User Acceptance of Online System:
A Test of Technology Acceptance Model.

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User Acceptance of Online System:
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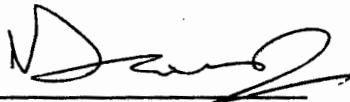
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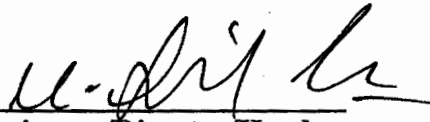**Name of Student:** Humera Khan
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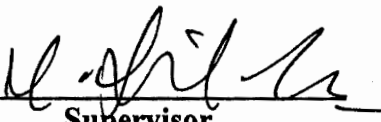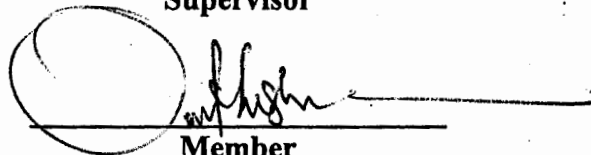
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ABSTRACT

The advancement of internet technology has created new ways of handling the daily affairs of people, especially with the new online channels. The use of online system is emerging very rapidly in developing countries like developed world. This study aims to investigate the acceptance rate of online system by the user to make their transactions through internet. The study is based on Technology Acceptance Model (TAM) and proposed a new model for the online system acceptance. The model test the direct effect of independent variables on the dependent variable.The effect of perceived ease of use, perceived usefulness, perceived enjoyment and perceived ease of time has been tested on online system acceptance. The perceived ease of time is a new additive variable in the existing technology acceptance model.

The research design was based on a survey approach with sample of 252 users from airline and banking sectors of Pakistan. A questionnaire was administered to collect data from from various banks and airlines.The instrument of perceived ease of use, perceived usefulness and perceived enjoyment were adopted from previous studies. Whereas the instrument developed for newly added variable, perceived ease of time was self developed. Data was analyzed with the help of SPSS 17 and the test applied were one way Anova, The test applied werecorrelation and linear regression. The results of the study revealed that perceived usefulness, perceived ease of use and perceived enjoyment are the major predictor of user acceptance. However, the new variable perceived ease of time has also the significant effect on user acceptance of online system. Thus the study concludes that ease of time is also a major predictor of acceptance of online system besides the ease of use and enjoyment factors. Recommendations and future research directions are given at the end.

ACKNOWLEDGEMENTS

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ABBREVIATIONS

PE: Perceived Enjoyment

PEOT: Perceived Ease of Time

PEOU: Perceived Ease of Use

PU: Perceived Usefulness

TAM: Technology Acceptance Model

TPB: Theory of Planned Behavior

TRA: Theory of Reasoned Action

DECLARATION

I here by declare that this thesis , neither as a whole nor as a part thereof has been copied out from any source. It is further declared that I have prepared this thesis entirely on the basis of my personal effort made under the sincere guidenance of my supervisor.

No portion of the work presented in this thesis has submitted in support of any application for any degree or qualification of this or any other university or institute of learning.

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CHAPTER - 1

INTRODUCTION

1.1 Introduction of the Study

Information technology is the new trend in today's globalized world. The use of technology is vital in every field of life, both in personal and organizational settings. Technology is the most important aspect of life in developed and developing countries for their survival. Technology is used to increase the efficiency of the organizations; however, it needs to be accepted by the people of the organization. As organizations invest heavy budgets and time in developing and implementing the information technology, its rejection by the user leads to heavy losses for the organizations. Thus organizations should also focus on, why individual adopt or reject the new information technology? The intention of individual in using a particular software and technology remains a core area of interest for researchers and practitioners. As information technology is highly deployed in the developing world besides the developed world, it is also necessary to check the user acceptance rate of new technology in Pakistan. The intention of user acceptance of new technology can also give the Pakistani researcher and practitioner a new path for the research.

The research in this domain has developed many new models rooted in information system theory (Ajzen, 1985, Davis, 1989; Taylor and Todd, 1995). The Technology Acceptance Model (Davis, 1989) developed in USA is widely used and accepted around the world. It became a predominant model to check the user acceptance of online system. The Technology Acceptance Model (TAM) is significant due to its focus on information technology / system (IT / IS), its extension and implementation in various information technology fields and its proven reliability in various sectors are the main reasons for its popularity. Technology

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acceptance model (TAM) determines the use of unified view of user acceptance in terms of user perceived (short term and long term) usefulness of the particular information system. This in turn leads to the user intention to accept or reject the specific technology.

Since 1990 there is a rapid change in new internet technology. With the shift in new paradigm the companies has changed their physical delivery channels to the self -service online system channels. Online system channels are defined as the web based portals, which provides the user complete information and flexibility to utilize different kind of services. These services range from payment of bills, purchase of tickets and making of investments through the company online system. These online channels also provide great flexibility to the user to make their transactions with more ease and in less time. Therefore the company websites, which provide user only the information of the company without providing any possibility to make transactions, are not considered as online systems. With the increased trend of online system the acceptance rate of user towards using the online system remains an area of significant research interest. The intention of an individual in accepting or rejecting the particular system is of great importance for the academic researchers and practitioners. The aim of this research is to find out the factors, which impact on the user behavior towards the use of online system. This study is done in the light of TAM by (Davis, 1989). The acceptance of online system in this study will be viewed from the idea that user is using online system by him / herself directly and the knowledge of online system factors would be greatly understood by him / her. This knowledge of understanding the online system is the basic requirement in order to adopt the online system.

1.1.1 Rationale for the Study   The objective and rationale of this study arise from the fact that information technology has changed the trend of user traditional style of shopping and transactions. The online systems get more attention of the user, as they perceive to gain more

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benefits by using online system. They can have a full access on these systems during the 24 hours of the day around the globe. It is however noticed that only potential users can understand the services of online system, despite of their availability to all public. This drives the need to research in the area where the key factors must be identified, which drifts the user intention towards the use of online system. The major emphasis of this study is to investigate that with usefulness and ease of use how ease of time factor motivates the people to use the online system. This will be achieved through hypothesizing and testing the direct link of perceived ease of time on the acceptance of online system. Definition for this construct is formulated and new multiitems measurement scale is developed

1.1.2 Researcher's Interest As limited research has been conducted for the acceptance of online system in developing countries; this study contributes the user adoption and rejection rate of new technology. This study is helpful for the companies which are providing online system as a mode of communication for their services to the users. This study also contributes to the paradigms of information technology and organizational behavior research. This study shows the link of behavior and intentional use of the user to accept the online system. How an individual intends to utilize the online system from his / her home or work place. What benefits he / she perceive in utilizing the online system, which convince his / her behavior to use the online system in future. A value added contribution in this research is the new construct of Perceived Ease of Time (PEOT). This new variable also shows the strong intention of user towards the online system when he / she perceive that use of online system will save his / her time. A direct link of perceived usefulness (PU), perceived ease of use (PEOU), perceived enjoyment (PE) and perceived ease of time (PEOT) has been hypothesized with the behavioral intention of user to accept the online system.

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1.1.3 Statement of the Problem With the shifting paradigm of physical system into new online system, organizations are facing a lot of resistance from their users in using online channels. Users only intend to use the system which are easy in use, time saving and less complicated to them. As the online systems are associated with computer, the generation of computer usage behavior among the user of organization is a major problem. Therefore, there is a strong need for the research in this regard to explore the factors which influence the user to accept the new online system. Many studies have been done in order to check the computer usage behavior but there is a lack of research in this area in Pakistan. The research by the researcher in this area is a contribution in this endeavor. The organizations which are deploying online system to serve their users want to know the factors which generate the computer usage behavior among their users.

1.1.4 Research Questions The research question arises mainly around the user acceptance of online system and need to determine the computer usage behavior of the user. The research questions and the problems can be stated as follows:

1. What is the acceptance rate of online system among the users in Pakistan?

2. Does online system contribute the acceptance rate of technology?

3. To test and replicate the technology acceptance model (TAM) in developing world data?

4. Does ease of time factor effect the acceptance rate of online system by user?

1.1.5 Objectives of the Study Information technology need to be utilized by the companies to gain the efficiency, effectiveness and productivity. In the developing countries like Pakistan the ratio of acceptance of new technology is very high (Qureshi & Khan, 2008). There are many institutions which are providing the online services to their users. Special

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sectors like banks and airlines get an edge in the business environment due to their online systems. To find out the competitive edge of using the online system, I need to explore the factors which emphasize user to accept the online system. Therefore, the main objectives of my research are:

1. To test the technology acceptance model in Pakistan.

2. To determine the factors which influence the user acceptance of technology / online system.

3. To test that proposed construct, perceived ease of time (PEOT) can also be a major predictor for the user acceptance of online system.

1.1.6 Significance of the Research The significance of the study can be explained in terms of confirmed hypothesis of the study. To summarize the findings of the study, 1 projected the similar positive relationship of perceived usefulness (PU) with the user acceptance of online system. The positive relationship of perceived ease of use (PEOU) and online system acceptance has also been confirmed from the results of this study. Both predictors revealed the same strength as the Davis (1989) model proposed. Meanwhile, positive relationship of perceived enjoyment (PE) with online system acceptances was also confirmed. The proposed hypothesis regarding perceived ease of time (PEOT) was also confirmed by the results of the study. The positive relationship between perceived ease of time (PEOT) and online system acceptance indicates that perceived ease of time (PEOT) is also a major predictor of user intention to accept online system. Hence the extension of perceived ease of time (PEOT) in traditional technology acceptance model has proved its significance in this study.

1.1.7 Design of the Research The study discusses in detail the review of literature on technology acceptance model and online system in chapter two. Online banking studies are

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discussed under the description of online system. The research methodolgy has discussed in chapter 3 . The sample and the data collection methods are described along with developed measures used in the study. The control variable in the reasearch has also been discussed in the chapter three. Chapter four presents the results of the study with detailed interpretation and discussion of the study is presented in this section. There are three tables which presents seperately the mean, standard deviation, reliabilities, correlation and regression results for all variables used in the study. Chapter five provide discussion and conclusion of the study with limitations and future research directions and at the end chapter six presents bibliography.

1.2 Airline Sector in Pakistan

The economic regulator which is responsible for licensing air service suppliers and maintaining safety is Civil Aviation Authority (CAA)[1].It also supervises airfares, to contain predatory pricing and "unfair" competition. The Market Clean-up Board comprises of representatives from the state-owned Pakistan International Airways (PIA) and private airlines) reviews the international and domestic air fares filed by national and international airlines. Shaheen Air International is Pakistan's second public national airline company. PIA and Shaheen Air International compete domestically with a private operator named Airblue. Domestic carriers (passenger and freight) must be controlled by Pakistani Investors. It has concluded 94 bilateral air services agreements, but many are non-operative. Unused PIA

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[1] Trade Policy Review WT/TPR/S/193

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entitlements may be re-allocated to private airlines, including on routes where it is designated the national carrier. The CAA aims to maintain "fair and reasonable" competition for Pakistani carriers from foreign airlines. No flights servicing Pakistan with Israel are permitted, including through third-countries. Passenger chartered flights, including by foreigners, are unrestricted on routes not adequately covered by scheduled airlines. 103. There are 25 operational airports in Pakistan. A new international airport is being built privately at Gwadar, on a BOO basis; there are currently two private airports, at Sialkot (owned by the Chamber of Commerce) and Sui (owned by Pakistan Petroleum Company). A new international terminal was completed at Lahore international airport in 2006, and a new terminal is being built at Islamabad International Airport. Landing slots are allocated on a first-come first-served basis and are maintained historically. Terminal and related services (landside services) are privately operated, but auxiliary flight services are still provided by state, semi-private, or private operators. Airline operators may handle their own aircraft ground services, or use PIA or ground handling agencies licensed by the CAA.

