefulness and internet banking adoption in Sampath bank Colombo district there is a strong positive relationship between two variables. Therefore, effective presentations using all forms of media advertising will be useful to introduced the services to a wider audience and educate potential customers about benefits of internet banking.

- By considering all three factors, Banks should design their web sites as effective delivery channels and offer more information beyond banking services. It is essential to provide a well-designed and user-friendly website to attract more potential customers.

- Internet banking related information, instructions, and guidelines on the web should be provided in English, Tamil and Sinhala in order to make the internet banking adopter more comfortable.

- Banks need to conduct regular surveying of customers' response and opinion

of internet banking in order to attract more internet banking customers.

- Banks should adopt high quality internet infrastructure in order to attract more potential customers.

- Finally, the researcher wants to recommend to those researchers who have an interest in the factors influencing on internet banking adoption to conduct a study on the factors influencing on the customer adoption of internet banking system.

#### 5.6 Future studies

The researcher would like to derive future studies as below based on the above research findings.

- This developed study can apply to other public or private bank other than the

Sampath bank

- To study was developed by only using quantitative data. Qualitative data also can take into account.

- Among the number of factors that affect to the customers to adopt internet banking system, this study only considers about three factors like a relative advantage, Perceived ease of use and Perceived usefulness. Other factors also can take into account.

- The future researches can identify the factors influencing on customer adoption of internet banking system in a deep way and can do studies by considering about large sample. For that, they can get the sample, from all provinces in Sri Lanka.

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