# An Empirical Investigation of the Factors Influencing Perceived Usefulness of e-Banking in Afghanistan: A Study of Afghanistan International Bank

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## ABSTRACT

*E-Banking is the use of internet and information technology to deliver value added banking products and services to the bank customers. E-Banking is an easy to use system, accessible from anywhere, anytime with best output quality, e-Banking adoption can significantly minimize the percentage of financial frauds and money laundering as compare to the traditional banking. On other hand, e-Banking security and privacy are the major concerns of the customers. E-Banking is difficult to use it in far locations or out of internet coverage areas, it requires computer self-efficacy, and significant increase in the level of e-Banking services can negatively affect the employment in the banking sector. Keeping these concerns in view, the present study aims to investigate the factors influencing the perceived usefulness of e-Banking in Afghanistan. Examining the Design Features in the e-Banking context in Afghanistan has been concerned. Hypothesis were tested through an empirical study using the survey instrument questionnaire. A pilot study were conducted to obtain the preliminary assessment of internal validity of the research survey instrument, after pre-testing and Confirmatory Factor Analysis the validated version of the survey instrument were used, and to address objectives 1000 questionnaire were distributed among the respondents for the present study. Afghanistan International Bank customers were defined as population of the study. The sampling procedure adopted for the present research is categorized as convenience sampling method, gathered data is analyzed through appropriate methods and statistical tools using the latest Statistical Package for Social Science (SPSS) software. The finding of the study concluded the status of casual dependency among perceived usefulness and proposed Design Features within the e-Banking context in Afghanistan. The Findings also reveal that with the three possible correlations among the Design Features, all of them are found to be significant.*

## Introduction

E-Banking is the latest delivery channel for banking operations being presented mostly by commercial banks in Afghanistan (Karimi, 2016). E-Banking activities has been numerously developed in recent years in Afghanistan which can be a good start up for financials system setup in efficient and effective manner. Afghan commercial banks provide wide range of e-Banking services that can be used by electronic tools, such as: Automated Teller Machine (ATM), Point of Sale (POS), Master Cards, Maestro Cards, online banking, SMS banking, statement accessibility, wire transfer, payroll transfer, etc. (Karimi, 2016). Unfortunately, these technologies are not completely accepted by the Afghan customers as it was expected in the beginning and are not increased to the predicted rate. E-Banking is still in its infancy stage in Afghanistan. Also millions of Afghan customers still find the traditional banking services more convenient as compare to e-Banking. Very less people in Afghanistan talks about e-Banking merits and most of them are worried about security issues and other resources inadequacies. As like many other electronic business innovations, e-Banking faces many difficulties regarding its adoption. As it is obvious that a technology is considered successful once it is well adopted. In other hand, e-Banking security and privacy are the major concern of the customers. Significant percentage of customers has less trust on the e-Banking procedures and believe that their privacy may be shared with a third party, this is one of the reasons not most of the Afghan customer are welling to adopt e-Banking. E-Banking is to most extent used with internet, and is difficult to use it in far locations

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locations or out of internet coverage areas. E-Banking requires computer self-efficacy, and not all or most of Afghans are familiar with computer. In addition to the above issues, significant increase in the level of e-Banking adoption can negatively affect the employment in the banking sector, the more systems are automatic, and the more decrease in the employment happened in banking sector.

Perceived usefulness (PU) is defined as "the degree to which an individual believes that using a particular system would enhance his or her job performance" (Davis, 1989). High usefulness of systems creates positive believe with the customers regard to the positive use relationship. System usage by customer depend on how much a system and its functions are practically applicable and can help customers perform their job in a better quality (Davis et al., 1989).

Job relevance (JR) refers to "the degree to which an individual believes that the target system is applicable to his or her job" (Davis and Venkatesh, 2000).

Output quality (Q) refers to "the degree to which an individual believes that the system performs his or her job tasks well" (Davis and Venkatesh, 2000).

Security and privacy (SP) refers to "the level of confident customers has in the technology and banks' system when making online transaction" (Roboff and Charles, 1998). Security and privacy is one of the major concerns of banking customers specially upon making the transaction (Chechen et al., 2016). Security and privacy concerns of individual are as fear of losing their privacy due to a disclosure of information, voluntarily or not (Dinev and Hart, 2005). Customers with high trust in others, will be less worried about misuse of privacy (Bergstrom, 2015).