1.3 Banking Sector in Pakistan

The banking sector has been restructured and transformed from a predominantly weak, state-owned system to a sound, market-based one reliant on private ownership. Pakistan has continued to deregulate banking; privatize state-owned banks; strengthen the prudential supervisory and regulatory functions of the State Bank of Pakistan (SBP), including its independence; promote bank re-structuring and consolidation; improve transparency; and enhance corporate governance. Currently, there are 37 commercial banks (4

majority state-owned, 26 domestic, and 7 fully foreign owned) and 4 specialized banks. Bank financial soundness and profitability have increased.[2]

In Pakistan, some banks have manual banking system whereas most of the banks have computerized branches. The purpose of deploying manual system is to record and maintain the data of the customers and provide the online services to facilitate their customers. Also the purpose of online system is to make the proper communication among the all branches of bank. The all branches can access the record from the main branch and immediate update take place at the main branch. The online facilities are provided to the employees of the company as well as the end consumers. The decisions of the banks are centralized at the main branch.

1.4 Definition of Terms

The definitions of the terms are explained below which are used in this study

Airline - is a company that flies airplanes to transport people and goods.

Airline Sector - collectively all airlines work in one industry it is called airline sector.

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[2] Trade Policy Review WT/TPR/S/193

Bank – is a financial institution that accepts deposits and channels the money into lending activities. Banks act as payment agents by conducting checking or current accounts for customers, paying cheques drawn by customers on the bank, and collecting cheques deposited to customers' current accounts. Its primary activities include providing financial services to customers while enriching its investors.

Banking Sector - collectively all banks work in one industry it is called banking sector.

Behavior- is the collection of behaviors exhibited by human beings and influenced by culture, attitudes, emotions, values, ethics, authority.

Computer Technology - the activity of designing and constructing and programming computers or the practical application of computer industry

Convenience Sampling - is the type of non probability sampling in which the choice of the sample left completely to the choice of interviewer.

Dependent variable - is a variable dependent on another variable: the independent variable.

Independent Variable - is said to cause an apparent change in, or simply affect, the dependent variable.

Literature Review - is a body of text that aims to review the critical points of current knowledge on a particular topic.

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Online System - are computer based system which gives an access control system which is connected and managed at all times by a computer. People can use online system any time from their homes, offices etc.

Online System Acceeptance – is the adoption or acceptance rate of computer related system by the user

Organization - is a group of people working together towards the accomplishment of common goal.

Perceived Ease of Use - is the degree to which a person believes that using a particular system would be free from effort.

Perceived Ease of Time - is the degree to which a person believes that using a particular system would save his / her time.

Perceived Enjoyment – is the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated.

Perceived Usefulness - is the degree to which person believes that using a particular system would enhance his / her job performance.

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Population - is the aggregate of all the mebers from the society from where the sample is drawn.

Primary Data - is the data collected by the researcher specifically for the research project.

Questionnaire - a form containing a set of questions; submitted to people to gain statistical information

Research - is an attempt to find out in a systematically and scientific manner about something.

Sample - is a small part of something intended as representative of the whole.

Sample Design – is the sampling procedure used to produce any type of sample.

Sampling Distribution – is the distribution of a statistic.

Scale – is an aggregate measure that assigns a value to a case based on a pattern obtained from a group of related measures.

Secondary Data – is the data collected and recorded by another (usually earlier) person or organization, usually for different purposes than the current evaluation.

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Self-Reported Data – is the information that program participants generate themselves that is used to assess program processes or outcomes.

Significance Level – is the probability of rejecting a set of assumptions when they are in fact true.

Statistic – is a number computed from data on one or more variables.

Statistical Analysis – is the analyzing collected data for the purposes of summarizing information to make it more usable and/or making generalizations about a population based on a sample drawn from that population.

Statistical Test – is the ype of statistical procedure that is applied to data to determine whether the results are statistically significant

Survey – is the collection of information from a common group through interviews or the application of questionnaires to a representative sample of that group.

Technology - the practical application of science to commerce or industry.

User - **is** a person who uses the services of online system. The user may be the employee of the company or the end consumer who use the online system from his / her home.

Variable – is something that is likely to vary; something that is subject to variation.

Fishbein, 1980). Theory of reasoned action (TRA) describes the beliefs and actions. It stated that beliefs impact attitudes, which then leads to intentions and then exhibits behaviors.

2.2 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) is rooted in the field of social psychology, which besides other attempts describe the impact of attitude on behavior and how the beliefs of the people changed when they act. Theory of reasoned action (TRA) posits that an individual's behavior is determined by his / her attitude towards the consequences of that behavior and through the opinion about his / her social environment. Ajzen and Fishbein (1980) proposed that an individual behavior is determined by his / her intention to perform the behavior. Ajzen and Fishbein (1980) stated that attitudes to develop the behavior are made up of the beliefs that a person gathers over the time. Of an individual these are known as salient beliefs which are the "immediate determinants of a person's attitude" (Ajzen & Fishbein, 1980; p.63). Intention is defined as the chances of person to perform the behavior (Taylor, 2001).

2.3 Theory of Planned Behavior (TPB)

Fishbein (1967) presented the theory of reasoned action (TRA) which is related to the voluntary behaviors. Theory of planned behavior (Ajzen 1985, 1991) stated that behavior of a person is forced by behavioral intention which results in the individual's attitude towards the behavior, and the subjective norms which perform the behavior. Attitude is defined as the individual's positive or negative feelings of an individual when he performed the behavior. Subjective norms are the perception of individual whether people feel important that the person should exhibit this behavior. Behavioral control is the individual's perception about the difficulties in exhibiting the behavior (Ajzen 1985, 1991). Perceived behavioral control is

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defined as the individual perception of his / her ability to perform a given behavior (Ajzen 1985, 1991).

2.4 Extension of Technology Acceptance Model (TAM)

Technology acceptance model (TAM) since its development (Davis, 1989) in USA has been extended by many scholars. Its applicability has been widely approved in many countries. The extension of TAM results in many models and provides the resaerchers new area of interests.

2.4.1 Original Technology Acceptance Model (TAM) Davis (1989) developed the technology acceptance model is derived from theory of reasoned action and theory of planned behavior. Technology acceptance model differs in the aspect that it checks the user acceptance of an information system. The purpose of TAM is to identify the factors which make information system acceptable to the users. TAM posits two main factors of user acceptance: perceived usefulness (PU) and perceived ease of use (PEOU). Attitude (A) is defined as third construct which is a mediating factor between PU, PEOU and Behavioral Intentions (BI).

Perceived usefulness (PU) refers to "the degree to which a person believes that using a particular system would enhance his / her job performance" (Davis, 1989; p.320). Perceived ease of use (PEOU) is "the degree to which a person believes that using a particular system would be free of effort." (Davis, 1989; p.320).

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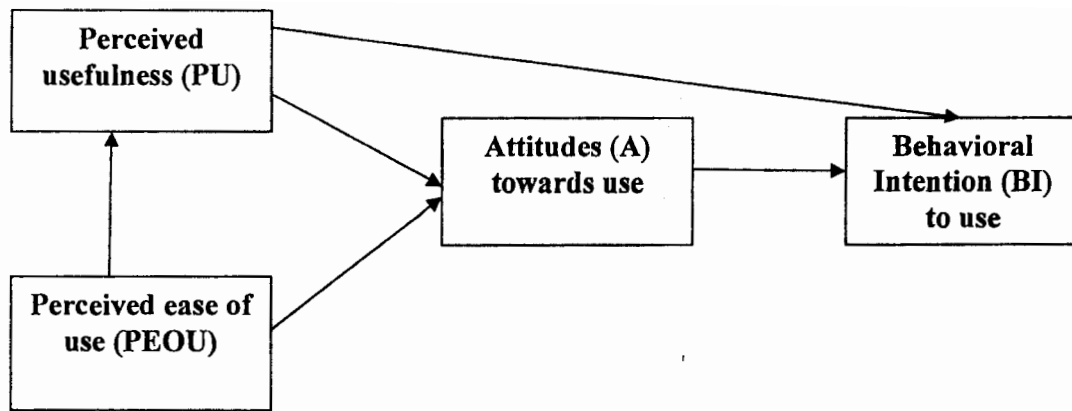
Fig: 1 Technology Acceptance Model (Davis, 1989)

2.4.2 Parsimonious Technology Acceptance Model Davis (1989) tested technology acceptance model (TAM) among students and applied it to the word processing application. The result of the study confirmed that perceived usefulness (PU) is a strong determinant of intention to use , whereas perceived ease of use (PEOU) found to be less influential. Davis (1989) also found that the third construct attitude did not fully mediate between perceived usefulness (PU) and perceived ease of use (PEOU). so they developed parsimonious technology acceptance model (TAM) in which attitude construct was removed from the original technology acceptance model (TAM).

2.4.3 Combine Technology Acceptance Model –Theory of Planned Behavior Theory of planned behavior (TPB) by Ajzen (1985 & 1991) is the typical example that proposed abilities, opportunities and resources that are required for the use of system, manipulate behavior in addition to the attitude, subjective norms and perceived behavioral control of person .(Mathieson, 1991; Taylor & Todd; 1995) established a decomposed theory of planned behavior (TPB) by extended and integrated technology acceptance model (TAM) and existing theory of planned behavior (TPB). The decompose theory of planned behavior (TPB) show the important determinants of behavior by include other new constructs that were not

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discussed in the existing theory of planned behavior (TPB). This model combines the predictors of theory of planned behavior (TPB) with perceived usefulness (PU) from TAM to provide a mix model. The decomposed theory of planned behavior (TPB) is seen as implementation of TAM and provides more complete understanding of behavior of individual to use the system (Taylor and Todd, 1995).

2.4.4 Extended Technology Acceptance Model (TAM2) Venkatesh, Viswanath & Davis (2000) developed an extended technology acceptance model named TAM 2. Technology acceptance model (TAM) and TAM 2 both posit that an individual's intention to use a system is determined by two major predictors: perceived usefulness (PU) and perceived ease of use (PEOU). TAM 2 however, added two new factors: cognitive instrumental processes and social influence processes. Four cognitive factors which have significant effect on perceived usefulness (PU) are: job relevance, output quality, result demonstrability, and perceived ease of use (PEOU). Job relevance is defined as the analysis of individual that the new technology is pertinent to his / her job (Venkatesh et al., 2000). Output quality is the perception of a person that a system will improve the performance of tasks related to his / her job (Venkatesh et al., 2000). Result demonstrability is value of the outcomes of using the technology (Venkatesh et al., 2000). Perceived ease of use (PEOU) has direct and indirect influence on perceived usefulness (PU). Venkatesh et al. (2000) defined image as the individual perception that the use of technology develop his / her status within a social group.

Venkatesh et al. (2000) tested TAM2 in four longitudinal field studies (n = 156) and found that both social influence and cognitive instrumental processes significantly influenced the user acceptance. Whereas,, Malhotra and Gelleta (1999) examined the effect of social influence on behavioral intention of the individual. The result of the study was contrary to

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that of Venkatesh et al. (2000) show no direct considerable effect of social influence on behavioral intention.

Chau, Patrick and Hu (2002) and Hu, Paul, Lin & Chen (2005) tested the effect of subjective norm on behavioral intention to use the technology. Hu et al. (2005) findings were same as Venkatesh et al. (1996) and they considered subjective norm to be significant variable of extended TAM. Chau et al. (2002) disparated these results and declared subjective norm as a non-significant variable for intention to use the technology. Hu et al. (2005) also found that accessibility of the technology was a significant determinant of intention to use.

The application of TAM is mostly done for Internet usage. Jiang, Hsu and Lin (2000), Anandarajan, Simmers and Igbaria (2000), Lu, Liu and Yao (2003), Shih (2004), Kripanont (2006), Lu, Remus & Chia (2006) looked at the internet utilization behavior in the light of technology acceptance model (TAM). The results of each study were contrary to other. Jiang et al. (2000) modified technology acceptance model and determined that perceived near term usefulness, perceived long-term usefulness and prior experience are strongly related to internet usage. Lu et al. (2003) tested the TAM for wireless Internet and indicated that perceived near-term usefulness and perceived long- term usefulness both were influenced by perceived ease of use (PEOU). Anandarajan, Simmer and Igbaria (2000) tested the antecedents of Internet usage on small sample size (n = 39) using the technology acceptance model (TAM) and theory of reasoned action (TRA) and find no causal relationship between perceived usefulness (PU) and perceived ease of use (PEOU).

