

# **INTERNET BANKING ADOPTION IN UZBEKISTAN**

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# **INTERNET BANKING ADOPTION IN UZBEKISTAN**

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## ABSTRACT

This research paper is an empirical study about the various variables which influence the adoption of internet banking facility among Uzbekistan customers. The various variables examined for this research purpose were Perceived usefulness, perceived ease of use, trust, and government support were tested in order to determine their effects on the adoption of internet banking among Uzbekistan customers. The questionnaires were distributed to bank customers and data from 103 respondents was later analysed using descriptive analysis and linear regression. The results showed that perceived usefulness, perceived ease of use, government support are statistically significant at one percent while perceived ease of use is significant at one and five percent level of significance. Perceived ease of use and trust are however, negatively related to internet banking adoption among customers in Uzbekistan. The findings imply that the internet banking facilities should be made simple for people to use it while security measures need to be built to gain greater trust from customers to use internet banking.

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

Modern Internet technology has swiftly developed in many business environments and is mainly used for improvements in their performances. According to Saffu et al. (2008) there is a remarkable raise in applications of the e-commerce business in the last ten years. There are a lot of benefits of using this e-commerce study and some of them are reduction in cost, improved business chance and decreased lead time providing the consumers with more significant options (Turban et al., 2008). One of the most important e-commerce instrument is the acceptance of the internet banking model among the clients, the IT tools have positively provided a vast maintenance to the services presented by the banking industry (Dawes & Rowley, 1998). Many banks in the world are using this technology in their operations and their services use internet. The internet banking technology is developing quickly round the world including Uzbekistan.

#### **1.1 Definition of internet banking**

Internet banking can be explained as the bank distribution channel. Researchers give different views on internet banking definition. According to Daniel (1999) and Mobarek (2007), using new electronic and technical development, customers can directly transfer amounts, and can easily use banking services by internet or electronic banking. Electronic or internet banking refers to different types of facilities and services by computer network, and mobile phone, by which bank clients can ask for information and also do retail banking facilities and services (Mols 1998).

Kolodinsky et al. (2004) point out that internet banking can be defined in several types, as follows:

- Online banking
- Telephone banking or mobile banking
- Offline banking
- Internet banking or electronic banking
- Television-based banking

Using internet banking by the mobile phone is very fast and easy. According to several researches, internet banking communication is investigated by internet related to a network which is convenient, secure, ease to use and is an effective way for banking system. Electronic banking facilities and services can be available for bank operations, transfer money, payments and also online shopping for customers housed by internet without any difficulties. Account system, transfer money, credit card payments include in internet banking services. Internet attracts many people and its convenience and benefits show that internet banking will be very popular and also this growth will influence people's revenue and education levels. Research has been evaluated about internet banking partially by scientists and scholars (Daniel and Storey, 1997).

In growth of banking systems and its services, internet banking is a helpful instrument to assist in decreasing paper usage. It is not easy to keep paper records, which are being damaged in current time. Nearly, most financial institutions with millions of clients have replaced paper records by internet networks. A number of bank customers request to keep the receipts and paper files in their personal mobile phones

and own computers, which are connected to their bank (Sullivan 2000).

## **1.2 Customer and Internet Banking**

Only a small number of consumers would hesitate to use internet banking while others see that it would play a vital role for banking system in the coming future. Likewise, internet banking and its branches are increasing extensively. This is essential fact for a modern technology can be really sophisticated, many basic facts as is shown that the banking customer services are very important (Turban et al. 2008). Many retail bank branches are expected to be reduced in Uzbekistan in the future, due to development of internet banking. Technology is all the time could be tailored to consumer's needs, However, internet banking could be used side by side with personal banking as some clients would like to talk face to face about their investments and more complex financial produce with their bankers.

At current time, most of the national banks, local banks and also credit unions recommend many forms of internet banking or electronic banking. Accordingly, online banks do not have the objective to open branches. The issue confronts this new internet banking services is how to make bank customers willingly to learn how to use internet banking and also to trust them. Furthermore, banks have spent considerable amount of money to earn customers' trust; they do not want to risk with internet that is confusing or less than secure to customers. Nowadays, several banks offer full safely, and functional internet banking for more conveniences at cheaper costs. Some of the mini banks suggest limited contact; for example, consumers can view their bank account and their full information data. However, they cannot open online

contacts. If banks are successful online, official sites will be used by more customers, as a result, internet banking will be so ordinary as Automated Teller Machines (ATM), (Times, 1999).

In the current life, the electronic technology is more essential in daily life. One of the most developed information technology is internet services. It has grown famous for the past ten years, similarly it gives more convenient opportunities in owned businesses. In addition, banking branches could really follow marketplace trends and also improved its services. Banks are suggesting further services for clients and also compensate credit cards to open account so that payments will be made instantly, such as account wide-ranging so that money can be transferred automatically to any accounts requiring payment of the least feasible amount (Amor, 2000).

Last for a few years, internet banking has industrialized very fast and started an important tool in a great economic market. Even though, there are more competitions, the number of customers is increasing. Hence, companies using Internet banking still have an occasion to increase their market share. On the other hand, the banks and customers have to know their preferences. In this research paper, we shall discover factors related to users' preferences and convinces about internet banking. Information technology can be used for internet banking using this research's and also managers can develop better services. Hence, Internet banking market will be enlarged when more consumers are using them (Venkatesh *et al.*, 2003).

### **1.3 Background of the Study**

Since in the early 1991s, efficient changes of reflective importance were started to grow in worldwide banking system. Extended joints between banks and also monetary institutions increase competitively. There were new financial changes that could improve the level of economy and production of economic qualities. Banking business recorded a commendable increase in 1980 in development of balance sheet and profits and losses, similarly conditions expand monetary services. Llewellyn,(1993) states that most banks have monopoly control and relative rewards over their customers as long as banking service qualities meet their customers' expectations.

In 1991, the banking system in Uzbekistan changed rapidly. The conventional services of banks are declining with the introduction of internet banking. This trend is similar to that happened in the US whereby financial system witnessed the most banks reduced from 55 banks in 1951 to 28 banks in 1996 (Bert Schoteens & Dick Winsween ,2000).

*“Banks have misplaced market share of several financial intermediation business to the capital market, non-bank financial institutions, and non-finance companies”*  
*(Besiginano, 1991).*

In Uzbekistan, fast economic development takes place in Tashkent, the capital city of Uzbekistan. Many banks are located in Tashkent since it is also the centre of commerce and trade for Uzbekistan. Banks in Tashkent have improved customer services by using internet banking adoption. Asaka Bank , Hamkorbank, Kapital Bank, People's Bank, Micro Credit Bank offer their internet banking services to

customers. Today, Trust bank, Turon bank, Asaka bank in Tashkent that is the financial markets provide internet banking services for customers.

In this research, the researcher aims to determine internet banking acceptance in Tashkent by customer view. As market is more competitive nowadays, internet banking providers compete to become a greater market. It is extremely significant for market development to create brand customer loyalty. That is very vital for internet banking providers to develop their qualities for the consumers. Although safety cases have improved, they are making a problem for the clients. Facility excellence and also modernisations need main concern in internet banking management (ABA, 2004).

There are lots of other non financial organisations as well which occasionally challenge the banks with the technology. The researcher here by focuses on the influence which this new technology has had on the banking industry where by focussing especially in the banks of Uzbekistan and the main objective of the research would be how the banks measure the value and performance of Internet banking. Utilize of internet has industrialized greatly ,it is possible to contact their banks by internet easily, but how does this innovation is adapted and how can it be made more safe, the current issues being faced now are largely due to culture or due to the lack of knowledge is very important to find out (Goi ,2007).

According to Davila et al. (2006), internet banking allows customers to ensure their balances, view transactions, pay accounts and transfer money between their accounts and control their credit card payments, which is largely due to the innovative technology. Internet banking is available twenty four hours a day, seven days in a week. Internet banking perform as well as verify transactions in identical time and

faster than ATM. But how safe it is and how do people adapt to this new technology is the question here (Cooper, 2006).

#### **1.4 Problem Statement**

Most of the banks provide internet banking service for fast and suitable services to their customers. These qualities of the internet banking are rising due to the economical business world (Bruno, 2006). Customers with a relationship with internet can easy check account balance, pay and transfer money among the accounts. On the other hand, the security problem is the case that causes people to think twice of using the internet banking. The aim of the internet banking which is for banking customers is that are able to receive fast their accounts as well as they can do their money transactions any time and also without any challenges. The issue of security of internet banking remains a major concern for banks and for customers.

However, there has yet to be a systematic investigation among the customers as to how they perceive elements involving internet banking particularly in Uzbekistan, especially in terms of usefulness and ease of use of internet banking. Different segments of the population have different reactions to internet banking. For example, often the young people are faster accepting latest modern technologies, than the old people. They occasionally have some problems to use internet banking and to adopt to new changes (Huaang, 2008). In order to make internet banking to be widely needed by all people, it is necessary to conduct interview with older and younger customers to find out their perceptions and their ability to adopt internet banking. Currently,

there is lack of data pertaining to customer feedback on internet banking by age groups and their level of trust on internet banking.

The last problem statement is that the role of the government to support internet banking has yet to be investigated. Developing countries like Uzbekistan may prosper with better banking services with the government support on the information management technology, ICT companies and legal infrastructure.

### **1.5 Research Questions**

1. What are the banking customers' demographic data in Tashkent, Uzbekistan?
2. What are the factors affecting customers internet banking adoption?
3. To what degree is the government support influences the adoption of internet banking?
4. What is the level of trust of customers towards internet banking?

### **1.6 The Objectives of the study**

The purpose of this research is to obtain the data and also information analysis of bank customers' perception on internet banking in Uzbekistan.

The followings are the specific objectives of the study:

1. To find demographic information of bank customers in Tashkent, Uzbekistan.

2. To examine factors that affect internet banking adoption in Uzbekistan, in terms of perceived usefulness, perceived ease of use internet banking by customers.
3. To investigate the role of Government in supporting internet banking.
4. To find out level of trust of bank customers towards internet banking.

### **1.7 Significance of the Study**

This study is significant to bank management in Uzbekistan, because it will help to provide information about the factors that affect internet banking adoption in this country. Overcoming these factors such as security factors, usefulness of internet banking will help the banks to provide or offer internet banking to meet their customers' requirements.

The findings will also show the importance of the government role in enhancing internet banking infrastructure in banking industry. This will help in trade and commerce to grow more rapidly with better and faster communication and payment facilities through internet banking.

For bank customers, the study is significant in getting greater adoption of internet banking whereby they can do their banking transactions in a more convenient and secured methods.

