

Technology Adoption in Pakistani Banking Industry using UTAUT

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Abstract: The success of any software product could be measured by its uses and adoption of that technology by the end-users. In this study, we investigate the factors on which bank user intends to adopt internet banking in Pakistan. A survey was conducted on Pakistani banking industry customers using the unified theory of acceptance and use of technology (UTAUT) model which explains the intention of bank users to use the banking systems. The four predictors of UTAUT which were facilitating conditions, social influence, effort expectancy and performance expectancy were significant in predicting the intention of bank users to adopt the banking systems. Finally, we discuss the results, restrictions, implications and future recommendations. The findings of the study may help to provide insights into a better approach to promote e-banking acceptance.

Index Terms: UTAUT, IT adoption, Technology, Banking, Customer experience.

1. Introduction

Technology is evolving every day and in almost in every aspect of our lives. It has transformed how people used to do business. Banking and finance industry have been impacted the most by digital disruption in Pakistan. In January 2020 there were 76.38 million internet users in Pakistan. 11 million internet users have increased significantly between 2019 and 2020. There were 164.9 million mobile connections and 37 million social media users in Pakistan in January 2020 [1]. This fact has opens doors of opportunity for peer-to-peer, business-to-consumer and business-to-business e-commerce to provide services and products to a large segment of population in Pakistan.

State bank of Pakistan in its first quarter of current fiscal year 2020-21 stated in its Payment System Review that the online/internet banking has shown a quite promising increase in transactions. The value of digital financial transactions raised to over 2 trillion rupees while registered online banking users raised by 13.22 million during the first quarter compared to the same quarter of last year [2].

Since the diffusion of internet, financial institutions have adopted the concept of online/internet banking taking the benefit of this medium. Technology adoption has given new dimensions to the banking industry. Banks now offer much more to the customers like telephone access and ATM cards anytime and anywhere banking through 24 hours of ATMs, debit cards, credit cards, and Point of Sale (POS) access. Internet banking was used to promote and advertise bank's services and product initially but as it groomed and started benefiting the banks in terms of better customer services, reduced cost and increased long-term profit as it allows bank customers to perform banking activities and carry out transaction anytime from anywhere at their convenience. Unfortunately, In Pakistan, still there are many difficulties in adopting the Internet Banking. Complexities like familiarity with technology, poorly designed website, non-availability of resources to access, reliability of technology, server down, fear of agencies tracking transactions, unreliable services, security risk and training / awareness needs have been identified [6]. With these complexities implementing Internet Banking in Pakistan is difficult. These complexities should be minimized or removed to facilitate the bank users and give more benefits to the banks. The aim of this research is to study the impact of technology adoption in Pakistani banking industry and the acceptance and usability of banking applications by bank customers.

The acceptance or rejection of technology depends on belief which is developed by collecting all the information about the technology [5]. The success of any software product could be measured by its uses and adoption of that technology by the end-users. Adoption of e-banking in Pakistan is unfortunately had been very slow. There are many difficulties in adopting e-banking which affects the intention of users in Pakistan to use the banking systems. The objective of this research is to identify those difficulties banking customer face when using e-banking applications and

why e-banking is not adopted by the customers. A survey would be conducted on Pakistani banking industry customers using the unified theory of acceptance and use of technology (UTAUT) model which explains the intention of bank users to use the banking systems.

2. Background

Working for banks for almost three to four decades ago was simple business. Earlier, banks provide financial services and consumer used to save their money in banks. Recently the banking industry around the globe has transformed digitally and offers different banking applications. Using these applications, bank customers can carry out all banking system virtually. Today banks all over the world provides latest facilities, services and products to their customers. It facilitates and influences integrated economic activities such as distribution of public finance, production, poverty elimination and resource mobilization. Banks are always there to serve its customer whether they want to start a business or purchase a house or a car [7]. Consumer satisfaction is considered very important for any organization. The customer satisfaction has become a hot issue for banks as customers are the ultimate source of income for any institution. There's been a competition in the banking industry focusing on customer satisfaction. Most banks constantly work to improve their products and services they offer to their customers.