Several studies have been accomplished to test the effect of computer self-efficacy on perceived ease of use (Hong, Weiyin, James, Thong Tam, 2001-2002; Chau and Lu, 2004; Gong, Min, Yan and Yu, 2004) supported that computer self-efficacy is a strong determinant,

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while Chau (2001) determined computer related attitude as a non-significant determinant for intention to use.

2.5 Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)

Davis (1989) developed technology acceptance model to check the computer usage behavior and introduced two major predictors to judge the user behavioral intention to use the information system. Perceived usefulness (PU) and perceived ease of use (PEOU) are the major predictor of technology acceptance model by Davis (1989). He conducted two studies to test the effect of these two measures and found perceived usefulness (PU) and perceived ease of use (PEOU) significant determinants of behavioral intention. The study also found that perceived ease of use (PEOU) is mediating the effect of perceived usefulness (PU) and may actually serve as the antecedents of perceived usefulness (PU).

Davis (1989) developed original technology acceptance model to validate the perceived ease of use (PEOU) and perceived usefulness (PU) using the self-report responses and found that both usefulness and ease of use are significantly associated with usage. The parsimonious technology acceptance model by (Davis, Bagozzi & Warshaw, 1989) explained intentions of individual to use the technology. The findings of the study found perceived usefulness (PU) as the significant determinant of intention to use while perceived ease of use (PEOU) had less significant effect, whereas attitude partially mediated the effects of beliefs on intentions. The development of TAM 2 by (Venkatesh et al., 2000) proposed several additional determinants, which had direct influence on the behavior of individuals to use the technology. The work of Davis (1989) has been extended by other scholars who added new variables to the technology acceptance model (TAM) to check for the greater amount of the differences in actual use of the system.

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Mathieson (1991) evaluated technology acceptance model (TAM) with theory of planned behavior (TPB) and found that technology acceptance model (TAM) and theory of planned behavior (TPB) both strongly predicted the intention to use. Meanwhile Adams, Nelson and Todd (1992) replicated the Davis et al. (1989) study and determined the relationship between perceived ease of use (PEOU), perceived usefulness (PU) and system usage. The sample size for the study was 118 and respondents were from 10 different organizations. The results of the study revealed that mandatory and voluntary use of the system influence the relationship between perceived ease of use (PEOU), perceived usefulness (PU) and system usage.

Davis, Bagozzi, and Warshaw (1992) did research on system characteristics, user perceptions and behavioral impacts. He conducted a study with sample size of 112 and found the same result as parsimonious technology acceptance model (TAM). Perceived usefulness (PU) was found to be more influential than perceived ease of use (PEOU) in determining the usage of information technology / system (IT / IS). Taylor and Todd (1995) tested technology acceptance model (TAM), theory of planned behavior (TPB) and decomposed theory of planned behavior (TPB) model. The decomposed theory of planned behavior (TPB) provides full understanding of behavioral intentions which were influenced by system usage. Al-gahtani and King (1999) developed and tested technology acceptance model (TAM) and found perceived usefulness (PU) as the major tool for envisaging the attitudes and satisfaction.

Hu et al. (2005) tested the application of TAM in telemedicine technology. The sample size was 421 physicians of Hong Kong hospital, while Chau et al. (2002) conducted the study among 408 physicians. The results of both the studies revealed perceived usefulness (PU) as significant determinant of attitude and intention to use while; perceived ease of use (PEOU) had no significant effect on user acceptance of new technology.

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Mathiesan, Kieran, Peacock and Chin (2001) examined user acceptance of bulletin board system with the sample size of 401 professional accountants. The results were consistent with Davis (1989) original study and found perceived usefulness (PU) as stronger significant than perceived usefulness (PU). Perceived resources were taken as external variable and found strong determinant of intention to use and perceived usefulness (PU).

In Shih (2004) study of Internet utilization behavior perceived ease of use (PEOU) was found to be a significant predictor, whereas perceived usefulness (PU) had no significant effect and found not consistent with Davis (1989) study. Luo, Remus and Chea (2006) tested the intention of individual in using internet and found that behavioral intention mediated the effect of perceived ease of use (PEOU) and perceived usefulness (PU).

Amoako-Gyamaph and Salam (2004) tested the TAM in implementation of Enterprise Resource Planning (ERP) system. The variables found to be the significant predictors of perceived ease of use (PEOU) were training and shared beliefs. The influence of attitude on intention to use was significant as found in the original technology acceptance model (Davis, 1989).

Some studies supported the parsimonious technology acceptance model (TAM) in which attitude did not fully mediated the perceived ease of use (PEOU) and perceived usefulness (Sharp, 2006), Chau (2001) tested the acceptance of general IT usage in academic environment among 360 undergraduate's business students .The acceptance was tested on word processor, spreadsheet, presentation software and database. Hong, Weiyian, James & Tam (2001-2002) conducted a study among 585 students using a digital library. Liaw, Sheng and Hsju (2003) researched the user acceptance among 114 students utilizing search engines. Lin, Hui and Wu (2004) examined end user computing among 195 workers from service, manufacturing and extractive sectors in Taiwan. Each of the study showed perceived

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usefulness (PU) as a strong determinant for intention to use while perceived ease of use (PEOU) was non-significant.

Horton, Buck, Waterson and Clegg (2001) applied and tested technology acceptance model (TAM) for intranet in two large settings of UK with large sample size and found perceived ease of use (PEOU), perceived usefulness (PU) and intention as a strong predictor of intranet use.

Various scholars extended the technology acceptance model (TAM) and tested in different fields. Klopping and McKinney (2004) extended the technology acceptance model (TAM) and developed task technology fit model (TTF) and tested it with consumer E-Commerce. They modified the technology acceptance model (TAM) by drop the perceived ease of use (PEOU) and perceived usefulness (PU) linked path and developed a direct link of perceived usefulness (PU) on actual use.

Qingxiong, Liu, and Liping (2004) did meta-analysis of 26 empirical studies of TAM in order to synthesize the empirical evidences for technology acceptance model (TAM). The results revealed 102 correlations from those 26 studies and these results were consistent with (Davis et al.; 1989, 1992). The relationship between perceived usefulness (PU) and perceived ease of use (PEOU) was found to be significant and between perceived usefulness (PU) and attitude was strong, while between perceived ease of use (PEOU) and attitude was weak. Another meta-analysis by King and He (2006) included 88 studies and more than 12,000 observations. The findings demonstrated that perceived ease of use (PEOU) and behavioral intention were highly reliable TAM measures of most studies but inclusion of moderator variables can explain the effects in more evocative way.

2.6 Perceived Enjoyment (PE)

Davis et al. (1992) extended the technology acceptance model by the extension of perceived enjoyment (PE) factor. Perceived enjoyment (PE) defined as "the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated." (Davis et al.; 1992, p. 1113)

The perceived enjoyment (PE) was also found to be a major predictor for measuring the user intention towards the use of information system. Many studies show that PE significantly related to intentions of users to use computer. (Davis et al., 1992; Igbaria, Iivari, and Maragahh, 1995; Teo, Lim & Lai, 1999). Igbaria et al. (1995) found the positive relationship of perceived enjoyment (PE) with information system. They suggested PE is positively related with the time to use information system and negatively related with the frequency to use information system. Opposed to Igbaria et al. (1995), Toe et al. (1999) stated that PE is positively related with the frequency of Internet usage and especially with daily internet use. Definitions of perceived fun and perceived playfulness are quite similar to the concept of perceived enjoyment (PE) in many studies.

Moon and Kim (2001) examined acceptance of World Wide Web by 152 graduate students and found that the results were not consistent with original TAM. Perceived ease of use (PEOU) was found to be a strong determinant to use while perceived usefulness (PU) was found insignificant. The third construct perceived playfulness found to be non-significant with intention to use while significant for attitude. Liaw and Huang (2003), Yi and Hwang (2003) and Van der Heijden (2004) included the perceived enjoyment to show its influence on perceived usefulness (PU) rather than perceived ease of use (PEOU). They found perceived enjoyment (PE) as a significant determinant of perceived usefulness (PU), while

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Van der Heijden (2004) findings were not consistent with parsimonious technology acceptance model.

Huang (2005) result was opposed and supported the technology acceptance model (TAM). Huang (2005) evaluated 390 subjects using a women centric website and found perceived usefulness (PU) as more influential for usage while perceived playfulness had no stronger effect on intention to use whereas perceived playfulness was found to be strong significant determinant of attitude as in Moon and Kim (2001) findings.

The results of the study of Van Der Heijden (2004) were not consistent with the parsimonious technology acceptance model (TAM). The study was tested for hedonic information system taking sample size 114. Brown, Massey & James (2002) tested the computer banking system with sample of 107 bank employees, whereas Pikkarainen et al. (2004) extended the technology acceptance model (TAM) to check the consumer acceptance of online banking. The findings of both the studies were not consistent with the parsimonious technology acceptance model. In Pikkarainen et al. (204) study perceived enjoyment (PE) was found to be the strong determinant of perceived usefulness (PU) rather than perceived ease of use (PEOU).

2.7 Theoretical Framework of Online System and User Acceptance

Online system and Internet acceptance has gained special attention in research world during the last decade. A very little amount of research has yet been found in this area. The information technology has emerged the new trend for user to shift from physical stores to the online system. Monsuwe, Dellaert and Ruyter (2004) studied the factors, which drive user to shop online. They defined online shopping as "the use of online stores by user up until the transactional stage of purchasing and logistics" (pp. 104). Klopping and McKinney

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(2004) tested the user e-commerce and defined the user acceptance of internet as a basic tool for accepting the online system. The study treated the user e-commerce as a technology acceptance process and evaluated the suitability of technology acceptance model (TAM) and task technology fit model.

Most of the studies on acceptance of online system have been conducted in the banking sector. Banking journals have paid special attention to these topics. Pikkaranien et al. (2004) proposed a model on electronic banking technology. Qureshi, Zafar and Khan (2008) developed their model for online system effect on developing economies whereas Chandio (2008) tested the same model with the addition of two more variables. Many researchers (Karjaluoto, 2002; Gerrard and Cunningham, Bradley and Stewart, 2003) have paid the special attention to user acceptance of online system in banking sector. Pikkarainen et al. (2004) defined two fundamental reasons of online banking development and acceptance. The first one is the cost saving feature, as online banking has been proved as the most inexpensive delivery channel for banking products and services (Sathye, 1999; Robinson, 2000; Giglio, 2002). The second factor identified by Pikkarainen etc. al (2004) is the reduction in branch network and downsizing of the bank service staff. Many researchers therefore, suggested cost saving, time saving and sense of freedom as the main reason of acceptance of online system (Polatoglu and Ekin, 2001; Black Lockett, Winklhofer and McKechnie, 2002; Howcroft, Hamilton and Hewer, 2002).

2.8 Extended Technology Acceptance Model and Online System

Based on the above literature review and the survey from the users from the banking and airline sector of Pakistan, a model specifying the user acceptance of online system has been proposed. The user acceptance model consists of four factors that determine the user

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acceptance of online system including newly added construct, perceived ease of time (PEOT).

2.8.1 Perceived Usefulness (PU) The technology acceptance model stated that perceived usefulness (PU) is the major significant factor which effects the user acceptance of online system (Davis, 1989). TAM posits that the most important determinant of technology usage rate is the perceived usefulness. Davis (1989) defined PU as "the degree to which person believes that using a particular system would enhance his / her job performance (p. 320)". By applying this into the context of online system I hypothesize to replicate that:

Hypothesis 1: Perceived usefulness (PU) is positively related to user acceptance of online system.

2.8.2 Perceived Ease of Use (PEOU) The technology acceptance model posits that perceived usefulness (PU) is the major significant factor which effect the user acceptance of online system (Davis, 1989) but it is mediated by another important determinant, which is perceived ease of use (PEOU). Davis (1989) defined perceived ease of use (PEOU) as "the degree to which a person believes that using a particular system would be free from effort (p. 320)". On this basis I expect that PEOU enhances the user acceptance of online system and hypothesize for replication purpose that.