**Wu** et al. (2012), found perceived usefulness and perceived ease of use and relative advantage having a significant effect on customer's behavioral intention to adopt e-Banking. Similarly, as per Mwiya et al. (2017) research finding, perceived usefulness of e-Banking services is significantly and positively

associated with attitude towards e-Banking use. Chang and Hamid (2010), explored two factors perceived usefulness and perceived ease of use influencing behavioral intention of customers to adopt internet banking in Taiwan. Furthermore, Jalal (2011), referred to the simple regression between perceived usefulness and the intention to use e-Banking and discussing the result that there is strong positive correlation between the perceived usefulness and the customer acceptance of e-Banking and is confirming that perceived usefulness has a positive effect on individual's intention to use e-Banking which is similar to Jahangir and Begum (2008) and Safeena et al. (2009) thoughts who considered perceived usefulness as one of three important determinants of e-Banking adoption with a positive effect. Approximately the same customers also consider e-Banking as an easy to use application and they can achieve their banking transactions via the internet, this result supports the past results of Al-Somali et al. (2009) about the significant effects of this factors. Results from Cyril et al. (2011), indicated that factors such as perceived usefulness and perceived ease of use influence customer attitude to adopt e-Banking services. Chang and Hamid (2010), substantiated that claim that perceived ease of use and perceived usefulness are the two factors influencing behavioral intention to adopt e-Banking. Moreover, Lakhi and Rana (2012), proved that perceived usefulness and perceived ease of use influence customers to adopt e-Banking. Chen and Barnes (2007), pointed out that perceived usefulness, perceived security, perceived privacy, perceived good reputation, and willingness to customize are the important antecedents to online initial trust. Similarly, Liao and Wong (2008), studied the same two factors perceived usefulness and perceived ease of use and observed that they significantly influence individual's attitude toward using e-Banking and that the consumers would place a great emphasis on the security of e-Banking transactions. Moreover, Jahangir and Begum (2008) and Safeena et al. (2009), agreed and considered factors perceived usefulness and perceived ease of use are the important determinants of e-Banking adoption, have a strong and positive effect on customers to accept e-Banking system. In other hand, however, Medyawati (2011), research finding indicated that the variable

perception of its usefulness the perceived usefulness significantly has no effect on the attitude of the user. This means that the possibility of the absence of some benefits like difficulty of transaction process which only decrease the performance of customers.

As per Yao (1995), users always tend to search for job relevant information. Customers would easily find the desired information or could perform the desired activity when an e-Bank system has large amount of relevant information. Shih (2004), stated that perceived usefulness, ease of use, and users' attitudes toward internet use for information seeking are strongly influenced by the job relevance of information. In other hand, however, Medyawati et al. (2011), empirical study of bank customer in Bekasi city indicated that the job relevance variable has no significant effect on perceptions of usefulness (PU). This may be due once the occurrence of errors such as information generated in the balance information which is if the information not relevant to the transaction, customers will feel aggrieved. Similarly, results from Wijaya and Radhi (2004), are supporting Medyawati et al. (2011) indicating that job relevance variable shows a weak relevant to perceived ease of use.

Statement of Problem

Despite the establishment of many private and government banks in Afghanistan and latterly providing e-Banking services by most of them which were developed to facilitate the daily banking activities, unfortunately these technologies are not completely accepted by the customers as it was expected in the beginning and are not increased to the predicted rate. Also millions of Afghan Customers still find the traditional banking services more useful and convenient as compare to e-Banking. In other hand, traditional banking has its own demerits, it cannot fully facilitate to prevent financial frauds and money laundering, it is time consuming and costly, the service time and branches locations are limited, transaction process are manual and there is no customize reporting system for customers. By understanding the usefulness and usage of e-Banking Afghan customer can engage with an easy to use system, accessible from anywhere, anytime 24 hours a day 7 days a week with minimum time

consumption, best output quality, job relevant banking information in a secure manner, it can significantly minimize the percentage of financial frauds and money laundering as compare to the traditional banking. e-Banking is still in its infancy stage in Afghanistan, and in other hand there are few researches conducted in Afghanistan that focus on usefulness of e-Banking, this creates a gap to conduct a research and investigate the factors influencing perceived usefulness of e-Banking in Afghanistan. Additionally, Afghan Banks need such a knowledge to investigate the usefulness of banking channels more wisely by utilizing the output of the research, as it is vital for them to foresee the reasons why customers choose the traditional channel over the e-Banking channels so that they could customize their services for each group of users and focus on usefulness of each channel.