Another global phenomenon which has made transaction very easy and has changed the way how banking industry works at an impressive rate is E-banking. E-banking has made life easier and faster for banks and customers both. It can be defined as automated delivery of banking services and products to its customers through computers and telecommunication [4]. Significant rise in the usage of the internet has affected many businesses especially banking. These days, internet banking, credit cards, electronic funds transfer, smart cards, mobile banking and automated teller machine (ATM) are the products in conventional e-banking system. E-banking also automates the process of updating accounts, generating reports, posting entries, recording transactions and balances and reviewing results. E-banking was first introduced in Pakistan by Habib Bank Limited in 1987 when they installed the first automated teller machine (ATM) [8]. Almost two decades ago the general public was not much familiar with the ATMs and the trend of plastic money or ATM cards grew slowly until recent years. Online banking now facilitates bank customers anytime from anywhere. Bank customers do not have to wait in queues or even visit the branch for almost any transaction they want to make. They get alerts of every transaction through SMS. Bank customers can shop online using their ATM cards and access their bank account whenever they want using application on mobile phone.

Over the last few years the banking industry has seen drastic technology-led evolution and this adoption of technology have changed the way how banking used to be. The rate of adopting E-banking in Pakistan is low and customers choose to visit branch over using E-banking for their banking transactions. This research aims to study the impact of technology adoption and the acceptance of banking application by the bank customers and test customer behavior toward the adoption of technology using a unified theory of acceptance and use of technology model (UTAUT).

3. Literature Review

There are several studies which explores issues in adoption of technology. One of the most known models is technology acceptance model TAM which was adaption of TRA theory of reasoned action which evaluates intention of use [9]. Further, Venkatesh et al. created UTAUT (Unified Theory of Acceptance and Use of Technology) Model. UTATU is used for understanding the adoption and usability of technological and scientific products by the perspective users [10]. In this model Venkatesh et al. compared different eight models to formulate this Unified Theory of Acceptance and Use of Technology. The result of this study show the determinants of intention to use which we will be using in our survey. Since then, researchers have applied and tested UTAUT model to understand the user's behavior towards adoption of technology. It was incorporated to understand Web-based learning by Chiu and Wang (2008) [11], instant messengers' study by Lin and Anol (2008) [12] and online bulletin boards study by Marchewka et al. (2007) [13]. In internet banking adoption context was studied by Samar rahi et al. (2018) [3].

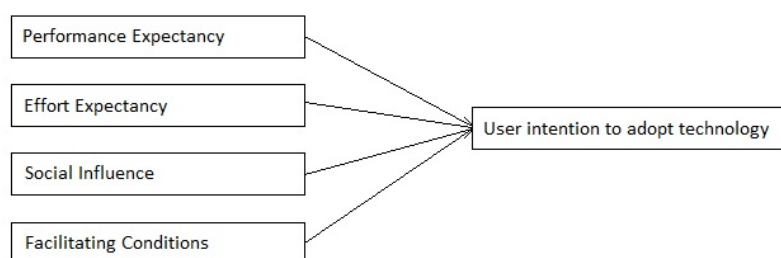


Fig.1. Theoretical Framewor

4. Methodology

A questionnaire-based survey is conducted to gather the information about the acceptance of technology by the bank customers. The questionnaire consists two sections. The first section inquires about the demographic variables like gender, age etc. of the respondents and the other section of the questionnaire inquires about measurement items of performance expectancy, effort expectancy, social influence and facilitating condition to adopt internet banking which are adapted from the UTAUT model. These factors of UTAUT are previously applied by many researcher to understand the adoption of technology by bank customer in culturally different countries. We have used Likert Scale approach to grade the question asked in questionnaire. The scale was defined as:

1. Strongly Agree
2. Agree
3. Neutral
4. Disagree
5. Strongly Disagree

A. Research Context

This study focuses on the intention or acceptance of bank user to use the banking application. A questionnaire-based survey is performed on a group of at least 100 people from different organizations. The selected participants were Students, Banking IT personals, senior citizens and non-IT professionals from different banks in Pakistan.

The questionnaire focuses on 4 types of questions related to the UTAUT model which focuses on the acceptance of technology by application users. The categories for questions are: Performance expectancy, Effort expectancy, Social influence and Facilitating conditions.