Hypothesis 2: Perceived ease of use (PEOU) is positively related to user acceptance of online system.

2.8.3 Perceived Ease of Time (PEOT) This is the new extended variable in the existing technology acceptance model. The rationale for this addition is that it can also have the strong significant effect on user acceptance of online system. The definition for this new construct is developed by the researcher. The perceived ease of time (PEOT) refers to "the degree to which a person believes that using a particular system would save his / her time (Researcher

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Own)". Previous researchers and studies did not give attention on the time factor of using the information system as a separate construct. Davis (1989) defined this ease of time factor under the perceived usefulness construct and developed 2 items for ease of time in the perceived usefulness measurement scale. The rationale for developing this construct as a new variable is defined in terms that, the user will accept the online system more rapidly if he / she believes that his / her time will be saved by using online system. In order to test the significant relationship between the online system usage and user perception about the ease of time therefore, I hypothesize that:

Hypothesis 3: Perceived ease of time (PEOT) will be positively related to user acceptance of online system.

2.8.4 Perceived Enjoyment (PE) Davis et al. (1992) defined perceived enjoyment (PE) as "the extent to which the activity of sing a computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated (p.1113)". The perceived fun and perceived playfulness are fairly similar to the concept of perceived enjoyment (PE) which also emphasize that user will use the system if he / she find some entertainment in that. The literature also supported the positive relationship of perceived enjoyment (PE) with user acceptance of information system in many studies therefore, I hypothesize for replication purpose that:

Hypothesis 4: Perceived enjoyment (PE) will be positively related to user acceptance of online system.

The Extended Technology Acceptance Model (E-TAM) proposed by this study is as under:
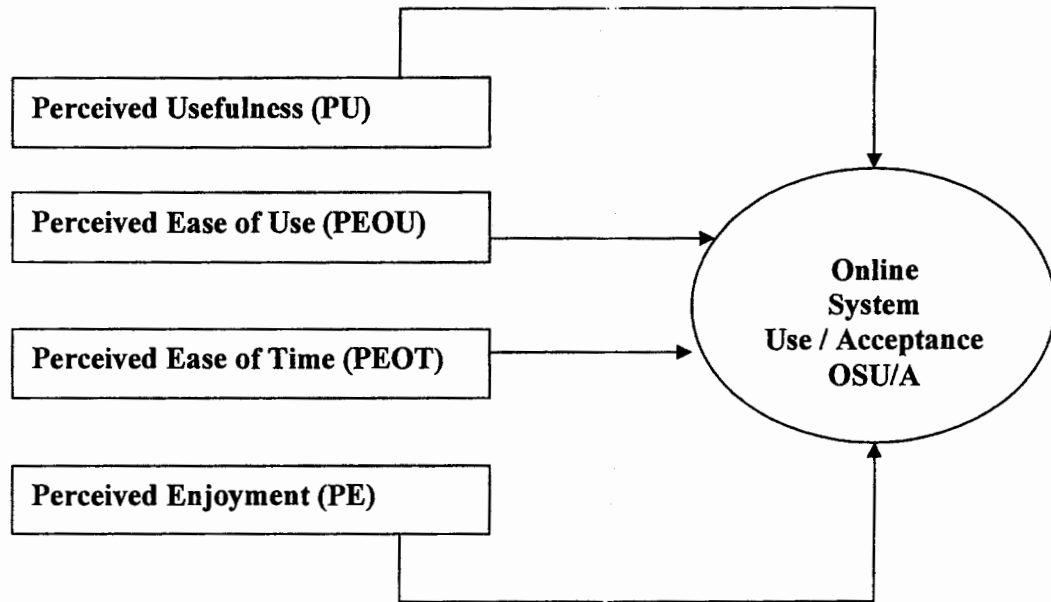
Fig2. **Proposed Research Model of E-TAM**

2.9 Limitations of the Study

Although the reslts of the study proved significant, still the study has several limitations. The speed of internet connection, the security and privacy of internet and the amount available on online system as described in Pikarenian et al. (2004) model might have been checked with the said model in Pakistani settings. The second limitation concerns with the sample of the study.Though the sample size is quiet reasonable as proved in the other TAM studies, the sample is only collected from the airline and banking sectors of Pakistan. The sample must also be collected from telecom and higher education sectors.

Another possible limitation could be the misunderstanding of construct by the respondents in the questionnaire that could have been covered by the translation of items in the local language (urdu). The major limitation which I found during the conduct of whole study was the lack of time. This limitation can be coverd by conducting a longitudinal study in the same

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context to prove ETAM proposed in this study. Cultural impact and socially acceptable behavioral norms could be an other possible reason for response biase. Even though I tried my level best to cover the response biase by assuring the respondent strict secrecy of data and by applying standard data collection procedures. The entire data collection was not personally administered which might have been avoided, but due to lack of time and resources the responses were collected through courier services.

CHAPTER – 3

RESEARCH METHODOLOGY

3.1 Type of Study

The current study is causal type of research, in which I have hypothesized and tested the influence of perceived ease of use (PEOU), perceived usefulness (PU), perceived enjoyment (PE), and perceived ease of time (PEOT) on the user acceptance of online system.

3.2 Sample and Data Collection Procedures

The sample of the study consisted of employees and customers of the organizations, who utilize the services of online system. The sample size is drawn from major banking and airline sectors of Pakistan. As I adopted the convenient sampling the data was collected from 11 major cities of Pakistan (Rawalpindi, Islamabad, Sargodha, Okara, Sahiwal, Chakwal, Faisalabad, Lahore, Sialkot, Banu and Peshawar).

The research locations incorporated in this study were well reputed private and public sector multinational banks, major national and international airlines operating in Pakistan, well reputed travel agencies and some other institutions providing online services. A survey was conducted and questionnaires were administered personally for major chunk of the data and in few cities it was collected through courier mail services. Most of the questionnaire were administered and obtained personally by the researcher using her personal contacts.

A brief cover letter is attached with the questionnaire explaining the purpose and scope of the research study. A written assurance is given to the respondent providing them the strict confidentiality of their responses. Total 300 questionnaires were distributed in all

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organizations out of which 200 were administered in banks and 90 in airline sector. The complete responses returned from bank were 190 questionnaires with the response rate of 95 %. Whereas, total 69 questionnaires were returned from airlines with the response rate of 76%. The remaining 10 questionnaires were administered in other organizations that returned with the response rate of 90%. Overall from the total administered 300 questionnaires 257 were received completely filled with the response rate of 84%. While entering the data for statistical analysis 5 responses were found biased and filled inappropriately so excluding them from the data 252 responses were finally analyzed for the results of this study.

The mean age of respondent was 31 years with (S.D = 7.36 years). The sample male respondents in this study were 78.6 % and 21% were female. The mean tenure of respondents with current organization was 1.48 with (S.D = 0.95 years) and the prior computer experience of the respondents was mean 1.52 years with (S.D = 0.721 years). Qualification of the respondents ranged from Graduation to MPhil / PhD level. About 72 % of the respondents were graduates (Masters and 4 years Bachelor's Degree holders), 27% were under-graduates.

3.3 Instruments and Measures

All responses were taken by a "Self report" measure on a 5-point likert scale. The scale ranged from 1-5 where, 1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, and 5 = strongly agree. English is declared as the basic official language in Pakistani organizations and it is also a medium of instruction in most of the colleges and universities. Our entire sample consisted of graduates and post graduate level of qualification, so all questions were asked in English.

The scales for perceived ease of use (PEOU), perceived usefulness (PU), perceived enjoyment (PE) and perceived ease of time (PEOT) were adapted from previous studies, many of which have already established their reliability and validity (Davis, 1989; Maish,

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1979; Malhotra & Galletta, 1999; Venkatash & Morris 2000, Sun & Zhang, 2006). Mean scores of the corresponding items will reflect each construct dimension. Reported mean reliabilities are (α = 0.92) for perceived ease of use (PEOU), (α = 0.97) for perceived usefulness (PU) and (α = 0.89) for perceived enjoyment (PE).

3.3.1 Measures of Perceived Ease of Use (PEOU) 14- Item perceived ease of use (PEOU) scale (Maish, 1979; Venkatesh , Morris & Davis, 2003, Sun & Zhang, 2006) was used to measure the acceptance of online system. The reliability (α) of this measure reported in previous studies ranged from (α = 0.92). All 14 items were covering all the dimensions of perceived ease of use (PEOU) of online system. Higher scores in mean of the items reflected the higher level of ease perception. No reverse coded items were used to tap the correct perception about perceived ease of use (PEOU) with online system. The alpha reliability on data collected in this study found (α = 0.77) for 13 item of perceived ease of use (PEOU) scale.

3.3.2 Measures Of Perceived Usefulness (PU) The 9 -item scale was used to measure perceived usefulness (PU) was adopted from (Maish, 1979; Davis, 1989). The reported reliability for this measure reported (α = 0.97) in previous studies. The reliability found on the current data was (α = 0.76) for all 9 items.

3.3.3 Measures of Perceived Ease of Time (PEOT) A 5- item scale is developed for this new construct showing the high validity and reliability. These 5 items were developed by the researcher herself to test the user perception about the time in using the online system. The example of the items included in questionnaire are "using online system would save my time" from "The online system would provide me a very quick response for my transactions in less time". The reliability for this construct was found (α = 0.61) for 4 item of this scale.

The items developed for the perceived ease of time is show in table 1.

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Table 1 Initial Scale Items Developed for Perceived Ease of Time

1. Using online system would save my time.
2. Using online system will reduce my time, I spent on physical purchasing.
3. Using online system would make me enable to do more transactions in less time.
4. The online system would provide me a very quick response for my transactions in less time.
5. Using online system would make it easy to correct data or instructions in less time

3.3.4 Measures of Perceived Enjoyment (PE) 4 item scales developed and used by (Miash, 1979; Sun & Zhang, 2000) was used to measure for perceived enjoyment (PE). The reported reliability for this measure from previous studies is (α = 0.89).This self-reported enjoyment was measured by using items like "I would find using online system enjoyable" and "using online system makes my life more interesting". The alpha reliability for the data of this study found (α = 0.81) using complete 4 item of this measure. No reverse coded item was used to tap enjoyment.

3.3.5 Measures for Online System Acceptance (OSA) This dependent construct was measured on 4 items behavioral intention scale adopted from (Malhotra & Galletta, 1999). All items were taped as self-reported, showing the behavioral intention of user in accepting the online system. The alpha reliability for this construct in our study was (α = 0.66) with 2 items. The items included in the questionnaire were like "I intend to use online system frequently from my home", "I intend to use online system during my job" and "I would prefer the use of online system for acquiring information".

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3.4 Control Variables

This study conducted one-way analysis of variance to check the impact of demographic variables and the results revealed that gender, income and organization were the variable that showed significant impact on online system. All other variable showed insignificant impact on the dependent variable of the study. In order to control the impact of organization two dummy variables named org 1 and org 2 were created and these were controlled for their impact on dependent variable. Other variables like age, city, qualification, nature of job, prior computer experience were not considered as a control variable in the study.

CHAPTER – 4

RESULTS AND DISCUSSION

4. 1 Hypothesis Testing

This study tested the all hypothesis, which were proposed in the model.

Hypothesis 1: Perceived usefulness (PU) will be positively related to user acceptance of online system.

Hypothesis 2: Perceived ease of use (PEOU) will be positively related to user acceptance of online system.

Hypothesis 3: Perceived ease of time (PEOT) will be positively related to user acceptance of online system.

Hypothesis 4: Perceived enjoyment (PE) will be positively related to user acceptance of online system.