**Research Objective**

Based on the problem identified, following objective is framed for the present study:
**Obj1:** To find out the effect of design features (factors) on perceived usefulness in e-Banking.

**Research Hypothesis**

Based on the review of literature and the objective framed for the study, the following hypothesis were framed for testing:
**H1:** There is no effect of design features (factors) on perceived usefulness in e-Banking.

**Methodology**

**a. Theoretical framework**

The details of the theoretical framework taken up for the present study is shown in Figure-1, where the relationship between designed features and perceived usefulness is presented. The effect of job relevance (JR), output quality (Q) and security & privacy (SP) on one of the TAM's major component (perceived usefulness) is presented.

**Figure-1: Research Mode**
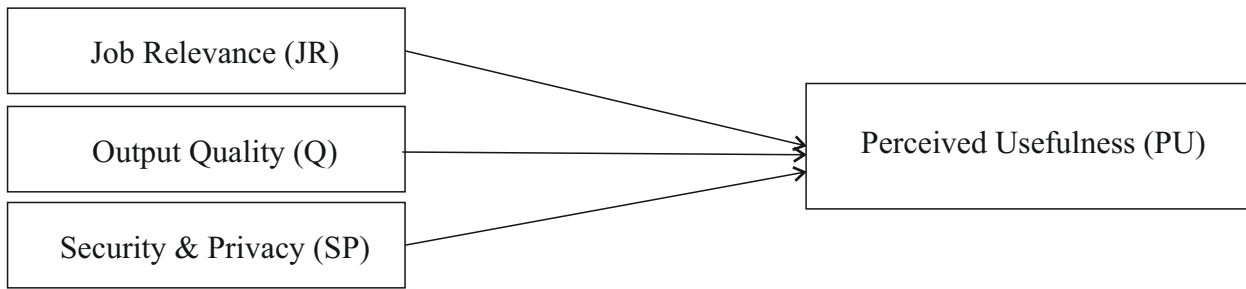


The 3 Design Features are the pre-examined and referenced variables used in most of the topic related studies in various societies. The current theoretical framework can support the objective taken up in the present research.

**B. Instrument used for Primary Data Collection**

Primary sources, relevant for collecting required data pertaining to the research problem is used in the study. The primary data collection instrument is a standardized well-structured questionnaire. The questionnaire is employed to collect the primary data and relevant information from e-Banking customers in Afghanistan. This instrument allows for cost and time savings for the respondents as well as the researcher. The data collection instrument was designed and tested as a part of this research and proved for its validity.

**c. Survey Instrument Reliability**

The survey instrument (Questionnaire) were validated with appropriate reliability analysis comprising the computed value of Cronbach's alpha and the alpha value for all the study variable taken up in the survey instrument is found to be well above the suggested value of 0.6 (Nunnally, 1978). The specific, details of alpha value for each of the study variable constituting the present work is shown in the table-1.

**Table-1: Details of Cronbach's Alpha Value for Factors Influencing Perceived Usefulness of e-Banking.**

| Sr. No. | Factors | No of Items | Cronbach's |
|---------|---------|-------------|------------|
| 1 | Perceived usefulness | 5 | 0.840 |
| 2 | Job relevance | 4 | 0.845 |
| 3 | Output quality | 4 | 0.897 |
| 4 | Security and privacy | 4 | 0.846 |

**d. Sampling Details**

The nature of the topic and the objective framed warrant e-Banking customers as sample for this study, to collect data with the help of validated survey instrument in the form of questionnaire for hypotheses testing, and to address objectives 1000 questionnaire (>10% of total profiles using e-Banking services in AIB) were distributed among the respondents for the present study. The Afghanistan International Bank (AIB) is selected for this research since it is the initiator of e-Banking services in Afghanistan. Due to various limitations including security reasons only Kabul province (Capital of Afghanistan) as the highest populated provinces in Afghanistan were selected as sampling area. From

the total 1000 questionnaire, 500 were distributed in the Afghanistan International Bank (AIB) main branch, the rest 500 are distributed in various AIB branches in Kabul considering the geographical coverage and to address the sampling area. The procedure adopted for the present study is categorized as convenience sampling method.