### **1.8 Limitations**

1. The research study will be limited to customer's perception in Tashkent, Uzbekistan only
2. The research will be based on responses from bank customers only.

## **1.9 Organization of the Research Paper**

The research paper is organized as follows: chapter one of this study discusses about the background of internet banking and overall banking system in Uzbekistan, in particularly in Tashkent, which is the capital city. This chapter contains the introduction, the problem statements, research questions, research objectives and limitation of the study. Chapter two presents the literature review, followed by chapter three which describes the research methodology. Chapter four discusses the results and chapter five concludes the research paper as well as the recommendations.

## CHAPTER TWO

### Literature Review

#### 2.0 Introduction

The literature review of the chapter two is about the review of Uzbekistan and its banks in section 2.1. Furthermore, section 2.2 reviews about internet banking sector followed by review of related theory in section 2.3. Section 2.4 presents the review of previous researches.

#### 2.1 Uzbekistan and its Banks

Uzbekistan, officially the Republic of Uzbekistan is located in Central Asia. It is a constitutional, unitary, presidential republic, including 1 autonomous republic, 1 independent city and also 12 provinces. Uzbekistan commercial banks, the National Bank for Foreign Economic Activity (NBU) is in a rank of its own in Central Asia. It is the most important financial institution in Uzbekistan. The first bank in Uzbekistan to accept IAS, with a well industrial network of 96 offices NBU boasts a national provide to commercial and retail customers. The Banker's Top 1000 world's largest banks ranked it in 562<sup>nd</sup> step. The banks have 689 correspondent banks. NBU offers all types of banking and finance services to domestic and foreign customers. In order to attract inter-national capital to the republic, NBU actively cooperates with its foreign partners-investment banks.

The other commercial banks of Uzbekistan can be divided into three categories:

- joint stock banks with variable state participation (from full, long-term perspective control through to temporary majority and minority stakes).
- Fully privately owned joint-stock banks.

- Joint-venture banks between local and foreign financial institutions.

Nowadays there are more than 30 banks and financial institutions in Uzbekistan, 18 of them have received a license for hard currency operations, and 11 also have a general license for all categories of international transactions and domestic operations ( Jenkens, 2008).

**Table 2.1 Banks in Uzbekistan**

No	Bank's Name	Website
1.	National Bank for Foreign Economic Activity of the Republic of Uzbekistan	<a href="http://www.nbu.com/">http://www.nbu.com/</a>
2.	State-commercial "People's Bank"	<a href="http://www.xalqbank.com/">http://www.xalqbank.com/</a>
3.	State joint stock bank "Asaka"	<a href="http://www.asakabank.com/">http://www.asakabank.com/</a>
4.	Joint stock mortgage bank "Ipoteka-банк"	<a href="http://www.ipotekabank.uz/">http://www.ipotekabank.uz/</a>
5.	Uzbek joint stock commercial Industrial construction bank	<a href="http://www.uzpsb.uz/">http://www.uzpsb.uz/</a>
6.	Joint stock commercial "Pahta Bank"	<a href="http://www.pakhtabank.com/">http://www.pakhtabank.com/</a>
7.	Republic joint stock commercial bank "Gallabank"	<a href="http://www.gallabank.com/">http://www.gallabank.com/</a>
8.	Joint stock commercial bank "Turon"	<a href="http://www.turonbank.uz/">http://www.turonbank.uz/</a>
9.	Joint stock commercial bank "Mikrokreditbank"	
10.	Joint stock commercial "Aloqabank"	<a href="http://www.alokabank.uz/">http://www.alokabank.uz/</a>
11.	Joint stock innovation commercial bank "Ipak Yuli"	<a href="http://www.ipakyulibank.com/">http://www.ipakyulibank.com/</a>
12.	Joint stock commercial bank "Hamkorbank"	<a href="http://www.hamkorbank.uz/">http://www.hamkorbank.uz/</a>
13.	Joint stock commercial bank "Kapitalbank"	<a href="http://www.kapitalbank.uz/">http://www.kapitalbank.uz/</a>
14.	Private joint stock exchange bank "Trustbank"	<a href="http://www.trustbank.uz/">http://www.trustbank.uz/</a>
15.	Private joint stock closed commercial bank "Parvina-bank"	
16.	Private joint stock open commercial bank "Alp Jamol Bank"	<a href="http://www.alpjamlbank.com/">http://www.alpjamlbank.com/</a>
17.	Private joint stock open commercial investment bank "Turkestan"	
18.	Private joint stock closed commercial bank "Davr-bank"	
19.	Private joint stock open commercial bank "Uktambank"	
20.	Private joint stock closed commercial bank "Samarkand"	
21.	Private joint stock open commercial bank "Universal Bank"	

22.	Private joint stock open commercial bank “Credit-Standart”	<a href="http://www.credit-standard.uz/">http://www.credit-standard.uz/</a>
23.	Private joint stock open commercial bank “Ravnak Bank”	<a href="http://www.ravnakbank.uz/">http://www.ravnakbank.uz/</a>
24.	Closed joint-stock company “UzKDB Bank”	
25.	Closed joint-stock company “Uzbekistan-Turkish Bank”	<a href="http://www.utbank.uz/">http://www.utbank.uz/</a>
26.	“ABN AMRO Bank NB Uzbekistan PC”	<a href="http://www.abnamro.com/">http://www.abnamro.com/</a>
27.	Uzbek-German joint –stock commercial bank “Savdogar”	<a href="http://www.savdogarbank.uz/">http://www.savdogarbank.uz/</a>
28.	Subsidiary bank of the Saderat bank of Iran in Tashkent, Republic of Uzbekistan	

Source:

1.UzinfoinvestAgency([www.uzinfoinvest.uz](http://www.uzinfoinvest.uz))

## 2.2 Internet banking sector

Internet Banking has fascinated a growing consideration for the last few years from bankers as well as previous monetary services in commerce participants, the industry pressure, regulators, both in the US and also in developing countries. This is due to the swift and major increase in electronic commerce or (e-commerce) as mentioned in (Huy, Filiatralut,2006). Additionally, commerce analysis gives information the possible influence of Internet banking on monetary savings, profit increase, and also increase client conveniences, as well as have generated significant attention to expand business (Chong and Ooi, 2008).

Bank institutions have developed into a crucial for the most part economies. They operate as ‘conduits’ to promoting economic enlargement, and that they are closely linked to the economic increase. Modernization has turned into an important component to facilitate growth in the economic environment. In that context, banking has taken steps to use internet banking to improve in conducting their operations (ABA,2003).

Phan Cunhan (2005) find that, technological improvement allow banks to offer an enormous selection of financial goods and services, to trade and extensive consumers throughout electronic sharing channels, internet banking or e-banking. This tendency is expected as banks have constantly been actively concerned in using technology to develop their products and services to meet, customer satisfaction.

### **2.3 Benefits to Banks and Financial Institutions**

#### *Decreased Transaction Costs*

Decreased Transaction Costs is a cost of delivery of the bank produce and facilities. Mass media advertisement is not cheap. Therefore, newspaper advisement and a television business which are cost increased that will include delivery cost of the banks products. By Internet, a web server, graphics designer and also marketing could be on the web page for as the banks want. By that cost will not run to repeat and its cost will be also more useful. Similarly, The advertisement will be available 24 hours and added often news on the website and customers can contact any times. By online services, the banks recommend their services and as a result the banks will be available cost reduction, savings and also will not demand more labour.

#### *Greater Income*

The banks as well as other business sectors can sell their products for customers by using web sites. By this will rise the choice of products, likewise fascinate more clients.

## **Retail Customers**

### *Decreased Cost*

This is used as cost different banking products. The banks can offer their lower cost transits, it will be also legal to expect a lowest cost for clients.

### *Comfort*

Office, home, even any places can be more comfortable to do bank transactions. Likewise, bank customers can visit their banks on line any time they want.

### *Speed*

The Internet is very fast speed. In fact, web servers and internet service providers come into play. Customers can manage it in short time and also make better decisions in investments.

## **Commercial Customers**

### *Cost Reduction*

In over view, business customers can enjoy lowest prices, when they use a variety of banking products.

### *Effectiveness*

Internet is provided for users to transfer as a high speed. Thus, businesses can pay bills via cash by accounts while they earn as much interest as possible form their cash reserves. Similarly, they could monitor markets changes at minute intervals and make investments at the most profitable timings. Technology experts say the most effective solution is educating the users, and not banks throwing more money at authentication

hardware or getting their customers discounts on anti-virus software. Banks can always add more security features to their online systems, such as additional layers of passwords, smart-card readers, longer lag times and approval processes, and requiring written authorization for fund transfers. But these would erode the very appeal of e-banking, which is its instantaneous appeal. Internet banking looks set to stay as Singapore becomes more wired, PCs more affordable and more users recognizing the conveniences of e-banking.

## **2.4 Underpinning Theory**

### **2.4.1 Theory of Reason Action (TRA)**

The Theory of Reasoned Action is the theory in studies involving the adaption of online payable system. Commonly the theory describes a person's performance which is defined by his/her purpose to achieve the performance and his/her personal norms (Davis, 1989). Based on the theory of TRA, the person's actions whether to believe or refuse is shown by his own attitude and other personal norms. The position to the behaviour can also be determined by a person's feelings and his manners which can be positive or negative. This action is further accentuated by a person's own attitude and importance which arise from his manner and the experience which he undergoes.

Motivation comes from the rational part of a mankind, logical belongings are things that makes intelligence in a person's mind, that is logical. In certain times, motivation tend to be based on less logical reasons; they are inside feelings that in some personal instances are unreasonable. But, it is ordinary that the person's feelings impacts a person's motive. Motive and also feelings are necessary in mitigating ethical decisions. Ethical decisions are easy decisions where every person can do difference

between which is correct and which is incorrect. As feelings are extremely unreasonable, the perfect solution would be for people to give good reasons for their ethical decisions by cause and motive alone. The Realism is still that emotions play the main role in human life, that they can be uncared , and for that, cause both motive and feeling to cannot be equal, however they still are essential in mitigating an unethical decision. What comes down to finally is human being that can do the ethical decision. Some persons are more causes oriented; people are especially excellent in ignoring their emotions and pay attention to basic reason, whereas others are more exciting people and would believe that emotions are more essential in mitigating ethical decisions. While nobody can extremely pay no attention to one of this traits, both of them are essential to make moral decisions, and also amount of their requirement belongs to a personality that is making the ethical decision (Genoni, P., Merrick, H. & Willson,2006). A customer before using the internet banking tries to reason what is the use of internet banking to him and how safe it is and does he has any reason to use it. This is a logical part of the human thinking which is natural attitude for every human with brain and that is it there for logical thinking. On the other hand, he would also depend on his past experience using the internet banking to influence his inclination to continue using internet banking (Meijer, A.J ,2007).