4. 2 Descriptive Statistics

Table 1 show the descriptive statistics of all variable used in this study. The mean for perceived ease of use was 4.08 (S.D = 0.52). The mean for perceived usefulness was 4.121 (S.D = .46), for perceived enjoyment the mean was 3.93 (S.D = .74), whereas the mean for perceived ease of time was 4.20 (S.D = .52). The mean value for online system acceptance was 3.99 (S.D =.56). The mean age of the respondents was 31 years with (S.D = 7.36). The mean and standard deviation of other variables is given in the table 2.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Perceived Ease Of Use (PEOU)	252	2.71	8.50	4.0822	.52521
Perceived Usefulness (PU)	252	2.10	5.00	4.1214	.46351
Perceived Enjoyment (PE)	252	1.00	5.00	3.9375	.74404
Perceived Ease Of Time (PEOT)	252	2.50	5.00	4.2083	.52169
Online System Acceptance (OSA)	252	2.00	5.00	3.9911	.56647
Gender	251	0	1	.79	.409
Age	252	22.00	58.00	31.2698	7.36246
City	252	1	11	3.11	2.422
No. Of Years in Org	252	1.00	5.00	1.4881	.95092
Highest Qualification	252	1	3	1.73	.454
Prior Computer Experience	252	1.00	7.00	1.5278	.72190
Nature Of Job	252	1	5	2.54	1.331
Monthly Income	252	1	5	2.46	.942
Organization	252	1.00	3.00	1.3492	.62889
Valid N (list wise)	251				

4.3 Correlation Analysis

Table 3 shows the correlation among the variables in this study. I found support for my all hypothesis 1, 2, 3 and 4 from correlation analysis. All the correlations were found in predicted direction as stated in hypothesis. I found positive association of all independent variables with the dependent as predicted in the theoretical model of the study. The correlation value between perceived ease of time (PEOT) and online system acceptance was found in positive direction as I proposed and extended in this study. This was the major contribution of my study because I wanted to test the effect of time on the acceptance rate of online system. The association between perceived ease of use (PEOU) and online system acceptance was ($r = 0.51$) which supports the previous finding of technology acceptance

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model (TAM) literature. The predicted association between perceived usefulness (PU) and online system was ($r = 0.57$) which show high significant and positive relationship between perceived usefulness (PU) and online system acceptance. This shows the support of hypothesis 2. It was supported from previous technology acceptance model (TAM) studies that perceived usefulness (PU) is the major predictor of the computer usage behavior among the user. The technology acceptance model (TAM) literature also predicted that both perceived usefulness (PU) and perceived ease of use (PEOU) as the major predictor for assessing the computer usage behavior. The predicted association of extended variable perceived ease of time (PEOT) with online system acceptance was ($r = 0.50$) which supported hypothesis no. 3 of this research. The positive and significant relationship of perceived ease of time (PEOT) with online system was ($r = 0.49$), hence supported the hypothesis 4 of this study.

All results show the positive association among all variables in this study. The value of the association between perceived ease of use (PEOU) with perceived usefulness (PU) found ($r = 0.63$), and between perceived usefulness (PU) with perceived ease of time (PEOT) was ($r = 0.47$), and perceived ease of use (PEOU) with perceived enjoyment (PE) was ($r = 0.55$). The relationship of perceived usefulness (PU) with perceived ease of time (PEOT) was found ($r = 0.51$), perceived usefulness (PU) with perceived enjoyment (PE) was ($r = 0.55$) and perceived enjoyment (PE) with perceived ease of time (PEOT) was found ($r = 0.35$).

TABLE 3

Means, Standard Deviations, Correlations, and Reliabilities

Variables	1	2	3	4	5	6	7	8	9	10	11
1.Gender											
2.Age	0.24										
3.Tenure	0.31	0.67									
4.Qualification	0.12	0.02	-0.22								
5.Computer Experience	0.06	0.24	0.22	0.18							
6.Nature of Job	0.12	0.46	0.26	0.13	0.21						
7.PEOU	0.13	0.01	-0.02	0.04	0.04	0.06	**0.77**				
8.PU	0.15	0.06	0.00	0.02	0.11	0.13	0.63	**0.76**			
9.PEOT	0.14	0.10	0.06	-0.56	0.03	0.14	0.47	0.51	**0.81**		
10.PE	0.12	0.07	-0.21	0.06	0.12	0.08	0.55	0.55	0.35	**0.61**	
11.OSA	0.16	0.05	-0.03	0.00	0.15	0.09	0.51	0.57	0.50	0.49	**0.66**

** Correlation is significant at the 0.01 level (2-tailed) N= 252

The results of correlation also show in figure 3.
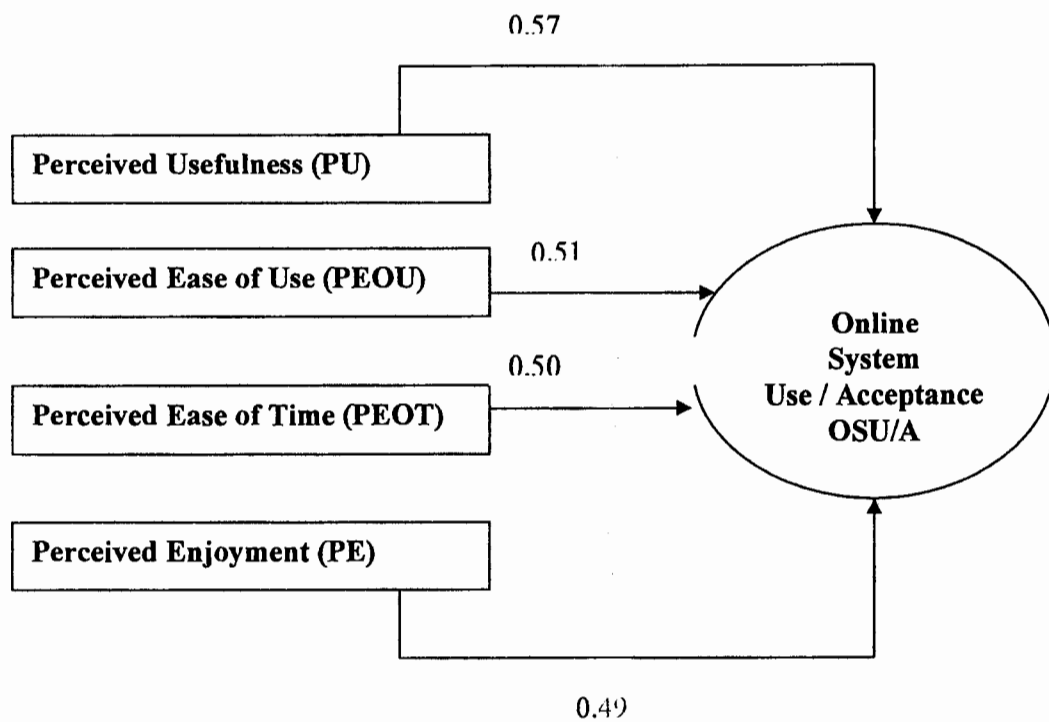
Fig 3   Research Model of E-TAM with Coefficient Correlation Results

4.4 Analysis 0f Variance (One Way ANOVA)

I performed one-way analysis of variance to find the control variables shown in table 4. I and found significant results in case of gender, income and organization. The significance level in case of gender is ($p > 0.01$), in income is ($p > 0.00$) and in organization was ($p > 0.00$). So in the regression analysis, I controlled gender, income and organization. For that purpose I created two dummy variables of organization named org 1, org 2 and used in analysis to control the impact of these variables on results. All other demographic variables (age,

qualification, income, tenure, nature of job, prior computer experience) had found no significant impact in one-way ANOVA.

TABLE 4 One Way ANOVA

	Online System Acceptance (OSA)				
	Sum of Squares	df	Mean Square	F	Sig.
Gender	2.146	1	2.146	6.822	.010
Age	11.487	30	.383	1.225	.205
Tenure	1.479	4	.370	1.155	.331
Computer Experience	1.859	4	.465	1.459	.215
Nature of Job	1.734	4	.434	1.359	.249
Monthly Income	7.246	4	1.811	6.104	.000
Organization	4.911	2	2.456	8.084	.000
Qualification	.261	2	.131	.405	.667

4.5 Regression Analysis

For the test of hypothesis in this study, I conducted linear regression analysis using SPSS 17.0 (Trial version). For my regression analysis I used gender, income and organization as a control variable.

4.5.1 Perceived Usefulness with Online System Acceptance Hypothesis 1 predicted that perceived usefulness (PU) will be positively related to user acceptance of online system. Table 5 shows the regression results of perceived usefulness with online system acceptance. The results of this regression analysis revealed that perceived usefulness was positively related with user acceptance of online system ($\beta = 0.55$, $p<0.000$) supporting hypothesis 1.

The level of significance results in the confirmation of first hypothesis. The upper portion of the table shows the effect of control variables when I was checking the direct effect of perceived usefulness on online system acceptance. The results demonstrated that perceived usefulness explained 28% variance in acceptance of online system.

TABLE 5
Results of Regression Analyses of Perceived Usefulness with Online System Acceptance

Predictors	Online System Acceptance (OSA)			
	β	R²	ΔR²	Sig.
Step 1				
Control Variables		.054	.054	.000
Gender	.056			.313
Organization	-.012			.832
Monthly Income	.085			.113
Step 2				
Perceived Usefulness (PU)	.550	.341	.286	.000

N = 252 gender, income and organization were controlled in analysis and used as control variables*
**Correlation is significant at the 0.001 level (2-tailed).

4.5.2 Perceived Ease of Use with Online System Acceptance The regression results of hypothesis 2 is shown in table 6. Hypothesis 2 stated that perceived ease of use (PEOU) will be positively related to user acceptance of online system. When I run regression on perceived ease of use with online system acceptance, it gives the positive results for hypothesis 2. In table 6 firstly I checked the effect of control variable with online system acceptance, when I took perceived usefulness as a major predictor. Secondly I regressed the perceived ease of use with online system acceptance and found a positive relation between dependent and independent variables (ß = 0.48, p<0.000). Perceived ease of use explained 22% variance in

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online system acceptance; therefore these results strongly supported the hypothesis 2. The results are shown in table 7.

TABLE 6
Results of Regression Analyses of Perceived Ease of Use with Online System Acceptance

Predictors	Online System Acceptance (OSA)			
	β	R²	ΔR²	Sig.
Step 1				
Control Variables		.054	.054	.000
Gender	.075			.202
Organization	-.006			.920
Monthly Income	.092			.105
Step 2				
Perceived Ease Of Use (PEOU)	.487	.277	.223	.000

N = 252 gender, income and organization were controlled in analysis and used as control variables*

**Correlation is significant at the 0.001 level (2-tailed).

4.5.3 Perceived Ease of Time with Online System Acceptance Hypothesis 3 predicted that perceived ease of time (PEOT) will be positively related to user acceptance of online system. In order to test the hypothesis 3, I run the regression and checked the direct effect of perceived ease of time with online system acceptance. The results of this regression analysis for the main effect of new variable perceived ease of time on online system acceptance is shown in table 7. The upper portion of table8 shows the effect of control variables when I checked the effect of independent variable on dependent variable. The results of the regression analysis revealed that perceived ease of time was also a significant predictor of online system acceptance (ß = 0.48, p<0.000). Thus it strongly supported the hypothesis 3 and confirmed the significance of perceived ease of time in predicting the online system

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acceptance . Moreover, the perceived ease of time explained the 22% variance in acceptance of online system.

TABLE 7
Results of Regression Analyses of Perceived Ease of Time with Online System Acceptance

Predictors	Online System Acceptance (OSA)			
	β	R²	ΔR²	Sig.
Step 1				
Control Variables		.054	.054	.000
Gender	.051			.381
Organization	-.035			.541
Monthly Income	.143			.011
Step 2				
Perceived Ease of Time (PEOT)	.483	.279	.225	.000

N = 252 gender, income and organization were controlled in analysis and used as control variables*
**Correlation is significant at the 0.001 level (2-tailed).

4.5.4 Perceived Enjoyment with Online System Acceptance Table 8 show the results of hypothesis 4 which predicted that Perceived enjoyment (PE) will be positively related to user acceptance of online system. In order to check the independent effect of perceived enjoyment on dependent variable online sytem acceptance, I run the regression analysis. The effect of control variables on the regression of perceived enjoyment and online system acceptance was checked first. The results of the regression analysis supported the hypotheis 4 and revealed that perceived enjoyment was also a major predictor of online system acceptance (ß = 0.46, p<0.000). The perceived enjoyment explained the vaiance of 21% in online system acceptance, therefore hypothesis 4 was strongly supported.