**Exhibit-1: Details of Sampling in Relevant e-Banking Related Studies.**

| S. No. | Author Details | No. of Sample Used | Sampling Procedure Adopted |
|---|---|---|---|
| 1 | Eze et al., (2011) | 310 | Convenience Sampling |
| 2 | Sunayna (2009) | 100 | Convenience Sampling |
| 3 | Singh and Kour (2011) | 456 | Convenience Sampling |
| 4 | Yaghoubi and Bahmani (2010) | 349 | Random Sampling |
| 5 | Musiime and Ramadhan (2011) | 351 | Stratified Sampling |
| 6 | Ghafori and Iranmanesh (2012) | 363 | Random Sampling |

Subsequently the filled up responses were collected back and used for the analysis constituting the present study. Total number of valid filled up responses is 813 which are well above the 8 percent of the total number of AIB e-Banking services users, and are identified as adequate number of valid responses for the present work. Also, the details of sample size and sampling procedure adopted in similar studies are provided in exhibit-1 and the details justify the sample size and sampling procedures adopted for present study. The primary data pertaining to the present study was collected between Jan 2019 and May 2019.

**e. Detail of Statistical Tools**
The statistical tools employed for the present work comprise the basic descriptive details of the study variables in addition to factor Analysis procedure through Confirmatory Factor Analysis (CFA). This procedure was carried out to ensure the construct validity of all the measurement scales employed in the work. Also, the factors extracted through CFA procedure was incorporated in the subsequent Analysis constituting the present work. Further, Multiple Regression models, Bivariate Correlation were tested through latest version of SPSS software as part of analysis.

**Analysis**

**a. Confirmatory Factor Analysis**
**Table-2: Model Fit Summary on the scale for Perceived Usefulness.**

| Sr. No. | Goodness-of-Fit Statistics | Good Fitness | Model |
|---|---|---|---|
| 1 | CMIN/DF | < 5.0 | 2.76 |
| 2 | CFI(Comparative Fit Index) | ≥0.95 | 0.966 |
| 3 | AGFI(Adjusted Goodness-of-Fit-Index) | ≥ 0.95 | 0.960 |
| 4 | RMSEA(Root Mean Square Error of Approximation) | < 0.07 | 0.041 |

**Source: Computed from Primary data**

From the results, it can be observed that all the items taken up in the model fit process have the loading in the range between 0.7 and 0.90 well above the recommended value of 0.5(Nunnally and Bernstein, 1994). The value of CMIN/DF obtained for this model is 3.99 and this value is well below the suggested maximum value of 5.0 for a good model fit (Bagozzi and Yi, 1988). Further, the CFI value of 0.978 and the AGFI value of 0.985 is well above the suggested value of 0.95.Also, the RMSEA value of 0.030 are below the suggested maximum value of 0.07 (Baumgartner and Homburg, 1996). Thus, the Confirmatory Factor Analysis procedure through a Model fit Process establishes a strong construct validity and reliability for the scale to measure perceived usefulness dimensions.

**b. Perceived Usefulness Dependency on Design Features**

The dependency effects of perceived usefulness on Design Features like job relevance, output quality and security & privacy in e-Banking is defined in research hypothesis, taken up and its results are shown in table-3, as an outcome of regression model conceptualized. From the results, it can be inferred that the F value of 856.86 is found to be significant at 5 percent level and hence, the hypothesis is rejected. These results suggest that perceived usefulness depends on group of factors named as Design Features such as job relevance, output quality and security & privacy in e-Banking. Further, the adjusted R square value of 0.760 from the table-3 indicates that 76 percent perceived usefulness is significantly dependent on these group of factors. Also the't' values of 11.636 and 11.150 corresponding to the security & privacy and job relevance are found to be having significant effects on the model conceived.

**Table-3: Results of the Regression for Hypothesis**

| Model | Unstandardized Coefficients | | Standardized | t | F | Adjusted R Square |
|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | | | |
| (Constant) | 0.800 | 0.588 | | 1.361 | 0.792 | 0.760 |
| Security | 0.649 | 0.056 | 0.457 | 11.636* | | |
| Job relevance | 0.605 | 0.054 | 0.438 | 11.150* | | |
| Output quality | 0.021 | 0.027 | 0.014 | 0.792 | | |

**Dependent variable: Perceived Usefulness**
**\*Significant at 5 percent level**
**Source: Computed from primary data**

More specifically, security and privacy is found to be having significant superior effect on perceived usefulness with highest 't' value of 11.636. This confirms the positive effects of security and privacy on perceived usefulness, which indicates that e-Banking is strongly committed to security and privacy measures to ensure costumers transactions and e-Banks does not allow any third person to access customer's personal information and the e-Banking login system is completely secure.