#### **2.4.2 Theory of Planned Behaviour (TPB)**

A person's purpose to use the behaviour or not to use it and also subject to captivate various motivational factors (Pishbein, Ajzen, 1975; Abrazhevich, 2004), and this is also applicable to the word internet banking as well.

The behaviour of people could be unpredictable and it depends on the attitude and the nature of human being which show different nature at different times. Different behaviours are determined by different ways, if approach impacts it, for that reason can guess behaviour, as we can define different type of behaviour. Planned behavioural theory which is importance for logic of human behaviour, however, different type of behaviour are not equally reasoned. Custom is essential for behaviour which is not thought, but occurs almost automatically without being mediated by attitudes. Custom is the result of repeated prior behaviour, and they show in future behaviour. In the case of internet banking, customers behaviour resolute more by his custom than attitudes. The same approach is also applied towards the adoption of technology and internet banking is the product of technology and as also predicted in Technology of Acceptance Model which is perceived ease of use is based on attitude of a customer (Davis, 1989; Venkatesh et al., 2003). If we verify firstly what people's attitudes, after that, it likes that attitudes work best as predictors of behaviour when they are strong and consistent. According to Katz and Lazarsfeld (1960) states that attitudes in relative to vote behaviour, if any voters move by pre-election publicity, it is not the committed, as most voters who have a physically powerful loyalty to their particular party. So a role of human behaviour makes lots of difference towards his perceptions towards the adoption of internet banking.

#### **2.4.3 Technology of Acceptance Model (TAM)**

In this study, Technology of Acceptance Model ( TAM) is also included as part of the theoretical framework. Technology of Acceptance Model theory indicates that perceived usefulness (PU) and perceived ease of use (PEU) of Information

Technology are main detail of its usage (Kee-Young & Lee,2008). PU and PEU are main essential predictors; they show personal manner and behaviour. TAM theory demonstrate that perceived usefulness (PU) and perceived ease of use (PEU) are very important to use Information System. TAM was particularly useful for create customer receiving to Information System with the purpose of explanation of the behavioural intention to use IS (Ajzen, 1991). According to P.Leegris (2003, p.191) states that of Planned Behaviour Theory is difficult to be applied by users with diverse context. Behavioural intention (BT) depends on attitude, subject norm (SN) and perceived behavioural control (PBC).

One of foremost scenarios to accept any Information Technology scenario in the market such as the Online banking many researchers have conducted studies with various frameworks in order to identify the various factors associated behind the acceptance of the technology from the mindset of the customers. Internet banking is a technological modernization (Lin & Lee, 2005). It shows that modernization adoption can also be used in online banking and one of the most common model in the adoption of technology from the consumers perspective is TAM technology Adoption Model (Davis,1989)Based on The TAM model .It was said that Perceived use and the perceived ease of use can forecast the approach of the customers to accept modern technology that again in turns impacts the human behaviour and his intention towards using the technology and the implemented system directly (Davis, 1989; Venkatesh et al., 2003). Due to TAM, perceived ease of use is a future adopter experts a modern technology adopted to use. Due to above the studies, this research will be used TAM as under the model and also it will be extended with other variables.

## **2.5 Review of past studies**

### **2.5.1 Defining Dependent Variable: Adoption of Internet Banking**

Internet banking defines “.... *the provision of retail and small value banking products and internet banking services through electronic channels. Such products and services can include deposit taking, lending, account management, the provision of financial advice, electronic bill payment products and services such as electronic money*”. According to Uzbekistan context, Uzbek Bankers have provided a wide-ranging category of internet banking (Committee, 2005).

The banking Industry is one of the oldest industry across the world back in 1782 when the first bank chartered in US (ABA ,2003,NUA.com;2003;Internet Banking Report,2005) and after this there has been a tremendous growth in the banking industry especially in the western countries(ABA,2005). The banking Industry provides and supplies credit and also acts as a means for saving(ABA ,2003). Such as an effective, efficient credit channel is very useful.

### **2.5.2 Alternative Channels of Financial Services**

The first electronic delivery started in 1968 in New York. ATMs, plastic cards, and a customer service system were improved. The first renaissance was profound but took about 20 years to fully take hold. The next regeneration is driven by the Internet at present. Economic industry was organized by financial clients in the 70 and 80 years. At present time, financial clients are waiting for the industry to catch up to their prospect levels. Information technologies have become very essential in modern daily life (Jeyaraj *et al.* 2006).

One of the modern technologies is internet, it becomes very famous in the last ten years. Internet has industrialized the latest new modern services for customers and also business sectors. Banking sectors in fact followed market trends and industrialized its a high services (Jeyaraj *et al.* 2006). Internet banking became famous at the end of 80's year but, a few years ago internet used not a large extended. However, in the current time of new technologies are provided internet banking as a competitive technology (Wang *et al.*, 2003).

The number of electronic banking was increased by internet banking users by an approximate 156% from 2002 till 2007. This shows a high percentage use of internet banking which recommend that it is open to competition. Nowadays, the most of the banks are provided internet banking services to individuals and businessmen. The internet bank facilities are increasing year by year (Grabner-Krauter & Faullant 2008).

Today, our young people are adopting the modern new technologies quickly, as old people are adopting those new changes with some difficulties. Internet banking a variety of economic facilities variously identified as a home banking, electronic banking, online banking representing that clients can use their bank services at work and also their home. And the security trust is very important for winning the heart of the customers (Jahangir & Begum 2008).

In recent period, internet banking suggests more 1,200 European financial institutions than before. In fact internet is provided delivery service for banks. In Sweden, the first where most banks were started to use internet banking deliver facilities, customers consider banks their portals and this enabled them to capture market share before the portals became big. Due to KPMG International September 2001, financial

institutions presently drive 13% of their income from business done on the Internet, and that share is accepted to rise to 28% in the next 18 months (ABA, 2003).

A major promise by online banking is the global reach. US financial players are already seeking to expand their presence in Europe. In addition, there is likely to be a proliferation of pan-European internet banks. The quest to build an on-line European banking presence will no doubt be complicated by current laws and standards, which differ from country to country. In many instances, the pioneers in Europe make their applications to the regulators on a case-by-case basis, taking their time to expand. An example is Scandinavia's largest asset management bank, SEB, which is striving to play a larger role across Europe via the Internet. SEB, with 305,000 on-line customers as of 2000 in the Nordic region, hopes to have five million customers banking via the Internet by 2004. It offers a full range of services that include banking, brokerage, mutual funds, loans, mortgages, and bill pay and presentment (Amin, 2007).

## **2.6 Independent Variables**

### **2.6.1 Perceived Ease of Use**

The most e-commerce organisations website are increasing fast, and this satisfaction is an essential for web designers (Jaruwachirathanakul and Fink 2005). Website developer should incorporate Human-Computer Interaction principle to support visitors to find their way to the information and other goods offered within the site.

Thurow, (2002) mentions that, due to obtain the greatest investigation mechanism visually, web designers should follow the “Five Basic Rules of Web Design”. The five crucial rules of web designs should be:

1. Easy to read,
2. Easy to find,
3. Easy to navigate,
4. Consistent in design
5. Consistent in layout

The design of electronic-commerce net application should be easy and how to use for customers to find the way easily. This is measured essential to comprehend for users network with network application due to design methods. Above the five following main web design rules will provide website convenience (Thurow, 2002).

Network design has improved since past years. Nowadays, method sheets permit designers to create and manufacture net pages that look fashionable and professional. Cascading Style Sheets is added a new aspect to provide for users more organize web pages are showed as presence. Cascading Style Sheet makes for document easily. Present Style sheet can use for table with design and it is easy for contents to change. Wyke-Smith, Charles (2005) states that Cascading Style Sheet show to describe how to mark-up part of web page (Wyke-Smith, Charles 2005).

One of the main design rules is a good design website, designers should think carefully. Consumers get visual version and contact through the website by navigation menus (Amin ,2007). Navigation menus are important because we can create draw things in website so easy. Developers prefer to set navigation menus at the top right side of the screen of computer. Navigation system is also so essential, by that can clear mark destination. Users would like to know three main things: (Sullivan, Terry , 1997).

1. Where are they?
2. Where can they go?
3. And how they can go back from where they come from?

Sullivan, Terry (Conference 1997) states that most important methods to consider the quality of pages include: (a) quality of service; e.g, as response time; (b) quality of navigation, navigation modes supported; and (c) accessibility; whether a page's existence can be ascertained, and whether it can be found.

Accessibility enables users with disability to participate in activities, use of service, product and information. Web accessibility varies and depends on the type of disability. Users with low vision might require a large font with sharp contrast between the content and background. Blind users may be accessing web pages using a screen reader, a type of assistive technology to translate text display into synthesized speech. Making websites accessible it is not essential for disabled users only, but also benefits and support users with low-end technology with lower modem speed. Tim Berners-Lee ,( 2003) believes that The power of the web is in its universality. Access by anyone regardless of disability is an essential aspect.

At present, most of the websites are inaccessible for no good ability users. The most websites that are not rise accessibility, these websites would be more decline with improving type of graphics and new contents websites in the coming future. Sullivan and Matson (2000) mention that, the World Wide Web (WWW) was considered and

provided as a platform-neutral, device-independent resources for access knowledge and information( Sullivan and Matson ,2000).

By its services, users can do easily what they want. It is so easy to scan it quickly without looking any words on the page. It is defined main content. Particular contents can be chosen through per page which users as they want contents without any difficulties.

The above literature shows that the layout of bank websites and e-commerce help bank customers to obtain information about new banking product and services, as well as increase their ease of use perceptions by internet banking.

### **2.6.2 Perceived Usefulness**

Internet banking and its facilities are very comfort and useful. In fact, internet is essential to customers since it is available for 24 hours a day, 365 days a year. However, by electronic-commerce can be done possible. Furthermore, customers can use of internet in their house easily, as well as they can get their questions to answer automatically, without speaking and informing anybody contacts in a few minutes (Kamarulzaman, 2007). Online commerce has also its negative aspects. Hackers fraud using from the internet, impact negatively main development organizations.

If organisations and development companies, banks have own websites with suspect, fraud, they are susceptible to attacks. A modern high technology system can help to susceptible attacks, likewise in this modern technology is provided security system in

internet system, this helps to solve any problems with frauds, with doubts (Gitomer, Jeffrey, 1998).