B. Research Method

The information for this research study is gathered by a questionnaire answered by 100 participants. The categories of questions in this questionnaire are adopted from prior research. This study involved 100 participants; The participants were asked to rate out of 1 to 5 on each question asked in the questionnaire. The questions are:

1. Do you find banking systems to be useful?
2. Do the banking systems allows me to execute tasks more quickly?
3. Interacting with banking systems is clear and understandable?
4. It would be easy for me to become skillful at using the banking systems?
5. The banking systems are easy to use?
6. The banking systems are easy to learn and operate?
7. People in your circle use the banking systems?
8. Your Bank encourages you to use the banking systems?
9. The Bank offers incentives, so you use the banking systems?
10. Do you worry about people gaining access to your account and misusing it?
11. I have the resources necessary to use the banking system?
12. Do you feel more awareness and training from your bank shall facilitate you and encourages you to use the systems?
13. Whenever you need to use internet banking facility anywhere, do you have easy access to computers/Internet at that place?
14. You can contact anyone for assistance with system difficulties?

5. Results

This study involved participants from different Age groups; 33 of them which makes 33% belongs to the age group Under 20 years, 46 of them which makes 46% belongs to the age group between 20-30 years, 11 of them which makes 11% belongs to the age group between 31-40 years, 7 of them which makes 7% belongs to the age group between 41-50 years, 3 of them which makes 3% belongs to the age group Over 50 years. The figure 2 below is pictorial representation.

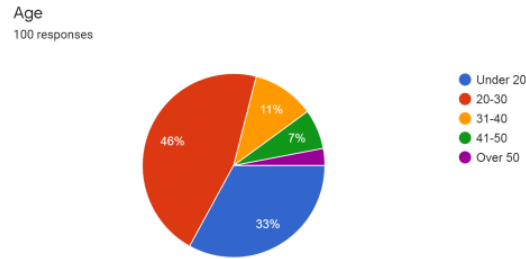


Fig.2. Age Group

Most of the respondents involved in this study were male 72% while the females were 28%. The figure 3 is the pictorial presentation.

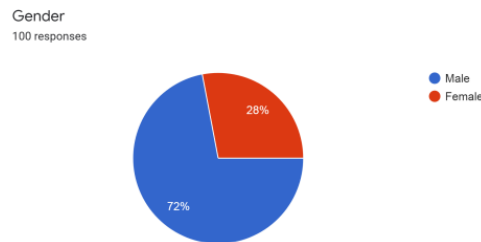


Fig.3. Respondents Gender

This study involved participants from different Occupations; 52 of them which makes 52% were students, 34 of them which makes 34% were private sector employee, 3 of them which makes 3% were public sector employee, 3 of them which makes 3% were pensioners or retired employees, 8 of them which makes 8% listed themselves as others such as unemployed, housewives etc. The figure 4 below is pictorial representation.

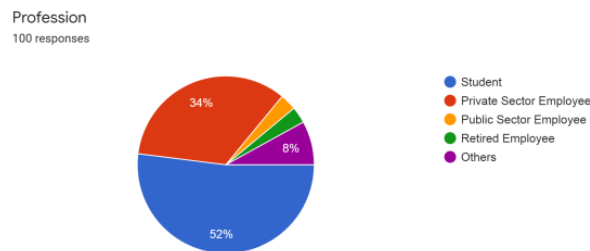


Fig.4. Respondents Occupation

Most of the respondents involved in this study owns a smart phone 94% while 6% do not have a smart phone. The figure 5 is the pictorial presentation.

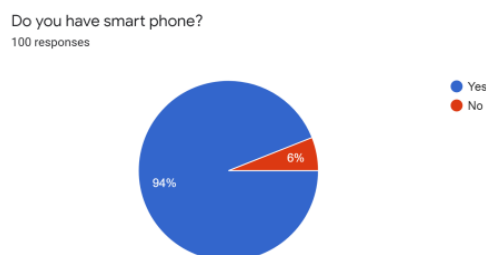


Fig.5. Smart phone owners

The majority of the respondents involved in this study Prefers Online banking 69% while the other 31% prefers to visit branch themselves. The figure 6 is the pictorial presentation.