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TABLE 8
Results of Regression Analyses of Perceived Enjoyment with Online System Acceptance

Predictors	Online System Acceptance (OSA)			
	β	R²	ΔR²	Sig.
Step 1				
Control Variables		.054	.054	.000
Gender	.069			.245
Organization	-.049			.390
Monthly Income	.106			.063
Step 2				
Perceived Enjoyment (PE)	.466	.265	.211	.000

N = 252 gender, income and organization were controlled in analysis and used as control variables*

**Correlation is significant at the 0.001 level (2-tailed).

The direct regression analysis result of independent variable on dependent variable is shown in fig 4.
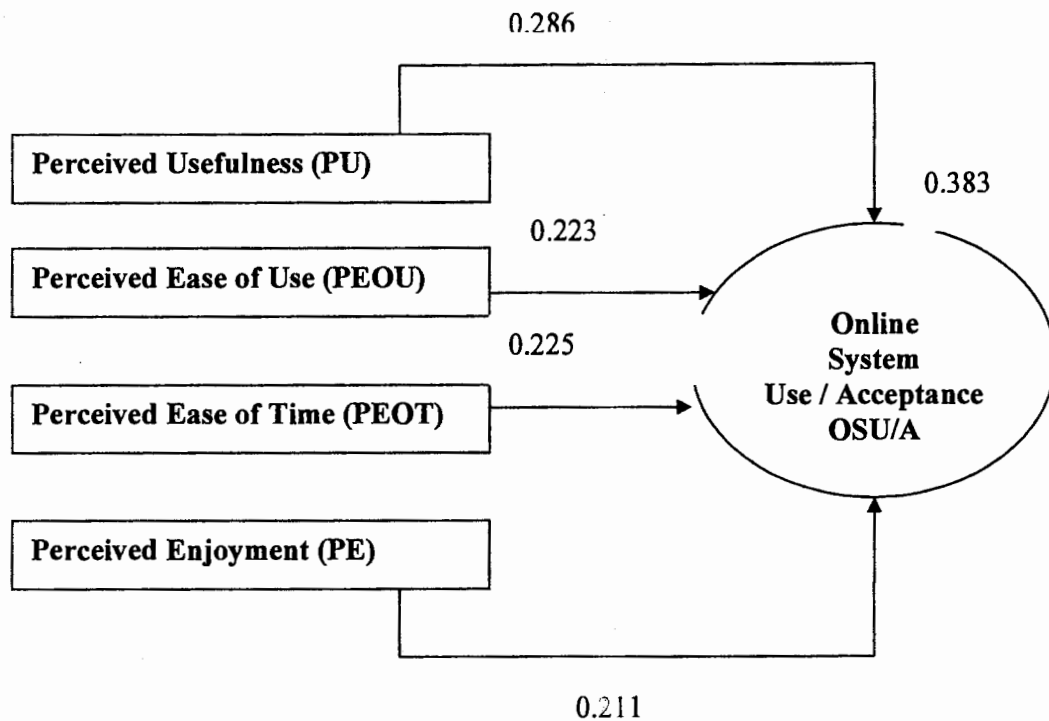
Fig 4   Research Model of E-TAM with Regression Coefficient Results of Each Independent Variable with Dependent Variable

4.5.5 Regression Analysis of Combined Effect of All Independent Variables With Online System Acceptance   Table 9 shows the combined effect of regression analysis results of online system acceptance with all dependent variables, perceived ease of use (PEOU), perceived usefulness (PU), perceived enjoyment (PE) and perceived ease of time (PEOT). The upper portion of the table shows the results of the control variables regressed with online system acceptance. The effect size for controlled variable gender was (β = 0.35), for organization (β = 0.01) and income was (β = 0.08).

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In this regression analysis perceived ease of use (PEOU) show significant results with online system acceptance ($\beta = 0.11$, $p < 0.099$). The first hypothesis that perceived ease of use (PEOU) is positively related to user acceptance of online system was confirmed. The second hypothesis regarding positive relationship of perceived usefulness (PU) with online system acceptance was also supported with ($\beta = 0.25$, $p < 0.000$). This significance in the results shows the positive and significant relationship of perceived usefulness (PU) with online system acceptance.

The third hypothesis, which was regarding the positive relationship of perceived ease of time (PEOT) with the online system acceptance, was also supported by results of regression analysis. The results showed ($\beta = 0.24$, $p < 0.000$) significant positive relationship between perceived ease of time (PEOT) and online system acceptance, confirming hypothesis 3 of this study.

The fourth hypothesis regarding positive relationship between perceived enjoyment (PE) and user intention to accept online system was confirmed from regression analysis. Result revealed ($\beta = 0.18$, $p < 0.002$) highly significant positive relationship between perceived enjoyment (PE) and online system acceptance.

TABLE 9
Results of Regression Analyses of Combined Effect of Online System Acceptance with All Independent Variables

Predictors	Online System Acceptance (OSA)			
	β	R²	ΔR²	Sig.
Step 1				
Control Variables		.054	.054	.000
Gender	.035			.503
Organization	.011			.837
Monthly Income	.083			.098
Step 2				
Perceived Ease Of Use (PEOU)	.114			.099
Perceived Usefulness (PU)	.257			.000
Perceived Enjoyment (PE)	.240			.000
Perceived Ease Of Time (PEOT)	.189			.002
		0.43?	.383	.000

N = 252 gender, income and organization were controlled in analysis and used as control variables*

**Correlation is significant at the 0.001 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).
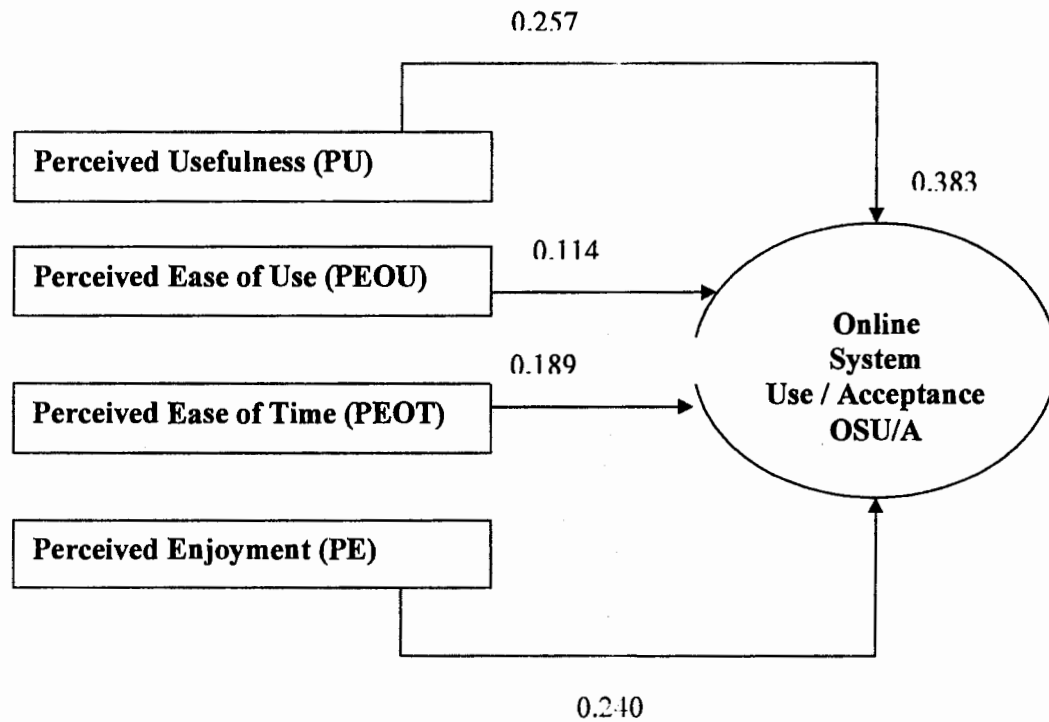
Fig 5 Research Model of E-TAM with Combined Regression Coefficient Results

4. 6 Additional Analysis of the Study

Some of the additional analysis was needed to be done while doing the statistical analysis. Although it was not hypothesized but in this study, I examined the effect of stress on user acceptance of online system and the user level of satisfaction with online system. For examining the effect of these two variables, I proposed and tested the following additional hypotheses.

Hypothesis 5: Stress will be negatively related to user acceptance of online system.

Hypothesis 6: Satisfaction will be positively related to user acceptan online system.

4.6.1 Stress with Online System Acceptance Table 10 show the realtionship between the stress and online system acceptance. It was hypotheiszed in hypothesis 6 that stress will be negatively realted with the user acceptance of online sytem.To test this prediction, I regressed stress with online system acceptance. The upper portion of table 10 show the effect of control variables when stress was regressed with online system acceptance. The results revealed that stress is negatively related with the user acceptance of online system ($\beta = -0.13$, $p<0.026$) which confirmed the support for hypothesis 6. The stress explained a very little variance in online system acceptance. Thus the significant negative relationship of stress with online system acceptance was confirmed.

TABLE 10
Results of Regression Analyses of Stress with Online System Acceptance

Predictors	Online System Acceptance (OSA)			
	β	R^2	ΔR^2	Sig.
Step 1				
Control Variables		.054	.054	.000
Gender	.089			.180
Organization	-.116			.076
Monthly Income	.159			.012
Step 2				
Perceived Ease of Time (PEOT)	-.139	.073	.019	.026

N = 252 gender, income and organization were controlled in analysis and used as control variables*
**Correlation is significant at the 0.001 level (2-tailed).

4.6.2 Satisfaction with Online System Acceptance Hypothesis 6 predicted that satisfaction will be positively related to user acceptance of online system. The results for the regression analysis for hypothesis 6 are shown in table 10. The effect of control variables were shown in upper portion of the table when I ran regression between satisfaction and online system acceptance. The results strongly supported the hypothesis 6 and revealed that satisfaction is positively related with the user acceptance of online system ($\beta = 0.33$, $p<0.000$). The

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satisfaction explained the 11% variance in online syalem acceptance and resulted in the confirmed support of hypothesis 6. The results are shown in table 11.

TABLE 11
Results of Regression Analyses of Satisfaction with Online System Acceptance

Predictors	Online System Acceptance (OSA)			
	β	R²	ΔR²	Sig.
Step 1				
Control Variables		.054	.054	.000
Gender	.084			.183
Organization	-.118			.056
Monthly Income	.126			.037
Step 2				
Perceived Ease of Time (PEOT)	.336	.166	.111	.000

N = 252 gender, income and organization were controlled in analysis and used as control variables*
**Correlation is significant at the 0.001 level (2-tailed).

4.7 Contribution of the Study

The study provide the significant contribution both in the theory and management of online system acceptance.

4.7.1 Theoretical Contribution of the Study   From theoretical point of view, the results of the study contributed significantly in the existing literature of technology acceptance model (TAM). The research also contributed to the literature of online banking by extending it to the online system context. The results of the study suggested that ease of time factor can influence the user intention as a major predictor of accepting the online system. The fun and enjoyment in using online system was also found as a major contributing factor in this study consistent with the study of (Moon & Kim, 2001; Pikaranien et al., 2004). Moreover, the

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most critical factors in adopting the online system are perceived usefulness (PU) and perceived ease of use (PEOU), which is the main contribution to technology acceptance model literature (Davis et al., 1989; Venkatesh et al; 1902, Toe et al, 1999).

4.7.2 Managerial Contribution of the Study The results of this study provide the useful information to the companies regarding the benefits of online system implementation. The results give an idea to the organizations to replace the physical system to online system channel, providing not only the information to the company but also in depth transactions facility to the user. The perceived ease of time factor proposed in this study will also result in the satisfaction of employees as well as customers. The companies should also mention the benefits of using the online system in their website so that more users get attracted towards the use of online system. The four constructs which proved useful predictors for accepting the online system should be highlighted in detail at company web portal as the perceived benefits of using online system. Organizations should now focus in providing information through online system about their products, services and their use rather than only advertising about the products and services.