Customers use from the internet without any doubts and prevents because internet is modernizing by this reason customers sell or buy their products by electronic or online commerce be fully automated and electron zed. Online shopping any type clothes, brand products are available internet system, by that customers can buy as an interested and attracted products. Offering products are online system, which customers purchase by credit cards easily, furthermore as delivery free is for customers more comfortable and affordable (Gounaris & Koritos, 2008).

One of the significant organizations is product of cookies that is also available in online system. With cookies, organizations or companies can give information about their products, and suggest their service and online sales. With cookies online, organisations are provided with a quick and convenient way of keeping site content fresh and relevant to the users interest. Within traditional commerce fingerprints and eye scans are the closest thing as such to a cookie; however it will never be possible to track as much information in traditional commerce compared to online commerce simply because the medium is not as digitalised, hindering the automated collection of data and information. Traditional methods of attempting to achieve customer satisfaction have seen companies introducing loyalty cards and personalised credit cards and also the implementation of TAM (Hernandez & Mazzon, 2007). These have brought about a fresh look to the organisations and with that customer loyalty has followed. This however is immeasurable with the ease at which potential customer satisfaction can be gained from a website (Sterne& Jim, 1996).

Several companies always ask security and confirmation, safeness to be avoid the same security questions. And rather asking for the whole password/pin only selected randomly letters or number of the password/pin are asked to verify user, and every visit the user will be asked different security question. Selected online banking include the user's last session visit to confirm for the user's information, and if discrepancy the account will be suspended. Adopting HTTP authentication is essential with any e-commerce system to tighten security. The authentication (login system) proposed should identify the users (username) and on the second stage it verifies the user (password) to grant access or authorise payment (Hernandez & Mazzon , 2007).

As for payment fraud at every authorisation the system should check the card details against the registered address, or deliveries should only be granted to the cards' registered address. The idea was thought of from mobile phone. Many customers still find contract mobile phones being expensive and many customers have no control over their calls charges and they can ring up heavy bills. Therefore, mobile companies introduced a pay as you talk scheme, it tends to make customers feel more in control of their finance, and avoid any undesired bills ( Wyke Smith & Charles, 2005).

### **2.6.3 Government**

Bank is provided with special management to government banks arrangement by offering them to establish:

- Communicative or Transactional websites with effect from September 1, 2002;

- Locally included foreign banks were authorized to create Communicative websites with achieved from January 1, 2003; and
- Locally included foreign banks were authorized to create Transactional websites with achieved from January 1, 2004.

Acknowledging the risks concerned with Internet banking, Uzbekistan National bank has outlined guidelines on how each of these risks are to be approached and eliminated where possible or at least minimized (Waterhouse Coopers, 2003). Senior management should ensure that Internet banking products are reliable with bank's in general considered plans and the risks, such as produce through the Internet is in the bank's risk.

Higher-ranking management should make sure the accessibility of sufficient effective policies and actions, efficient risk monitoring processes as well as business recommencement plans (UNB, 2003). The government support is very essential when it comes to the adaption of internet banking ( Tornatzky & Klein, 1982; Fink, 2005).

Banking institutions suggesting internet banking are seen the following of types of conventional risks likewise, credit risk, interest rate risk, liquidity risk are still at hand. Enlarge suitable systems to control the different types of conventional banking risks and all this infrastructure involve important investment as well (Chong& Ooi, 2008).

The government has also laid emphasis the technology and how it is impacting the online revolution. The internet has increased and changed significantly, by this way organizations are operated as well as has decreased entry barriers in many industries.

Modern technology is created and provided by the Internet and new wireless communications, such as the wireless access protocol (WAP), have been exploited to decrease time-to-market and distances between buyers and sellers of products and services (Lin & Lee, 2005).

Since its independence in 1991, Uzbekistan's banking industry has increased rapidly. The e-commerce improved starting from 1997 where the regulation of the financial sectors and the automation of financial institutions were developed. With the beginning of computer technology, Uzbekistan banking system had been established e –marketing system, furthermore there had been an explosion of alternative delivery channels and at the same time also getting better the effectiveness(Rao *et al.*, 2003).

There are many different definitions of Web Services. Benatallah (2002) defines Web services are loosely coupled Internet-accessible software entities delivering functionalities provided by business applications and process. Carey *et al.* (2001) indicates it is platforms providing the required functionalities to integrate business applications across companies. Web services are also considered as a distributed information system (Gustavo *et al*, 2004).

#### **2.6.4 Trust**

Several payments and transactions are provided by internet banking. This provides for bank customers to use banking services everywhere in over the world. At present, many banks offer internet banking facilities and products. Several banks provide online services by internet banking. In addition, a net browser is used and any usual

internet connection is available (Chen & Barnes, 2007; Holsapple & Sasidharan, 2005; Goles *et al.*, 2009; Yang *et al.*, 2009).

By the main industry improvement in security system in internet system such as secure passwords, I strongly agree that it is used broadly in business and also individual bank performances by internet, and there is some times a major amount of threat from the hackers and hence many people are still afraid to adapt the internet banking channels (Pik karainen *et al.*, 2004).

Internet first time was established in 1969 by Vinton Cerf. Great scientist Vinton estimated internet users will be increased more than three billions until 2010. This point will be grown from 6 till 30 billion by 2020. Cerf Vinton point out that computer technology and internet usage will be main communication instrument among the people by 2030(Harmon, 2001).

Kane (1998) presented a classic example of a computer glitch, which resulted in the Dow Jones Industrial Average being erroneous for 12 minutes. This happened on the morning of October 8, 1998. The computer was found to have latched on to a wrong price. On the November 24, 1998, the Tokyo Stock Exchange futures and options trading system failed. This went on for two days. With the bond futures screens being blacked out, market quotes were not available and trading coming to a halt. The bug was eventually located in the computer program that controlled transmission between the Tokyo Stock Exchange's host server and the client servers. . Today, more and more people are using the internet, from buying goods/services to online banking. internet banking is a growing field in the e-commerce domain. When it comes to making payment over the internet, security and payment issues are major concerns to consumers. Not only can merchants falsely set up websites to sell products, but

customers can falsely give wrong stolen credit card details. Each time a consumer conducts a payment online there is always risk involved and this is largely due to the growth of IT (Chong & Ooi, 2008). Online security is securing secrecy for online transaction and consumer's own information. In the last few years, bank customers have more shocked on security problems in internet system. All information can be traced when surfing the net or e-mail messages. One of the main issues making payments online is security (Valeri ,2000).

Gupta, Chaturvedi, Mehta & Valeri (2000) suggest that Information security, thus, is becoming a pivotal business and technical undertaking for any company involved in online financial activities. Because of the sensitivity of their activities, financial institutions have to focus on the overall security of their activities and operations. Customers have become more sensitive about purchasing goods/services online due to many systems vulnerability to security. One of the aspects is to ensure that no one can intercept the information exchanged during transactions. And to protect sensitive information that is stored on computers before and after transactions.

One of the negative effects on the growth of e-commerce is the security issue. Most users don't want to keep in internet system personal information and online business make some difficulties for customers. Identify the importance for security (in particular security mechanisms) of the real world cues that enables users to interpret potential security risks in their interaction with sensitive information (Adams & Sasse, 1999).

Fraud has been with banking presumably since the time banking commenced. But online fraud is becoming a new game, especially for computer whiz kids. In September 2000, 15 year old Jonathan Lebed was charged by the Securities and

Exchange Commission for stock fraud (Wall Street Journal, September 21, 2000).

Lebed had purchased a thinly traded stock and had subsequently posted hundreds of false messages on message boards touting the stock by using fictitious names (the infamous ‘pump and dump’). He then sold his stock for a thumping profit. Lebed had also done the same thing earlier in the year.

IT experts may however discard these unfounded fears by offering fault-tolerant and hacker-free systems. Fan et al. (2002) mention a number of fault-tolerant approaches that can counter the mentioned problems. These approaches include:

1. Hardware Redundancy. For example, to use additional computers and storage devices.
2. Software Redundancy. For example, to provide software that will take over when errors are detected.

Active Replication. All replication components are executed concurrently and their internal states are closely synchronized. Active replication uses fault masking to hide the occurrence of faults. One fault-masking technique is to use a group of servers, each running on a different computer. It uses a group management mechanism. The group output is determined from the outputs of individual members. If the system does not incur errors, then only one output from the multiple components will be picked. If there are errors in the system, a majority vote is used to determine the correct output. For example, suppose there are three replicated components running concurrently. If there is a single error, then two components will produce the correct value and one will not. The result of the majority will be used for the output. This mechanism will not work if there is only two replicated components. When one

component produces the correct output and the other one the wrong one, then it is not possible to tell which component has gone wrong ( Fan et. al ,2002).

**Passive Replication.** In passive replication, only one master component is active, but other replication components' internal states are regularly updated by means of checkpoints from the active component. Passive replication achieves fault tolerance by detecting the existence of faults and performing certain actions to remove faulty components from the system (Fan et al.,2002).

The Government can play and effective role in internet banking by ensuring better regulation to control security in internet banking, curbing fraud activities and illegal transactions.

## **2.7 Conceptual Development to the Model**

### **2.7.1 Relationship between Perceived Usefulness and Internet Banking adoption**

Perceived usefulness is very similar to TAM model and is a very significant determinant to forecast the intent to use or adoption of internet banking theory and many customers will definitely use this technology if they like this version of the technology so hence the reason it is very similar to the TAM model. It is the tendency of users to get use the technology if it is useful for them and this is more evident to him once he starts making use of it and learns the advantages of using it. So, perceived usefulness is a very important determinant for internet banking adoption. Prior studies indicate that there is a positive relationship between perceived usefulness and adoption of internet banking (Luarn & Lin, 2005; Cheong & Park, 2005; Chiu, et al., Wang, et al., 2003; and Venkatesh & Morrris, 2000).

A study by Luarn & Lin (2005) proves that perceived usefulness has a significant impact in the development of early motivation to adopt internet banking. Likewise, Cheong & Park (2005) also found that there exists a positive causality between perceived usefulness and adoption of internet banking. The result corresponds with the findings by Chiu, et al. (2005), Wang, et al.(2003) and Venkatesh & Morris (2000). These studies confirm the important effect of perceived usefulness in understanding individual responses to information technology.