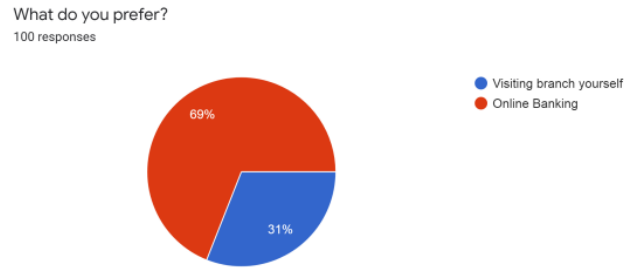


Fig.6. Respondents Banking Preference

The majority of the respondents involved in this study are familiar with the banking systems 82% while the other 18% are not familiar or needs training. The figure 7 is the pictorial presentation.

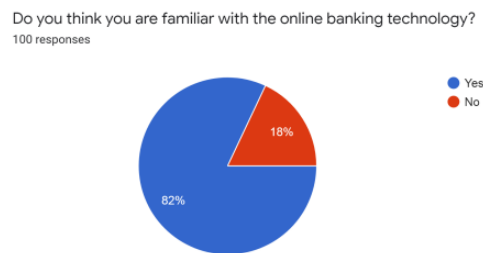


Fig.7. Technology familiarization

This study involved participants who have past experience or no experience of using internet banking; 32 of them which makes 32% have no experience using internet banking, 29 of them which makes 29% have less than a year experience, 27 of them which makes 27% have 1-3 years of experience, 11 of them which makes 11% have 3-7 years of experience, 1 of them which makes 1% have more than 7 years of experience in using internet or online banking. The figure 8 below is pictorial representation.

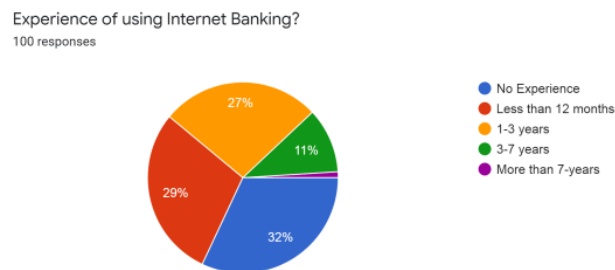


Fig.8. Internet banking experience

Two question were asked to measure the performance expectancy which is one of the constructs of UTAUT model theory; The first question asked was that if bank users finds the banking system useful. 50 of the participants which makes 50% of respondents said that they strongly agree to that it's useful. 23 of them which makes 23% of respondents said that they just agree. 13 of them which makes 13% of respondents said that they are neutral about this question. 8 of them which makes 8% of respondents said that they disagree and 6 of them which makes 6% of respondents said that they strongly disagree that the banking systems are useful. Figure 9.1 is the pictorial representation of this question responses.

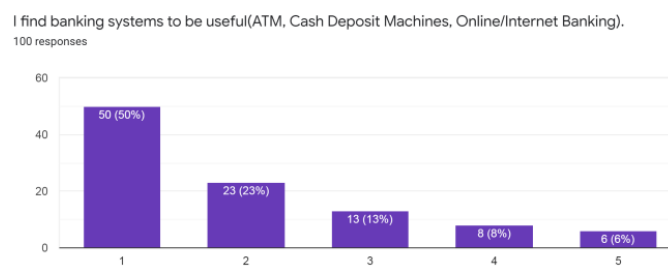


Fig.9.1. Performance expectancy Q1

The second question asked was that using the banking systems allows customer to finish their tasks more quickly. 50 of the participants which makes 50% of respondents said that they strongly agree to that it's true. 17 of them which makes 17% of respondents said that they just agree. 20 of them which makes 20% of respondents said that they are neutral about this question. 7 of them which makes 7% of respondents said that they disagree and 6 of them which makes 6% of respondents said that they strongly disagree that the system enables them to accomplish task more quickly. Figure 9.2 is the pictorial representation of this question responses.