4.8 Findings

The study puts the light on need of online system deployment in the organizations of developing countries to meet the competition of the developed world. The users of online system are showing much concern towards the acceptance of online system. Thus their intention of using the online system is depicting their positive computer usage behavior. All the dependent variables are positively and significantly correlated with the dependent variables.

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In order to generate the positive behavior among the users of online system perceived ease of use and perceived usefulness gives the same positive results as in previous studies of technology acceptance model. Thus the hypothesis (H1 and H2) are accepted. The results indicate that user intend to accept the online systems which are easy to use and gives them the greater control over their work during their job. These two factors motivate the users towards the acceptance of online system therefore respondents show the greater concern towards the implementation of online system. Their positive perception about the ease of use and usefulness factors gives the right direction to the organizations to deploy online systems. The results of the correlation and regression analysis provide the support for these two hypotheses.

The study also supported the hypothesis (H3) regarding the new additive variable of perceived ease of time. Results of the study supports that user intend to accept the online system if they feel that online system will save their time. The perceived ease of time also works as a motivator for user in acceptance of online system. The respondents show the greater concern towards this variable. Both the users of airline and banking sector seem more concern towards the ease of time, thus hypothesis (H3) tends to be true.

Results of the study also supported the hypothesis (H4). The hypothesis was regarding the use of online system with entertainment. It was hypothesized that perceived enjoyment is positively related with user acceptance of online system. The regression and correlation results support the same relationship of perceived enjoyment with online system as stated in previous technology acceptance model studies. Perceived enjoyment is worked as an intrinsic motivator which influence user towards the use of online system. The results indicates that more the user find the fun in using the online system, the more the user will tends towards the use of online system.

Following are the main findings of the study.

1. The support of all hypotheses (H1, H2, H3 and H4) is significantly proved from the results of the study.

2. All the independent variables have positive impact on the dependent variables and it is evident from the ß values of regression analysis (see table 4).

3. Perceived usefulness show 25% variance on the online system acceptance as evident from the results of combined effect of regression analysis of all independent variables with dependent variables. The individual effect of perceived usefulness on user acceptance of online system explained 28% variance with online system acceptance. The results also supported the original technology acceptance model findings which indicate that perceived usefulness is the major predictor of determining computer usage behavior.

4. Perceived ease of use explained 11% variance on the online system acceptance as evident from the results of regression analysis, when I checked the combine effect. The perceived ease of use explained the variance of 22% when I checked the direct effect of perceived ease of use on online system acceptance. The results of this study support the results of original technology acceptance model.

5. Perceived ease of time shows 18% variance with online system acceptance as evident from the results of regression analysis for the combined effect of all independent variables with dependent variables. But when I checked the effect of perceived ease of time with online system acceptance it explained 22% variance. This supports the importance of the study and found that perceived ease of time is also a major predictor of accepting online system.

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6. Perceived enjoyment explained 24% variance on the online system acceptance as evident from the combined results of regression analysis. The direct effect of perceived ease of use with online system acceptance explained 22% variance. The direct effect of perceived enjoyment with the online system acceptance explained 21% variance. The results supported the existing technology acceptance model studies and provide a significant effect of perceived enjoyment as a factor of intrinsic motivation.

7. The control variables gender, income and organizations have also the major impact on the online system acceptance.

4.9 Discussion

To sum up the results of this study hypothesis 1, 2 and 4 predicted the same positive relationship with behavioral intention to accept online system. Auspiciously all the results were highly significant and confirmed by the results of statistical analysis applied on this study. Meanwhile hypothesis 3 also predicted the same highly positive significant relationship between perceived ease of time (PEOT) and online system acceptance and it show significant results to confirm the extension of technology acceptance model by this study.

Hypothesis 1 suggested the positive relationship between perceived usefulness and online system acceptance. The hypothesis was fully supported as perceived usefulness was found to be a major predictor of online system acceptance. These results are supported by (Davis et al., 1989, Mtheieson, 1991, Taylor & Todd, 1995, Al- gahtani & King, 1999, Venkatesh et al., 2000, Lin et al., 2004)

Hypothesis 2 predicted the positive relationship between perceived ease of use and online system acceptance. The hypothesis was also supported as perceived usefulness was found

significant with online system acceptance. Although perceived ease of use was found to be less significant but it supported from the literature of technology acceptance model that perceived ease of use is less significant than perceived usefulness. The support for these results found by (Davis et al., 1989, Taylor & Todd, 1995, Al- gahtani & King, 1999, Horton et al., 2001, Shih, 2004).

Hypothesis 3 proposed the positive relationship between perceived ease of time and online system acceptance. The hypothesis was also fully supported and perceived ease of time was found as another major predictor of online system acceptance.

Hypothesis 4 predicted the positive relationship between perceived usefulness and online system acceptance. The hypothesis found true as perceived enjoyment had also a significant and positive relation with online system acceptance. (Davis et al., 1992; Igbaria, Iivari, and Maragahh, 1995; Teo et al., 1999, Moon & Kim, 2001, Yi & Hwang, 2003, Van der Heijden, 2004)

Three types of analysis has been aplied in this study which are one way Anova, pearson correlation and linear regression anlysis.Firstly the correlation matrix shows the significant relationship of all independent variables with the dependent variables and also the significant and positive relationship among all independent variables.Perceived ease of use is significantly and positively correlated with online system acceptance as the correlation coefficient value is 0.51 which was supported by (Davis et al., 1989, Taylor & Todd, 1995, Al- gahtani & King, 1999, Shih, 2004).The significance of perceived usefulness with online system acceptance is also determined by correlation coefficient which is 0.57. This correlation significance is also supported by (Davis et al., 1989, Mtheieson, 1991, Taylor & Todd, 1995, Al- gahtani & King, 1999).The perceived enjoyment is also significantly correlated with online system acceptance. The coefficient coorelation is noted as 0.49.

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Previous studies supported the same significant results (Davis et al., 1992; Igbaria, Iivari, and Maragahh, 1995; Teo et al., 1999, Moon & Kim, 2001).The main finding of the study is positive and significant result of new variable perceived ease of time with online system acceptance. The coefficient correlation value is 0.50 which shows the high significance of ease of time variable with online system acceptance.

The positive and significance relationship among all independent variables also shown from the study. The correlation coefficient in case of perceived usefulness and perceived ease of use is 0.63 (Davis et al., 1989, Taylor & Todd, 1995, Al- gahtani & King, 1999, Shih, 2004). Another positive realtionship is found between perceived useflness and perceived ease of time and the value of coefficient correlation is 0.51. This also shows the strong relationship between two variables.

Secondly, in linear regression analysis the value of R-Square between all independent variables and dependent variables shows that online system acceptance is dependent on perceived usefulness, perceived ease of use, perceived enjoyment and perceived ease of time.Therefore the relationship between perceived ease of use and online system acceptance is positive and significant. First the combine effect of all dependent variables with dependent variable was checked in regression analysis. The regression analysis to check the effect of each independent variable on dependent variable checked in second stage.The results revealed excellent support for hypothesis proposed in this study. All hypothesis were supported and showed highly positive and significant relationship with user acceptance of online system.

The study also proved the signifant relationship of time with acceptance of new technology or online system. A highly significant result demonstrated the existance of newly extended variable PEOT and supported the Extended Technology Acceptance Model (ETAM) model

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proposed in this study. Technology acceptance model (TAM) since its inception always explained that perceived usefulness (PU) and perceived ease of use (PEOU) are the major predictor for measurng the computer usage behavior of individuals. Besides this technology acceptance model (TAM) studies always open the ground for new addidtion and researchers added the new predictors in original technology acceptance model (TAM). My study also supported the relationship between perceived enjoyment (PE) and user acceptance of online system. These results were consistent with the findings of (Pikaranien et al., 2004). This research contributes to the technology acceptance model (TAM) literature as well a organizational behavior literature. This study will give a new path for future research in both of these streams of research. This study also adds value in terms of replication of already confirmed relationships between technology acceptance model (TAM) predictors and user behavioral intention for computer. The main contribution of study is that it has made an extension and added new directional links by introducing the perceived ease of time (PEOT) as a major deteminant of technology acceptance model (TAM) and proposed extended technology acceptance model (ETAM).

CHAPTER – 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study on the user acceptance of online system from banking and airline sectors of 11 cities of Pakistan is meeting its objectives. It can be concluded from the results that user intended to switch from the physical stores to make their transactions online. As most of the organizations in developing countries are rapidly affecting with the new trends of information technology, most of the organizations in Pakistan also tend to deploy the online system for serving their users. The online system users are both the employees of the company and end consumers. The new technology increases the efficiency of the organizations as a whole and also the performance of individual user. Therefore, organizations are more keen and interested to shift from their physical delivery channels to the self-service online system. As this study discovers the results of banking and airline sectors only, these two sectors provide many online services to their users. These services includes from payment of bills, acquiring cash with the help of ATM machines, making investments to booking of seats, purchasing of tickets and acquiring all the information related to the organization. All the banks and airlines are providing these main services to their users. It is concluded from the results of the studies that user intend to use the online channels for acquiring these services because of the ease of use factors. The online system gives them the greater flexibility of making transactions. As companies provide all information on their websites organizations also provides the guidelines of how to make transactions through online system. This gives user a sense of assistance provided by the company which is comparatively more motivating than physical assistance of organization workers.

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As there is more and more competition among the different banks and airlines in their particular sector, each organization tries to provide the maximum benefits to their users in order to retain them. This has also been confirmed from the results of the study. When a user perceive that using the online system give him / her greater command over his / her work and provide him / her maximum benefit and improve his / her job performance, he / she intends to use online system channels. The uses of online system gives them more command over their work and improve their job related performance. As the organizations are deploying online systems, so it is vital for each employee in the organization to have a full command on this online system. This is a challenging situation for each employee in order to meet the completion. Many employees also compelled for this acceptance but results indicated that most of the users intend to accept the online system by their own will. Satisfaction of user with online system gives organization less chance to deal with acceptance or rejection issues.

It has also been observed from the results of the study that users also take online system as a mode of entertainment. Online systems give them the new and exciting means of exploring the new world, which entertains them. Users feel joy and a lot of fun because online system releases their stress level which they feel at their work place environment. The end users also get entertain because they acquire the lot of information about the companies besides their actual work on those online channels. If the online system work properly it gives a lot of pleasure to their users.

The study has met with its objectives as it describes the positive effect of ease of time factor associated with the use of online system. The ease of time factor was the major challenge for the researcher because it was hypothesized that ease of time factor also influence the user to accept the online system. Besides the ease of use, usefulness and enjoyment factors, user also intends to accept the online system which saves their time. The greater advantage of online

system over the physical system is that user get access on these systems 24 hours a day. These systems are not time bounded and users can make their transactions any time of a day. This is a great contribution and the results provide the positive contributions in the existing technology acceptance model studies. The importance of time has been determined and revealed that user tends towards the use of online system if gives flexibility to use it any time of the day and from any place of the world. This was the new additive variable and it has proved its significance. Finally, it has been concluded that besides the ease of time and usefulness factor, perceived ease of time is also a major contributor in acceptance of online system.

5.2 Recommendations

This study was conducted on a smaller scale and it covers only the airline and banking sector of Pakistan. The sample size was although quiet reasonable as compare to previous technology acceptance model studies, but for the generalizability purpose the large sample may be drawn from the other sectors of Pakistan. This research draw data from 11 cities of Pakistan, the sample can also be drawn from all cities of Pakistan to test the acceptance rate of technology in all provinces. The results of the study might also be beneficial for other organizations which have anxiety in the deployment of online system to facilitate their users. It has been found from the results of the study that users prefer to use online system over the physical channel if they found that online systems are easy to use, give them entertainment while usage and save their time while making the transactions. While conducted the research many of the respondents asked about the security of using online system and confidentiality of their data, so it is also recommended that ETAM model must be tested with different variables in future. These new variables are security and privacy of using online system,

accurate information available on the system, speed and quality of internet connection. When the acceptance of online system will be check with these new factors, the users will intend to go more for the online system. These all factors will be the motivator for the user to drift towards the new technology.