### **2.7.2 Relationship between Perceived Ease of Use and Adoption of Internet Banking**

The perceived ease of use Model is also again derived from the TAM model, sometimes the customers do believe that the given application is useful to them but some might have a perception that is very difficult for using (Davis,1989) apart from the perceived usefulness it has also to be validated to ensure that it is easy to use and adopting it should not be difficult. If there are any complexities then it will discourage the customers to make use of the technology. Previous studies have shown that there is a positive relationship between Perceived Ease of Use and adoption of internet banking (Guriting & Ndubisi, 2006; Luarn & Lin, 2005; Wang, et al., 2003 and Ramayah, et al., 2003). Guriting & Ndubisi (2006) found that perceived ease of use had a significantly positive effect on behavioural intention to adopt internet banking. Furthermore, Luarn & Lin (2005) also found that there exists a positive causality between perceived ease of use and adoption of internet banking.

Similarly, in the study of Ramayah et al., (2003) examined that perceived ease of use had a significant impact in relation in the development of initial willingness to adopt internet banking.

### **2.7.3 Relationship between Government Support and Adoption of Internet Banking**

Adopting a model in a financial market is very essential and of government support is also there towards the technology it makes the customers more confident and can win their trust to make use of this technology. Sometimes the government initiative plays a very vital role in such adoption techniques related to Finance (Chong & Ooi, 2008). In the study of Chong & Ooi (2008) found that government support had a significantly positive influence on internet banking adoption. The result is also corroborated by the study of Wang et al. (2003) who found that government support had a significantly positive influence with internet banking. Bank customers are likely to adopt internet banking when they have the ability to use it.

### **2.7.4 Relationship between Trust and Internet Banking adoption**

Winning the trust of the people is a major concern with online security because many people are afraid that their details may be misused by some hackers and are often afraid to adopt the technology, So the technology has to ensure that it wins the trust of the people so that they are more focussed and eager to adopt the technology and start using internet banking (Chen & Barnes, 2007; Holsapple & Sasidharan, 2005;). A study by Chen & Barnes, (2007) examined that trust has a significant impact in the development of willingness to use internet banking. Furthermore, Holsapple & Sasidharan, (2005) found that trust is significantly related to the adoption of the

technology involved in internet banking. Trust increases when people feel secure in their transaction and are able to maintain the privacy of their personal information. This will in turn affect their adoption of internet banking. Since internet banking is relatively new, trust has a high ability to predict and explain the intention of users to adopt internet banking.

## **2.8 Summary**

The chapter 2 of the research paper discusses about the previous researches being carried out in the past by research experts. The literature speaks about the relationship among the variables and the findings of the others. The theories discussed relevant to this study are the TRA and TPB.

## **CHAPTER THREE**

### **Research Methodology**

#### **3.0 Introduction**

Chapter three of the research methods speak about various methods to be used to carry out the research process and how the research objectives and the research questions will be answered. The methodology to analyse the relationship between the factors and internet banking adoption is detailed in this chapter.

#### **3.1 Research Design**

Research can be divided into several types, research as analytical and descriptive, quantitative and qualitative and also conceptual, empirical (Kothari, 2004). Collis & Hussey (2003) states research on a similar basis, as his opinion about different type research classify by purpose, the process, the reason and result of the research.

Saunders et al, (2007) mention that various type research which is descriptive, predictive and analytic, exploratory, all of them classify due to research purpose. Exploratory research is completed which there very little prior research is completed on area of the topic.

Quantitative research is a research which used data collection technique (such as questionnaire) or data analysis producing or uses arithmetical data (Saunders, 2007). Data collection is used quantitative method approach by measurements and observations. These measurements can be statistically valid. A quantitative approach

employs strategies of investigation likewise, experiments, surveys and collection data are determined by instruments that yield numerical data (Creswell, 2002).

In this study, the research on internet banking used of the quantitative approach of collecting the information, using questionnaires to obtain perceptions about internet adoption in Uzbekistan. There are descriptive statistics as well as analysis of the regression results. The type of data is primary data. Data is obtained through the questionnaire sent to various bank customers.

### **3.2 Data Sampling**

The research audience will be individuals in Uzbekistan demographics. The techniques are of wide range and they might be data collection in the form of questionnaires, tools used for analysis or might even refer to sampling (Bryman, 2008). Based on the total population of 400 bank customers, total sample is 196 customers. This sample size is derived from Krejcie and Morgan (1970) table with a margin of error of 5% (95% Confidence level). The customers were chosen by random sampling.

### **3.3 The Data Collection Methods**

Data is collected through questionnaires. These questionnaires were sent to bank customers through the assistance of Mr Abdullaev Bakhtovar in Tashkent, Uzbekistan. He posted the answered questionnaires through mail to the researcher. Out of 196 questionnaires, 103 were received. This gives a response rate of 52.6%.

### **3.4 The Research Instrument**

The research instrument for the purpose of this research is divided into two parts, Part A and Part B. Part A is the general profile of the respondents followed by the questions based on prescribed framework in Part B. The questionnaire made used of Likert scale from a range of 1- 5 where 1 is strongly disagree and 5 is strongly agree. The questions have been developed using the framework of Laurn & Lin,( 2006). The Questionnaire is shown in Appendix 1 of this research paper.

### **3.5 The Research Framework**

The most important area of research in this field has also been done to discover the main variables that effect how strong and reliable the factors and the internet banking adoption relationship truly are. Figure 3.1 shows the factors consist of perceived usefulness, perceived ease of use, government support, and trust which effect the adoption of internet banking.

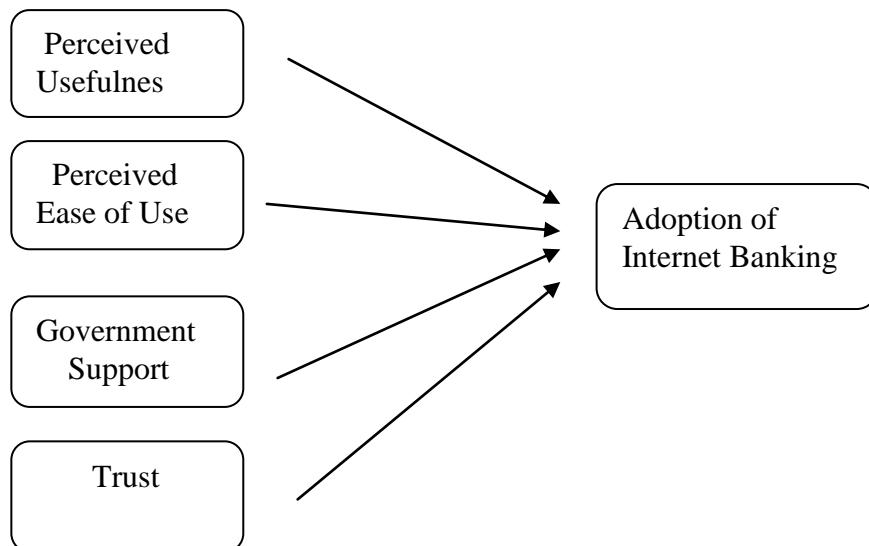


Figure 3.1: Theoretical Framework

### **3.6 The Data Analysis**

The data analysis of the collected data will be performed using the software SPSS and the following test will be performed to test the significance of the research like descriptive analysis, correlations and regressions. Reliability of the data is also checked.

### **3.7 The Hypothesis of the Research**

Based on the relationship of the variables described in the research framework the following hypotheses were developed. Hypotheses in this study are:

Ha<sub>1</sub>: Perceived usefulness has a positive significant effect on internet banking adoption.

Ha<sub>2</sub>. Perceived ease of use has a positive significant effect on internet banking adoption.

Ha<sub>3</sub>. Government support has a positive significant effect on internet banking adoption.

Ha<sub>4</sub>. Trust will have a positive significant effect on internet banking adoption.

## CHAPTER FOUR

### RESULTS

#### 4.0 Introduction

Chapter Four explain both the theoretical and empirical framework used in this research. Details of the additional statistical analysis, research design, questionnaire development and format, and construct measurement was also discussed. This chapter presents the frequencies and statistics generated using SPSS (Version16.0) from the sample responses taken from Uzbekistan. Results of the hypothesis tests relating to each objective, the empirical results, and the findings are also discussed.

#### 4.1 Reliability Test

**Table 4.1: Cronbach's Alpha Reliability Test**

Variables	Cronbach'S Alpha
<b>Perceived Usefulness</b>	0.678
<b>Perceived Ease of Use</b>	0.645
<b>Trust</b>	0.922
<b>Government Support</b>	0.750
<b>Internet Banking</b>	0.954

Cronbach Alpha in Table 4.1 shows the combination of both the dependent and independent variables reliability test which includes: perceived usefulness, perceived ease of use, trust, government and internet Banking.

**Perceived usefulness:** Reliability test result indicated a value of .678 which means that the independent variable called perceived usefulness satisfy the assumption of reliability and fit to be used for further research analysis. This is in line with the assumption of Nunnally (1978) that indicated that any reliability test under Cronbach Alpha that shows .70 to .9 or above is assumed to be reliable.

**Perceived ease of use:** perceived ease of use also have a value of .645 which indicated that this variable is suitable and can be used for further analysis as tool ,hence perceived ease of use is a reliable series.

**Trust:** Trust as a variable shows that it has a very high predicts value of .922 which signifies that it can also be used for further analysis and research.

**Government:** Government as a variables shows that it has a predict value of .750 which is in line with previous researcher assumption hence, it can also be regarded as a reliable variable.

**Internet Banking:** Using all the 4 dimension to measure the degree of the reliability test, it shows that internet banking has a very high value of .954 which is also regarded to as a reliable series that can be used for further research.

## 4.2 Descriptive Statistics

This study was carried out to investigate the adoption of internet banking in Uzbekistan. Based on the questionnaires provided by mail, the number of respondents was 103 people from a total out of 196. This resulted in a total of 103 completed questionnaires generating 52.6 percent usable response rate.

**Table 4.2: Age**

Age group	Frequency	Percentage (%)
<b>20-34</b>	17	16.5
<b>25-29</b>	23	22.3
<b>30-34</b>	12	11.7
<b>35-39</b>	22	21.4
<b>40+</b>	29	28.2
<b>Total</b>	103	100.0

Table 4.2 describes the age of the respondents. The age group between 20-34 made up 16.5%, 25-29, 22.3%, 35 – 39, 21.4% and 40 years old above 28.2%. This shows that the majority of the respondents on the internet adoption is in 40 year age group.

**Table 4.3: Gender**

Sex	Frequency	Percentage (%)
<b>Male</b>	61	59.0
<b>Female</b>	42	41.0
<b>Total</b>	103	100.0

The result in Table 4.3 shows the descriptive statistics for the respondents who adopt internet banking by gender.

The sample respondents are comprised of 61 males representing 59 % and 42 females representing 41 %.