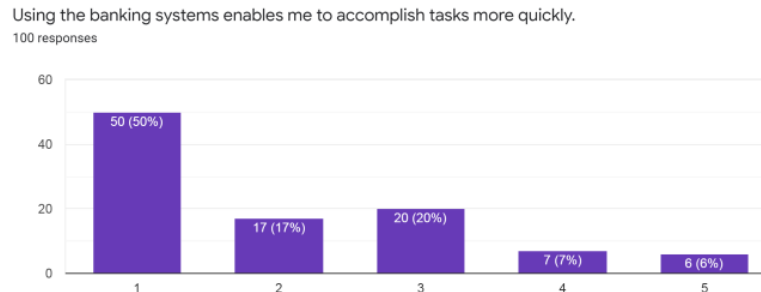


Fig.9.2. Performance expectancy Q2

Four questions were asked to measure the Effort expectancy which is one of the constructs of UTAUT model theory; The first question asked was that if interacting with banking system is clear and understandable. 37 of the participants which makes 37% of respondents said that they strongly agree to that it's easy to use. 31 of them which makes 31% of respondents said that they just agree. 20 of them which makes 20% of respondents said that they are neutral about this question. 8 of them which makes 8% of respondents said that they disagree and 4 of them which makes 4% of respondents said that they strongly disagree that the banking systems are clear and understandable. Figure 10.1 is the pictorial representation of this question responses.

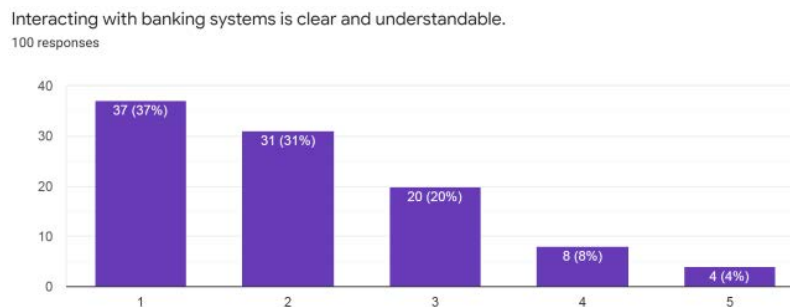


Fig.10.1. Effort expectancy Q1

The second question asked was that if it's easy to become skillful at using banking systems. 27 of the participants which makes 27% of respondents said that they strongly agree to that it's true. 36 of them which makes 36% of respondents said that they just agree. 25 of them which makes 25% of respondents said that they are neutral about this question and 12 of them which makes 12% of respondents said that they disagree that they won't become skillful while using banking systems. Figure 10.2 is the pictorial representation of this question responses.

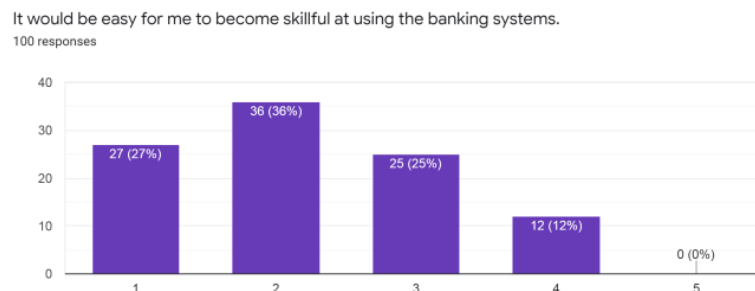


Fig.10.2. Effort expectancy Q2

The third question asked was that if it's easy to use banking systems. 26 of the participants which makes 26% of respondents said that they strongly agree to that it's true. 38 of them which makes 38% of respondents said that they just agree. 21 of them which makes 21% of respondents said that they are neutral about this question. 11 of them which

makes 11% of respondents said that they disagree and 4 of them which makes 4% of respondents said that they strongly disagree that banking system are easy to use. Figure 10.3 is the pictorial representation of this question responses.

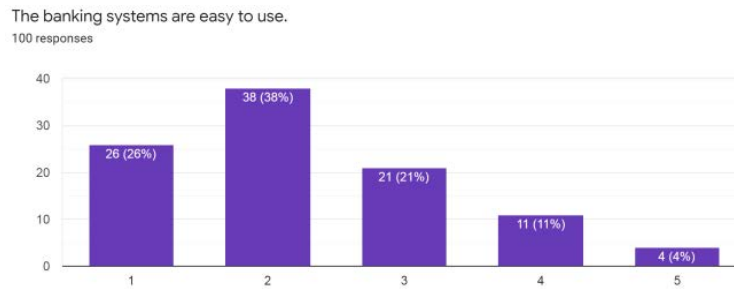


Fig.10.3. Effort expectancy Q3

The fourth question asked was that if it's easy to learn and operate banking systems. 26 of the participants which makes 26% of respondents said that they strongly agree to that. 39 of them which makes 39% of respondents said that they just agree. 23 of them which makes 23% of respondents said that they are neutral about this question. 9 of them which makes 9% of respondents said that they disagree and 3 of them which makes 3% of respondents said that they strongly disagree that it's not easy to learn and operate banking systems. Figure 10.4 is the pictorial representation of this question responses.