The present study aims to provide a path to the researchers of the developing countries to make their research in the domain of user acceptance of new technology. The factors can also be checked with any new technology associated with computers besides the online system. Launching of new software, development of new application packages and providing the services in computer related areas can be tested with the help of same model.

The scale for the new measured variable perceived ease of time is self-developed by the researcher. Only few items are developed under this measure. The validity and reliability of this new scale is also a good area of research for researchers and practitioners. The items for the measures of perceived ease of use and perceived usefulness are adopted from two or more sources in this study. It would be beneficial if the items will adopt from the single source. This will helpful in generalize the validity and reliability of all scales.

The results of the study supported that user prefer the online system for making their transactions. The study only checks the direct effect of all dependent variables on dependent variable. The research can also be conducted if we take any of these variables as mediating and moderating factor for acceptance of online system. Especially, the perceived ease of time can be deeply checked as both mediator and moderator for acceptance of online system. The security, quality and speed of internet connection and the amount of information available on the internet can also be checked as mediator and moderator for ETAM.

Following are the recommendations which can lay out the future ground for the research in acceptance of new technology.

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1. It is recommended that technology acceptance model must be tested with other computer related technologies besides the system.

2. The online system must be tested with different variable besides the ease of use entertainment and ease of time variables.

3. Mediation and moderation effects of different variables must be checked with technology acceptance model rather than dependent effects of variables only.

4. For the generalizability purpose, data must be taken from all cities of Pakistan and sample size must be increase.

5. Different sectors and industries which are providing online services to their users must be tested under the research of technology acceptance.

5.3 Future Research Directions

The above defined limitations of the study provide the new ways toward improved replication of this study in future . As technology acceptance model (TAM) has been widely tested in developed nations , future research is recommended to test ETAM to find strong empirical evidence from different developing cultures. The mediation and moderation effect of various extended variable in the existing model need to be checked. The model can also be tested with the different data set to conduct the detailed study of online system usage in the organizations. The online system acceptance should also be measured with the other possible factors derived from different sources of previous technology acceptance model (TAM) and online system literature. Validation of perceived ease of time (PEOT) scale developed in this

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study could be another good area of research for scholars of organizational behavior and technology management.

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COVER LETTER

INTERNATIONAL ISLAMIC UNIVERSITY
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Faculty of Management Sciences

Respected Sir/Madam,

I am a research scholar and a faculty member at the Faculty of Management Sciences, International Islamic University Islamabad. I am working on my MS Thesis and the main objective of my thesis research is to explore the factors that influence the users' acceptance of online system.

You can help me in my research by filling out the following questionnaire. I assure you the strictest confidentiality of the data and that only I will have the access to your responses. No information collected thorough questionnaire will be released to any one including your employer. Moreover, in any written report or publication, no one will be identified and only aggregate data will be presented.

Please respond to ALL questions as honestly and objectively as possible. There are no trick questions or write or wrong answers. I thank you for your precious time and help in this research endeavor.

Yours truly,
Humera Khan
Faculty of Management Sciences (IIUI)

SELF REPORT MEASURE QUESTIONNAIRE

INTERNATIONAL ISLAMIC UNIVERSITY
Faculty of Management Sciences
Islamabad

P.O. Box: **1243**, Telegram: **ALJAMIA**, Telex: 54068 IIU PK, Fax: 9257944, Tel: 9258020

The following statements concern your perception about yourself in a variety of situations. For each item of the statements below, please indicate the extent of your agreement and disagreement by ticking (√) the appropriate number according to the following scale. Mark

    "1" if you strongly disagree with the statement
    "2" if you think disagree with the statement
    "3" if you are neutral, that is, you neither agree nor disagree with the statement
    "4" if you agree with the statement
    "5" if you strongly agree with the statement

1. Learning to operate online system is easy for me. | 1 | 2 | 3 | 4 | 5 |

2. Interacting with online system does not require lot of mental effort. | 1 | 2 | 3 | 4 | 5 |

3. 1. I find online system flexible to interact with. | 1 | 2 | 3 | 4 | 5 |

4. It would be easy for me to become skillful in using online system. | 1 | 2 | 3 | 4 | 5 |

5. I would find the online system to be easy to use. | 1 | 2 | 3 | 4 | 5 |

6. I would find it easy to get the online system to do what I want it to do. | 1 | 2 | 3 | 4 | 5 |

7. Using online system would give me a greater control over my work during my job. | 1 | 2 | 3 | 4 | 5 |

8. Using online system would enable me to accomplish my tasks more quickly | 1 | 2 | 3 | 4 | 5 |

9. I would find it easy to use online system during my job. | 1 | 2 | 3 | 4 | 5 |

10. Using online system would remain helpful in improving my performance during the work. | 1 | 2 | 3 | 4 | 5 |

11. Using online system would not affect my job performance. | 1 | 2 | 3 | 4 | 5 |

12. It would be easy for me to become skillful on technology by using the online system. | 1 | 2 | 3 | 4 | 5 |

13. The online system would provide me accurate and detailed information. | 1 | 2 | 3 | 4 | 5 |

14. Using online system would provide me all the information I want. | 1 | 2 | 3 | 4 | 5 |

15. The use of online system would help me in doing my work in better way. | 1 | 2 | 3 | 4 | 5 |

16. The online system would increase my capabilities of using technology. | 1 | 2 | 3 | 4 | 5 |

17. Using online system would make it easier to do my work. | 1 | 2 | 3 | 4 | 5 |

18. Using online system would enhance my effectiveness on the job. | 1 | 2 | 3 | 4 | 5 |

19. The online system would often address my job related technology needs. | 1 | 2 | 3 | 4 | 5 |

16. The online system would increase my capabilities of using technology. | 1 | 2 | 3 | 4 | 5 |

17. Using online system would make it easier to do my work. | 1 | 2 | 3 | 4 | 5 |

18. Using online system would enhance my effectiveness on the job. | 1 | 2 | 3 | 4 | 5 |

19. The online system would often address my job related technology needs. | 1 | 2 | 3 | 4 | 5 |

20. I intend to use online system frequently during my job. | 1 | 2 | 3 | 4 | 5 |

21. I would find using online system enjoyable. | 1 | 2 | 3 | 4 | 5 |

22. The actual process of using online system would be pleasant | 1 | 2 | 3 | 4 | 5 |

23. I would have fun using the online system

| 1 | 2 | 3 | 4 | 5 |

24. Using online system would make my life more interesting.

| 1 | 2 | 3 | 4 | 5 |

25. I intend to use online system from my home.

| 1 | 2 | 3 | 4 | 5 |

26. Using online system would save my time.

| 1 | 2 | 3 | 4 | 5 |

27. The online system would provide me a very quick response for my transactions in less time.

| 1 | 2 | 3 | 4 | 5 |

28. I think online system would be very convenient to use.

| 1 | 2 | 3 | 4 | 5 |

29. Using online system would enable me to do more transactions in less time.

| 1 | 2 | 3 | 4 | 5 |

30. The online system would give me a quick access on the information I required.

| 1 | 2 | 3 | 4 | 5 |

31. Using online system would provide me the instructions to use the system.

| 1 | 2 | 3 | 4 | 5 |

32. Using online system would provide me the very rapid response for my queries.

| 1 | 2 | 3 | 4 | 5 |

33. The online system would allow me to correct data and instructions during the use.

| 1 | 2 | 3 | 4 | 5 |

34. Using online system would make it easy to correct data or instructions in less time.

| 1 | 2 | 3 | 4 | 5 |

35. I intend to use online system for my future transactions.

| 1 | 2 | 3 | 4 | 5 |

36. I would prefer the use of online system for acquiring information.

| 1 | 2 | 3 | 4 | 5 |

37. I feel nervous while using online system.

| 1 | 2 | 3 | 4 | 5 |

38. The online system gets to me more than it should.

| 1 | 2 | 3 | 4 | 5 |

39. There is lot of time when online system drives me right up the wall.

| 1 | 2 | 3 | 4 | 5 |

40. I feel guilty when I use online system during my job. | 1 | 2 | 3 | 4 | 5 |

41. Sometimes when I think about using online system, I get tensed. | 1 | 2 | 3 | 4 | 5 |

42. Online system never helps me in managing the time on the job. | 1 | 2 | 3 | 4 | 5 |

43. I feel like I am not able to use online system. | 1 | 2 | 3 | 4 | 5 |

44. Too many people at my level in the organization get burned by the use of online system. | 1 | 2 | 3 | 4 | 5 |

45. I am often bored with online system. | 1 | 2 | 3 | 4 | 5 |

46. I feel fairly well satisfied with online system. | 1 | 2 | 3 | 4 | 5 |

47. I am satisfied with online system for the time being. | 1 | 2 | 3 | 4 | 5 |

48. Most of the time I am enthusiastic about the use of online system. | 1 | 2 | 3 | 4 | 5 |

49. I like using online system better than the average user does. | 1 | 2 | 3 | 4 | 5 |

50. I find real enjoyment in using online system. | 1 | 2 | 3 | 4 | 5 |

Gender: Male   Female   **Age :**____(years)   **Designation:** _____

Organization: _____

No. of years in Current Organization: _____ (years)

Highest Qualification: _____

Prior Computer Experience: _____ (years)

Job Nature: (You can tick more than one option)

Field work	Office work	Technical	Staff	Managerial

Monthly Income:

Below 15,000	16,000-30,000	31,000-45,000	46,000 and Above

Name: _____

"I am very grateful to you for giving your precious time to fill this questionnaire"

APPENDIX- C

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Constructs	Definition	Scale Items
Perceived Ease of Use (Venkatesh &Morris, 2000; Zhang ,2006; Maish, 1979)	"the degree to which a person believes that t using a particular system would be free of effort."(Davis 1989, p.320)	1. I find the online system to be easy to use. 2. Interacting with online system does not require lot of mental effort. 3. I find it easy to get the online system to do what I want it to do 4. Learning to operate online system is easy for me. 5. I find online system flexible to interact with. 6. It is easy for me to become skillful in using online system. 7. The online system would provide me accurate and detailed information. 8. Using online system would provide me all the information I want. 9. Using online system would make it easier to do my work. 10. I think online system would be very convenient to use. 11. The online system would give me a quick access on the information I required. 12. Using online system would provide me the instructions to use the system. 13. Using online system would provide me the very rapid response for my queries. 14. The online system would allow me to correct data and instructions during the use.

Table 12. Online System Acceptance. Constructs, Definitions and Scales

	"the degree to which a person believes that the using a particular system would enhance his/her job performance" (Davis 1989, p.320).	1. Using online system gives me a greater control over my work during my job. 2. Using online system would enable me to accomplish my tasks more quickly. 3. Using online system remain helpful in improving my performance during the work. 4. Using online system would make it easier to do my work. 5. Using online system would enhance my effectiveness on the job. 6. The online system would often address my job related technology needs. 7. The use of online system would help me in doing my work in better way. 8. The online system would increase my capabilities of using technology. 9. Using online system would not effect my job performance.
Perceived Enjoyment (Sun & Zhang, 2006; Maish , 1979)	"The extent to which the activity of sing a computer is perceived to be enjoyable in its own right apart from any performance consequences that may be anticipated." (Davis et al.; 1992, p. 1113)	1. I would find using online system enjoyable. 2. The actual process of using online system would be pleasant. 3. I would have fun using the online system. 4. Using online system would make my life more interesting
Perceived Ease of Time (Researcher Own)	"the degree to which a person believes that using a particular system would save his/her time".	6. Using online system would save my time. 7. Using online system will reduce my time I spent on physical purchasing. 8. Using online system would make me enable to do more transactions in less time. 9. The online system would provide me a very quick response for my transactions in less time. 10. Using online system would make

		...t easy to correct data or instructions in less time
Online System Acceptance (Malhotra & Galletta, 1999)		1. I intend to use online system for my transactions. 2. I intend to use online system frequently during my job. 3. I intend to use online system from my home. 4. I would prefer the use of online system for acquiring information.