**Table 4.4: Status**

Status	Frequency	Percentage %
<b>Single</b>	62	60.0
<b>Married</b>	41	40.0
<b>Total</b>	103	100.0

Table 4.4 shows from the total of 103 respondents, 62 respondents were single which made up 60%, and the people who are married were 41 people or 40 %.

**Table 4.5: Education**

<b>Education</b>	<b>Frequency</b>	<b>Percentage %</b>
<b>High School</b>	4	3.8
<b>Degree</b>	77	74.8
<b>Masters</b>	17	16.5
<b>Phd</b>	5	4.9
<b>Total</b>	103	100.0

Table 4.5 shows education of the respondents, the majority of the respondents have (77 respondents) degree qualification representing 74.8 % followed by masters (17 respondents) which is 16.5% while the lowest was high school which is 3.8% (4 respondents).

**Table 4.6: Work departments**

<b>Works</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Finance</b>	11	10.6
<b>Admin</b>	80	77.7
<b>Marketing</b>	5	4.9
<b>Others</b>	7	6.8
<b>Total</b>	103	100.0

Based on Table 4.6, the majority of the respondents work in the administration capacity (77.7%) followed by finance department with 10.6% , marketing 4.9% while others at 6.8%.

### 4.3 Regression Analysis

Using perceived usefulness, perceived ease of use, trust, government support as independent variables and internet banking as dependent variable, hence Table 4.7 shows the regression result.

**Table 4.7 Model Summary**

Model	R	RSquare	Adjusted R Square	Std.Error Estimate
1	.993 <sup>a</sup>	.986	.983	.24520

Independent Variables: Pu, Pe, Gs, TT

The overall fitness of the model shows that all independent variables have strong predictive power to influence the dependent variable; internet banking adoption.

The result from Table 4.7 indicates that the multiple regression coefficient (R) of the four independent variables of adoption of internet banking model is 0.993 and adjusted R square is 0.983. This shows the four independent variables collectively explain 98.3 percent changes in the internet banking adoption.

**Table 4.8 ANOVA**

ANOVA					
Model		Sum of Squares	Df	Mean Square	F
1	<b>Regression</b>	233.246	4	44.961	621.224
	<b>Residual</b>	5.257	92	.034	
	<b>Total</b>	238.503	96		

Independent Variables: Pu, Pe, Gs,

**Table 4.9 Coefficients Analysis**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig .	Beta
	B	Std. Error	Bet a			
(CON)	.439	.083		4.95 0	.00 0	
Pu	.749	.075	.154***	3.25 0	.00 1	
Pe	-.051	.067	-.067**	-		
Gs	.693	.050	.717***	1.912	.08 4	
Tt	-.871	.074	-.831***	16.97 9	.00 0	

DV: IB

Notes: \*\*\*, \*\*, \* denotes rejection of the null hypothesis of a unit root at the 1%, 5%, and 10% significance level.

Table 4.9 shows that Coefficient of perceived usefulness (Pu), perceived ease of use(Pe), government support (Gs) are statistically significant at a level of 1 percent while coefficient of perceived ease of use (Pe) is significant at 5% per cent level which shows a weak level of significance.

Perceived usefulness shows a positive sign indicate that the respondent value the use of internet banking in fact they regarded online banking as an important tool which could ease the burden of physical transaction.

Perceived ease of use coefficient shows a negative sign which shows that some respondent might find it difficult to use or rather not really familiar with internet. The negative result also suggests that the more sophisticated and complex the internet banking systems are the less inclination of people to use them. Hence, the banks should consider the designs of the internet banking systems to be easy to be used. The

banks also should provide officers on duty to guide the customers how to use internet banking or be sensitive to the customers' need for on- site instruction to adopt the internet banking. The fact that the result is significant, it also indicates that customers still value the internet banking as a opportunity to facilitate their banking transactions.

Government support coefficient in the regression result shows a positive sign which indicated that the respondent acknowledge the government responsibility and effort for bringing internet banking to Uzbekistan. This variable is highly significant in influencing bank customers to adopt internet banking.

The coefficient of trust is negative but statistically significant. The possible explanation could be that some of the respondents might be feeling afraid of fraud due to system or technology breakdowns. Therefore, government and other related agencies need to put greater efforts on internet banking in order to gain higher trust and confidence from the public.

#### **4.4 Hypothesis Results**

Ha<sub>1</sub>: Perceived usefulness has a positive significant effect internet banking adoption.

**Supported**

Ha<sub>2</sub>. Perceived ease of use has a positive significant effect internet banking adoption.

**Not fully Supported**

Ha<sub>3</sub>. Government support has a positive significant effect internet banking adoption.

**Supported**

Ha<sub>4</sub>. Trust will have a positive significant effect internet banking adoption.

**Not fully Supported**

Overall, the results show that 2 of the hypotheses are supported while the other two are not fully supported as they are significant but carry the negative effects on the internet adoption.

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATION**

#### **5.0 Introduction**

This chapter presents summary of research objectives of this study according to research objectives. Section 5.2 includes the contribution of the study section. Section 5.3 Conclusion and section 5.4 Recommendation for future research.

#### **5.1 Summary of research objectives.**

This study on the use on internet banking has a lot of significant value. In total, four variables were tested about their impact on the dependent variable; internet banking adoption.

The first variable was tested; the perceived usefulness; adopted from the TAM model. It has a significant positive relationship value of 0.154 (standardized beta) which implies that the perceived usefulness has a strong influence on internet banking adoption. This result supports Luarn & Lin (2005).

The second variable; perceived ease of use; has a negative relationship with the dependent variable with a value of -0.067 and the t value of -1912. This result is not the same as Luarn & Lin (2005).

The third variable is the government support. It is found to be a very important factor for the performance of the internet banking. The result shows a significant positive

0.717. The fourth variable is trust; it is significant which implies that trust on security of internet banking is one of the very essential element to be considered in internet banking adoption.

Overall, two factors that is perceived usefulness and government support are positively significant and other two factors that is perceived ease of use and trust are negatively significant.

## **5.2 Contribution of the Study**

The findings have both theoretical and practical significance. In the practical aspect, the research findings of this study will provide banking institutions and internet banking practitioners useful information in formulating strategies that can enhance the adoption of internet banking. This study provides important guidelines for the bank. The internet banking adoption is relied on its usefulness and practicality. The bank could organize training courses for internet banking for free, and make them available at the bank branches everywhere in Uzbekistan.

For instance, banks can promote and market internet banking services by emphasising on its usefulness to the target market. Massive advertising efforts can be made by banks promoting internet banking and showing therein the benefits that lie in that service. This will ensure that people's opinion is positive about internet banking services and it will contribute greatly in influencing adoption of internet banking.

The study also found that internet banking is an influential factor that affects an individual's behavioural intention to use internet banking. In response to this concern,

it is recommended for the bank management to release a manual that provides internet banking information in more detail so that people can use the internet banking easily. People with more information on internet banking will have a positive outlook on internet banking system, thus impacting the adoption of the internet banking culture. It is also worth to note that security and privacy are strongly associated with behavioural intention. Therefore, it is necessary for the bank to develop internet banking systems with valuable functions and a trustworthiness to protect bank customers' from any errors.

Theoretically, the study findings contribute to the body of literature in the field of IT adoption. In addition, the study has seen that applying Technology Acceptance Model could gain support from various parties, bank customers, government and the bank management. Environmental and cultural factors can also play a important role in impacting adoption of the internet banking.

### **5.3 Conclusion**

This study concludes that adoption of internet banking in Tashkent, Uzbekistan could be increased if the people are able to see benefits of internet banking in term of perceived usefulness and perceived ease of use. Trust is main thing. Therefore, security issue needs to be advised. Government is very important to play its roles in internet banking adoption.

#### **5.4 Recommendation for the future research**

The researcher has tested only a limited number of variables due to the time constraint. For future research, researchers can study other variables including socio – economic variables.

A study of different culture and countries can also be carried out to evaluate the adoption of internet banking in other countries. This cross-country comparison will be good to reveal the different impact of the determinants on internet banking adoption by country.

A detailed study on the security of the technological model is also worth the research.

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## **Appendix 1: Questionnaire**

Dear Respondents:

This questionnaire is purely an academic exercise that is intended to understand the relationship between service quality, customer satisfaction and customer loyalty in internet banking industry and adoption in Uzbekistan. It has been undertaken to fulfill the partial requirement of the degree of Master of science in Banking at University Utara Malaysia . If you are an individual that uses internet banking services, for example online credit card payment offered by various banks in Uzbekistan, we would like to invite you to participate in this study. Your participation in this study is voluntary. There is no right or wrong answer. We are interested only in your honest opinion. Your response is very valuable for the success of this study. All information provided will be kept confidential and used solely for the purpose of this research. Thank you again for your kind support, cooperation, and precious time.

Yours sincerely,

Erkin Karimov

enrike\_2004@mail.ru

Master of science (Banking)

Universiti Utara Malaysia

**PART A:**

1) Age

20-24      25-29      30-34      35-39      40 and above

2) Status

Married   Single

3) Gender

Male      Female

4) Education

high school      Degree      Master      PHD

5) Department of the work \*

finance

and admin Marketing IT Others

banking

## PART B

### 1) *Perceived usefulness*

Internet banking makes it easier for me to conduct my banking transactions

Independent variables, Perceived usefulness

	strongly agree	Neutral	disagree	strongly disagree
agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

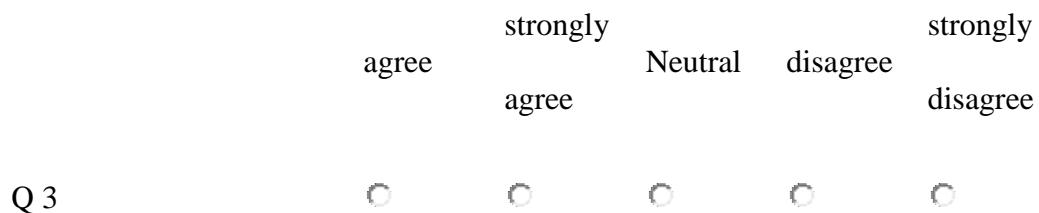
Q 1

Internet banking allows me to manage my finances more efficiently

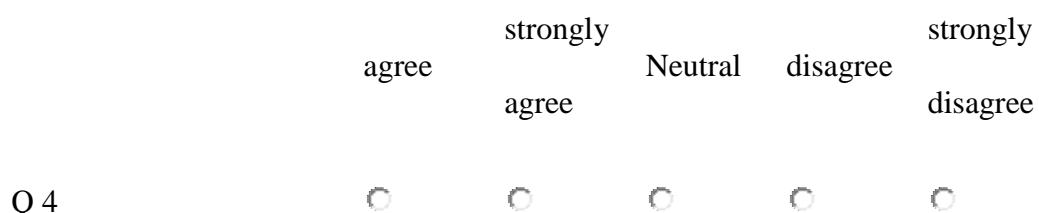
	strongly agree	Neutral	disagree	strongly disagree
agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q 2