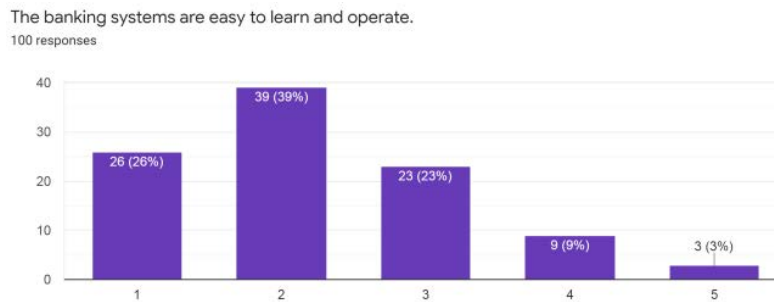


Fig.10.4. Effort expectancy Q4

Four questions were asked to measure the Social Influence which is one of the other constructs of UTAUT model theory; The first question asked was that if people in your circle prefer to use the banking systems. 38 of the participants which makes 38% of respondents said that they strongly agree. 33 of them which makes 33% of respondents said that they just agree. 20 of them which makes 20% of respondents said that they are neutral about this question. 7 of them which makes 7% of respondents said that they disagree and 2 of them which makes 2% of respondents said that they strongly disagree. Figure 11.1 is the pictorial representation of this question responses.

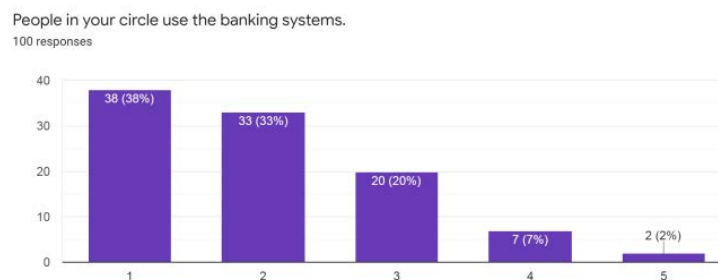


Fig.11.1. Social Influence Q1

The second question asked was that if your bank encourages you to use the banking systems. 32 of the participants which makes 32% of respondents said that they strongly agree. 35 of them which makes 35% of respondents said that they just agree. 21 of them which makes 21% of respondents said that they are neutral about this question. 8 of them which makes 8% of respondents said that they disagree and 4 of them which makes 4% of respondents said that they strongly disagree. Figure 11.2 is the pictorial representation of this question responses.

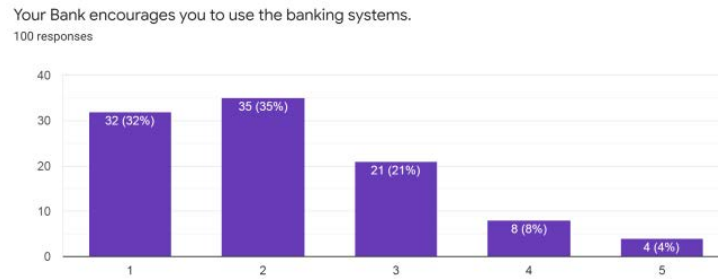


Fig.11.2. Social influence Q2

The third question asked was that if your bank offer incentives if you use banking systems. 36 of the participants which makes 36% of respondents said that they strongly agree to that it's true. 31 of them which makes 31% of respondents said that they just agree. 17 of them which makes 17% of respondents said that they are neutral about this question and 10 of them which makes 10% of respondents said that they disagree and 6 of them which makes 6% of respondents said that they strongly disagree. Figure 11.3 is the pictorial representation of this question responses.