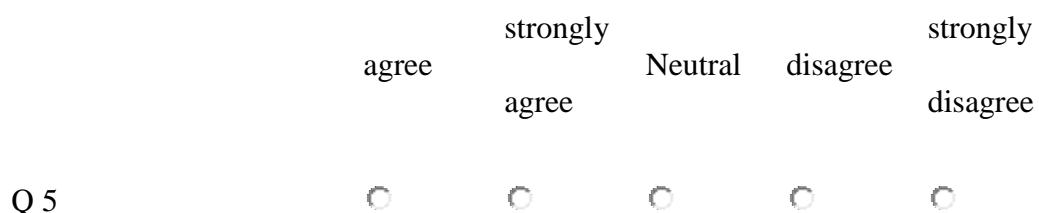
Internet banking increases my productivity



Internet banking made communications with banks much easier

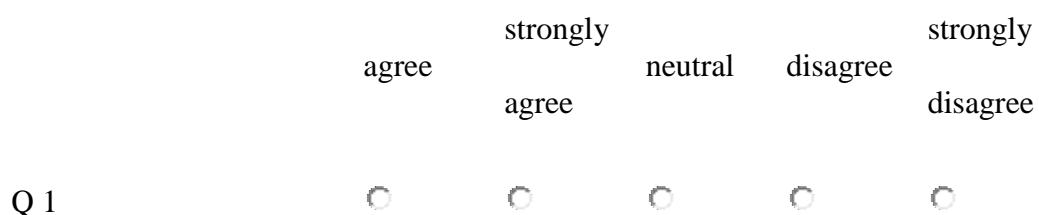


I believe internet banking is more useful than traditional ways of banking

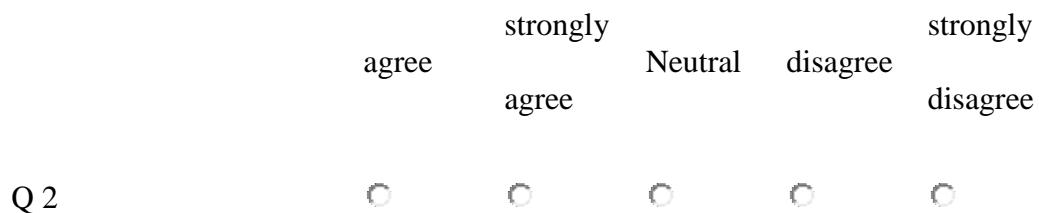


## **2) Perceived ease of use**

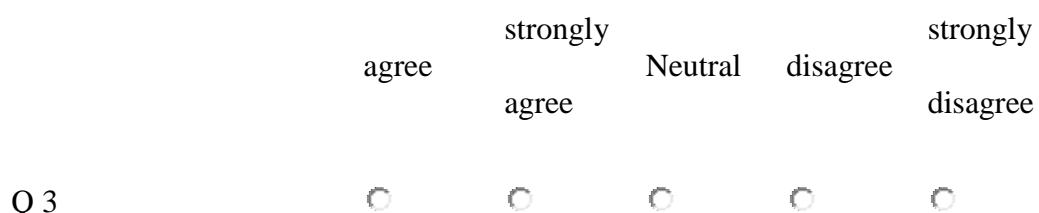
I find Internet banking easy to use Perceived ease of use



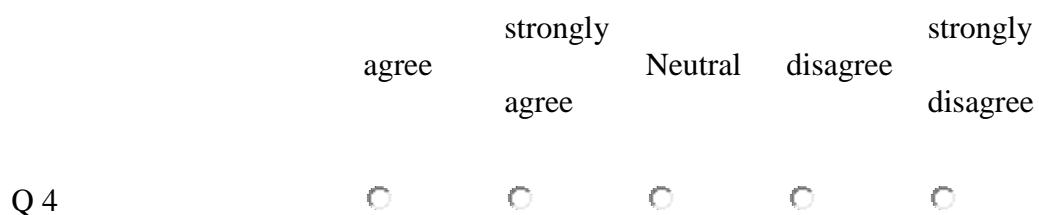
Learning to use internet banking is easy for me



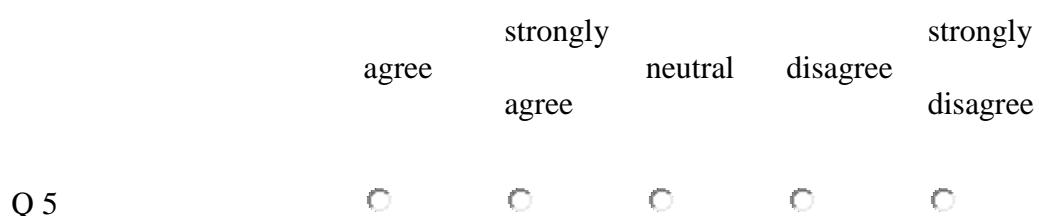
My interaction with internet banking is clear and understandable



It is easy for me to remember how to perform task with internet banking

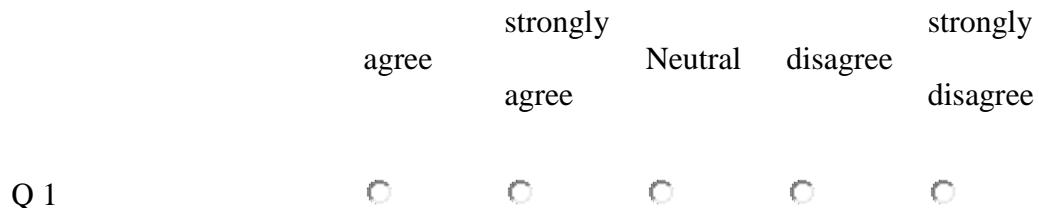


It is easy to get Internet Banking to do what I want it to do

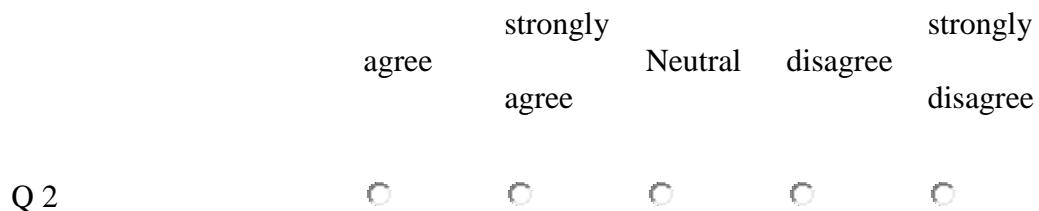


### 3) Trust

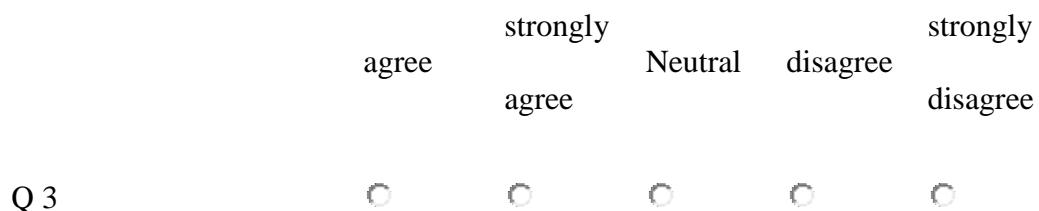
I trust that transaction conducted through internet banking is secure and private Trust



I trust payments made through internet banking channel will be processed securely



I believe my personal information on Internet banking will be kept confidential



#### 4) *Government support*

Government encourages and promotes the usage of internet and ecommerce

Government support

	strongly agree	Neutral	disagree	strongly disagree
agree				
strongly agree				

Q 1

The internet infrastructure and facilities such as bandwidth is sufficient for online

banking

	strongly agree	Neutral	disagree	strongly disagree
agree				
strongly agree				

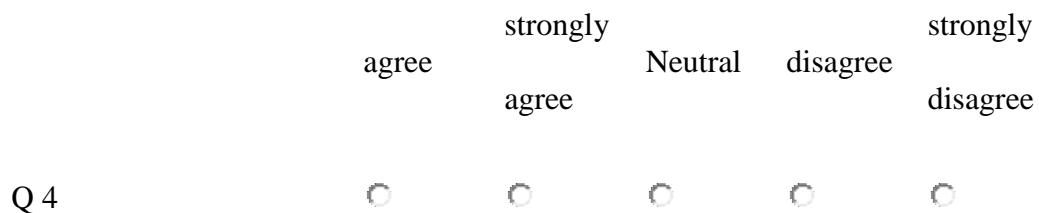
Q 2

The government is driving the development of online banking

	strongly agree	Neutral	disagree	strongly disagree
agree				
strongly agree				

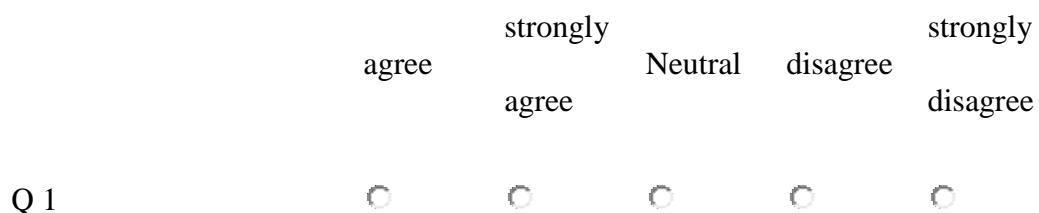
Q 3

The government has good regulations and laws for internet banking

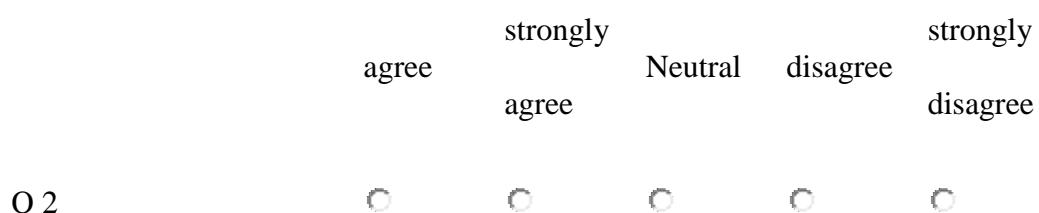


**5) Consumer intention to use internet banking**

Assuming that I have access to internet banking, I intent to use them Dependent variable, Consumer intention to use internet banking



I intend to use internet banking if the cost and times is reasonable for me



I believe I will use internet banking in the future

	strongly agree	Neutral	disagree	strongly disagree
Q 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I intend to increase my use of the internet banking in the future

	strongly agree	Neutral	disagree	strongly disagree
Q4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix 2

### Приложение 2

Вопросник Уважаемые респонденты:

этот вопросник является чисто академическое упражнение, предназначенный для понимания взаимосвязи между качества обслуживания, удовлетворенности и лояльности клиентов в Интернет банковской отрасли в Узбекистане. Она обязалась выполнить требование частичной степени магистра наук в банковской сфере на университета Utara Малайзия творческих технологий. Если вы физическое лицо, использующее Интернет банковских услуг, например оплату кредитной картой, предлагаемые различными банками в Узбекистане, мы хотели бы пригласить вас принять участие в этом исследовании. Ваше участие в данном исследовании является добровольным. Существует нет правильных или неправильных ответов. Мы заинтересованы только в ваше честное мнение. Ваш ответ является очень ценным для успешного проведения этого исследования. Вся предоставленная информация будет храниться конфиденциальный характер и использоваться исключительно для целей этого исследования. Еще раз спасибо за поддержку, сотрудничество и драгоценное время.

Ваш искренне,

Эркин Каримов

[enrike\\_2004@mail.ru](mailto:enrike_2004@mail.ru)

Universiti Utara Малайзия

Магистра наук (банковское дело)

## ЧАСТЬ А:

## 1) Возраст

20-24	25-29	30-34	35-39	40	и выше
-------	-------	-------	-------	----	-----------



## 2) Семейное положение

Женат Один



3) Пол

## Мужчины женщины



#### 4) Образование

Средней  
школы      Степень      Мастер      КАНДИДАТ  
наук



5) Департамент по работе \*

Финансы и

банковское Администратор Маркетинг информационные Другие

дело

технологии

## ЧАСТЬ В

1) воспринимаемых полезность

Интернет банкинг делает его легче для меня, для проведения моей банковских операций независимых переменных, воспринимаемых полезность.

согласен	сильно	не	сильно
согласен	Нейтральный	согласны	не
согласны			

Q 1

Интернет-банкинг позволяет мне более эффективно управлять мои финансы

согласен	сильно	не	сильно
согласен	согласен	Нейтральный	согласны
согласны			

Q 2

Интернет-банкинг увеличивает мою производительность

Q 3

○ ○ ○ ○ ○

Интернет-банкинг, значительно облегчило связь с банками

сильно не  
согласен не  
согласен Нейтральный согласны  
согласны

Q 4

○ ○ ○ ○ ○

Я считаю, что Интернет-банкинг является более полезным, чем традиционные способы банковского.

05

○ ○ ○ ○ ○

2) Воспринимается простота

использования я считаю Интернет банкинг простой в использовании  
воспринимаемых простота использования

	сильно	не	сильно
согласен			не
	согласен	Нейтральный	согласны
			согласны

Q 1

Научиться использовать Интернет-банкинг для меня легко

	сильно	не	сильно
согласен			не
	согласен	Нейтральный	согласны
			согласны

Q 2

Мое взаимодействие с Интернет-банкинг является ясным и понятным

	сильно	не	сильно
согласен			не
	согласен	Нейтральный	согласны
			согласны

Q 3

Это легко для меня, чтобы помнить, как выполнить задачу с Интернет-банкингом

сильно не  
согласен не  
согласен Нейтральный согласны  
согласны

Это легко получить, Интернет-банкинг делать то, что я хочу это сделать

сильно  
согласен  
согласен  
согласны  
не  
не  
не  
согласны  
согласны

### 3) Доверие

Я верю, что транзакций, совершенных через Интернет-банкинг является безопасной и частные доверие.

сильно  
согласен  
согласен  
согласны

не  
не  
Нейтральный  
согласны  
согласны

Я полагаю, что платежи, сделанные через Интернет-банкинг-канал, будут обрабатываться безопасно.

сильно не сильно  
согласен не согласен согласен Нейтральный согласны согласны

Q 2



Я считаю, что моя личная информация на Интернет-банкинга будут храниться конфиденциально.

03



#### 4) Поддержка правительства

Правительство поощряет и продвигает использование Интернета и электронной коммерции государственной поддержки.

Q 1



Интернет инфраструктуры и объектов, таких как пропускная способность достаточна для онлайн-банкинга

							сильно
	сильно			не			
согласен						не	
	согласен	Нейтральный	согласны				
						согласны	

Q 2

○ ○ ○ ○ ○

Правительство является двигателем развития Интернет-банкинга

сильно не сильно  
согласен не согласен согласен Нейтральный согласны согласны

Q 3

○ ○ ○ ○ ○

Правительство имеет хорошие правила и законы для Интернет-банкинга

				сильно
	сильно		не	
согласен				не
	согласен	Нейтральный	согласны	
				согласны

Q 4

## 5) Намерение потребителей использовать Интернет-банкинг

Предполагая, что у меня есть доступ к Интернет-банкингу, и я намерением использовать их зависимой переменной, намерение потребителей использовать Интернет-банкинг

Я намерен использовать Интернет-банкинг, если стоимость и время разумно для меня

			сильно				сильно
			не				не
согласен					согласен		Нейтральный
согласны					согласны		согласны

Я считаю, что я буду использовать Интернет-банкинг в будущем

Я намерен увеличить моего использования Интернет-банкинга в будущем.

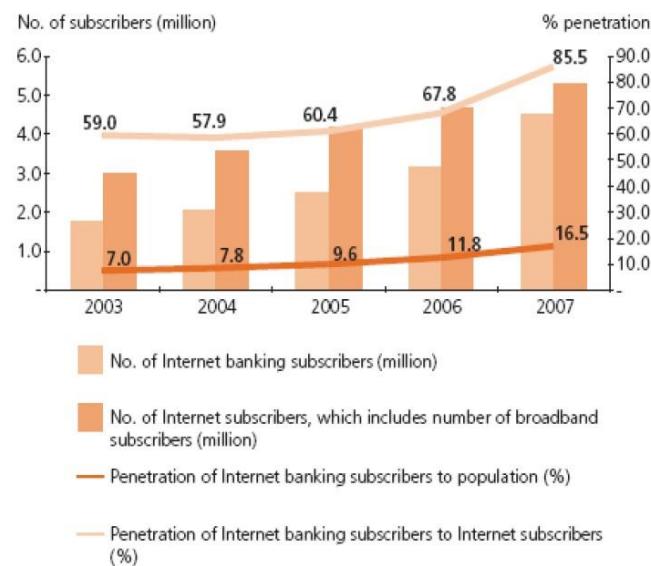
Q4

### Appendix 3: Figures of Internet Banking and Growth in Uzbekistan

## INTRODUCTION - UZBEKISTAN



### Internet Banking Growth and Penetration



Continued strong growth reflecting increasing popularity of internet banking among internet users

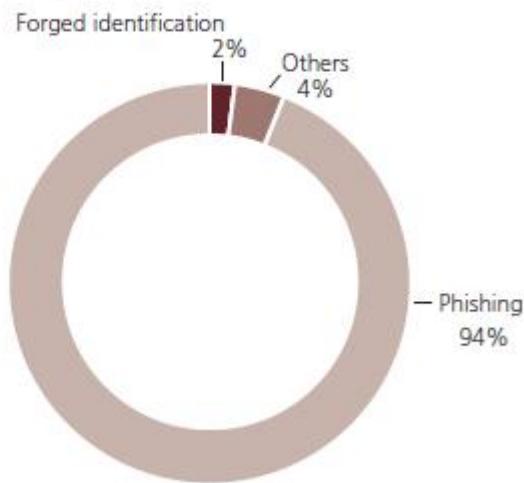
4.5 million internet banking users registered in 2007

15 banks currently offer internet banking

M2U has over 60% market share!

Source: NBU Financial Stability & Payment Systems Report 2007

## Chart Internet Banking Fraud Cases in 2008



- [/www.occ.treas.gov/ftp/bulletin/98-3.txt](http://www.occ.treas.gov/ftp/bulletin/98-3.txt)
- <http://www.managementparadise.com/forums/archive/index.php/t-65503.html>

## Appendix 4: SPSS Output

### Reliability

#### Cronbach's Alpha Reliability

Variables	Cronbach'S Alpha
usefulness	0.678
Ease of use	0.645
Trust	0.922
Government	0.750
Internet Banking	0.954

### Model Summary

#### Linear Regression Result

Model	R	RSquare	Adjusted R Square	Std.Error Estimate
1	.993 <sup>a</sup>	.986	.983	.24520

Independent Variables: Pu, Pe, Gs, TT

### ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 <b>Regression</b>	233.246	4	44.961	621.224	.007
<b>Residual</b>	5.257	92	.034		
<b>Total</b>	238.503	96			

Independent Variables: Pu, Pe, Gs,

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Beta
	B	Std. Error	Beta			
(CON)	.439	.083		4.950	.000	
Pu	.749	.075	.154***	3.250	.001	
Pe	-.051	.067	-.067**	-1.912	.084	
Gs	.693	.050	.717***	16.979	.000	
Tt	-.871	.074	-.831***	-13.036	.000	

DV: IB

Notes: \*\*\*, \*\*, \* denotes rejection of the null hypothesis of a unit root at the 1%, 5%, and 10% significance level. No asterisk indicates that the series is non-stationary.

## Frequency Table

### Age of Respondent

Age group	Frequency	Percentage (%)
20-34	17	16.5
25-29	23	22.3
30-34	12	11.7
35-39	22	21.4
40+	29	28.2
<b>Total</b>	103	100.0

### Gender of Respondent

sex	Frequency	Percentage (%)
Male	61	59.0
Female	42	41.0
<b>Total</b>	103	100.0

### **Status of Respondent**

	status	Frequency	Percentage %
Valid	Single	62	60.0
	married	41	40.0
	Total	103	100.0

### **Education of Respondent**

Education	Frequency	Percentage %
High School	4	3.8
Degree	77	74.8
Masters	17	16.5
Phd	5	4.9
Total	103	100.0

### **Work departments of Respondent**

works	Frequency	Percentage (%)
Finance	11	10.6
Admin	80	77.7
Marketing	5	4.9
Others	7	6.8
Total	103	100.0