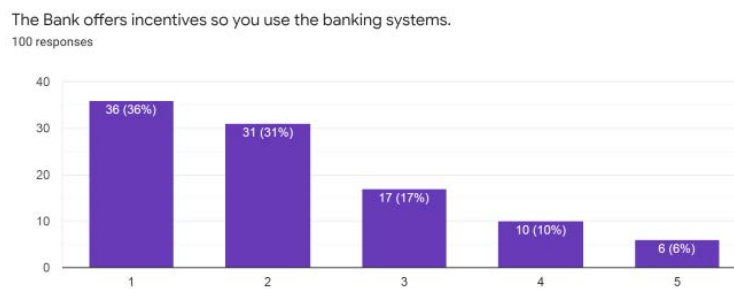


Fig.11.3. Social influence Q3

The fourth question asked was that if they worry that someone else would access their account and misuse it. Majority of the respondents involved in this study said that they are afraid 75% while the other 25% do not worry. The Figure 11.4 is the pictorial representation of this question responses.

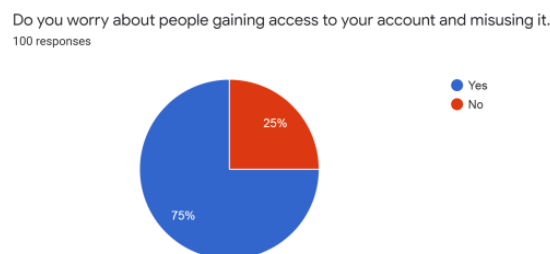


Fig.11.4. Social influence Q4

Four questions were asked to measure the Facilitating condition which is one of the constructs of UTAUT model theory; The first question asked was that if you have resources necessary to use the banking systems. 42 of the participants which makes 42% of respondents said that they strongly agree to that. 25 of them which makes 25% of respondents said that they just agree. 16 of them which makes 16% of respondents said that they are neutral about this question. 13 of them which makes 13% of respondents said that they disagree and 4 of them which makes 4% of respondents said that they strongly disagree. Figure 12.1 is the pictorial representation of this question responses.

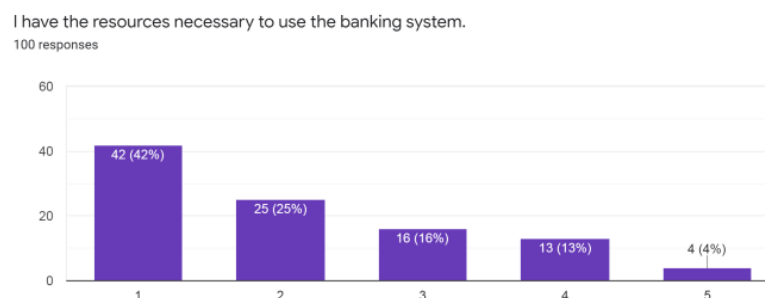


Fig.12.1. Facilitating condition Q1

The second question asked was that bank should provide awareness and training to use the banking system. 35 of the participants which makes 35% of respondents said that they strongly agree. 33 of them which makes 33% of respondents said that they just agree. 23 of them which makes 23% of respondents said that they are neutral about this question. 6 of them which makes 6% of respondents said that they disagree and 3 of them which makes 3% of respondents said that they strongly disagree. Figure 12.2 is the pictorial representation of this question responses.

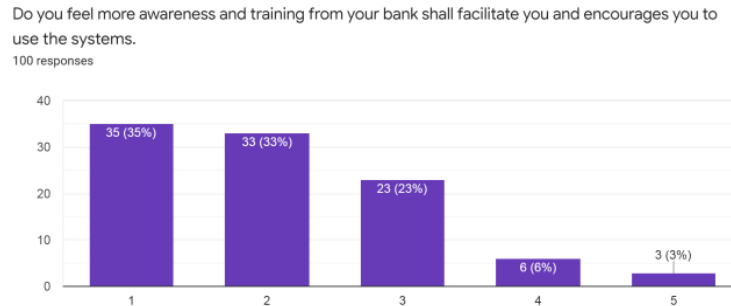


Fig.12.2. Facilitating condition Q2

The third question asked was that if they have easy access to internet/computer whenever they need to access banking systems. 23 of the participants which makes 23% of respondents said that they strongly agree. 40 of them which makes 40% of respondents said that they just agree. 26 of them which makes 26% of respondents said that they are neutral about this question and 8 of them which makes 8% of respondents said that they disagree and 3 of them which makes 3% of respondents said that they strongly disagree. Figure 12.3 is the pictorial representation of this question responses.

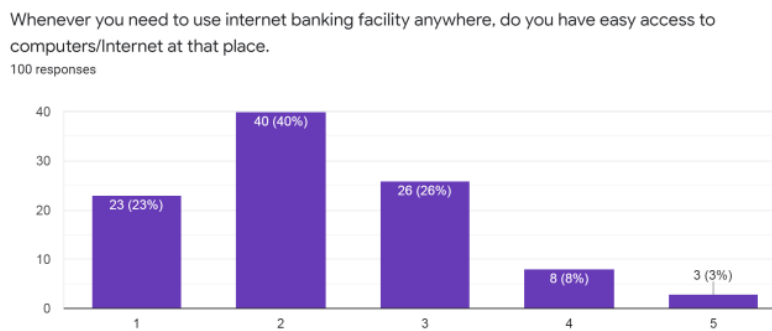


Fig.12.3. Facilitating condition Q3

The fourth question asked was that if they can contact anyone from bank whenever they need assistance. 39 of the participants which makes 39% of respondents said that they strongly agree to that. 22 of them which makes 22% of respondents said that they just agree. 29 of them which makes 29% of respondents said that they are neutral about this question and 7 of them which makes 7% of respondents said that they disagree and 3 of them which makes 3% of respondents said that they strongly disagree. Figure 12.4 is the pictorial representation of this question responses.

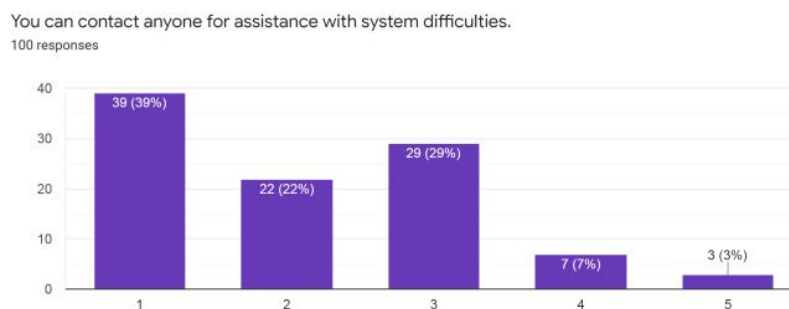


Fig.12.4. Facilitating condition Q4

6. Discussion

This research has examined the UTAUT model in Pakistan and has proved that performance expectancy, effort expectancy, social influence and facilitating condition affect the individual user's perspective in adopting the internet

banking. The influential factor of unified theory of acceptance and use of technology model was performance expectancy among all the other factors according to this study. The objective of this study was to provide insights into a better approach to promote e-banking acceptance. Therefore, higher management of the banking sector in Pakistan should take some steps to improve the performance expectancy of internet banking for its customers which would increase the trend of adopting online/internet banking. Banks should also inform their customers about different competitive services they provide. Banks should also make e-banking easy-to-use so customer adopts to it effortlessly.

There were some limitations to this research. The first limitation was that we used voluntary response sampling which is a type of non-probability sampling approach. The second limitation is that we used cross-sectional analysis to measure the user acceptability for internet banking. In future research unified theory of acceptance and use of technology model could be extended with other factors like e-customer services, reliability and websites or application design to get more knowledge about the bank users' intention to adopt online/internet banking and the UTAUT model could also be used with other domains such as online shopping and mobile payments.

7. Conclusion

This research analyzed and extend the area of information about technology adoption. There are several studies which explores the issues in adoption of internet banking with different variables but ignored the technology context. Therefore, this study examined the unified theory of acceptance and use of technology model in Pakistan and has proved that adoption of internet banking is jointly predicted by facilitating condition, social influence, Effort expectancy and performance expectancy. These results indicate support with unified theory of acceptance and use of technology findings with Venkatesh et al. The influential factor of unified theory of acceptance and use of technology model was performance expectancy for user's intention to adopt internet banking among all the other factors according to this study. The other three factors social influence, facilitating condition and effort expectancy had small effect the user's intention to adopt internet banking. The focus of this study is on user adopting to technology, therefore, several beneficial areas remain to be researched in other online technology acceptance, for instance, online shopping or e-commerce.

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