Similarly, the positive effect of job relevance is also found to be having significant effect on perceived usefulness with next higher 't' value of 11.150.

This confirms the positive effects of job relevance on perceived usefulness, which indicates that e-Banking is relevant to their jobs, and being used in organizations daily financial operations. Further, it confirms that e-Banking enhanced their job performance and it actually increased their level of

productivity in the office.

However, the 't' value of 0.792 corresponding to output quality is not found to be significant at 5 percent level. Hence, it can be inferred that the perceived usefulness is not dependent on output quality, which indicates that e-Banking services are not standardized in Afghanistan, e-Banking services performance are not fast and e-Banks are not equipped with the up to date technology.

## c. Interrelationship among Design Features

The variable job relevance has highest mean value of 17.698, whereas the security and privacy has the higher mean value of 17.011 and the variable output quality has the lowest mean value of 15.649. These variations in the mean values corresponding to each item of the Design Features are plotted in a graph-1 shown. Also, the variable job relevance has the highest Standard Deviation value of 1.47 and output quality has the lowest Standard deviation.

**Graph-1: Mean and Standard Deviation Plot**
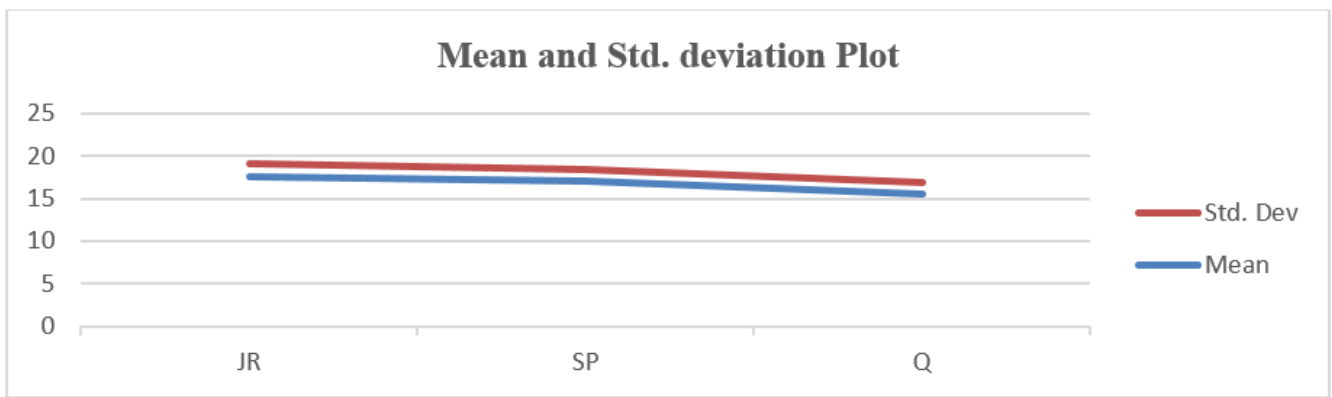


Source: Computed from Primary data

While these results present the importance of 3 significant correlations among the total of 3 possibilities that can exist with Design Features.

**Table-4: Correlations between Design Features**

| Design Features | Method | Security Privacy | Job Relevance | Output Quality |
|---|---|---|---|---|
| Security and Privacy | Pearson Correlation | 1 | | |
| Job Relevance | Pearson Correlation | 0.899** | 1 | |
| Output Quality | Pearson Correlation | 0.788** | 0.092** | 1 |

Correlation is Significant at 1 Percent level (2-tailed)
Source: Computed from Primary Data

## Findings and Discussions

As far as the casual effects of Design Features on perceived usefulness is concerned, the major finding reveals that Perceived usefulness depends on group of factors named as Design Features such as job relevance, output quality and security & privacy in e-Banking. The results also indicate that perceived usefulness is significantly dependent on these group of factors with high level. Also, security and privacy is found to be having significant superior effect on perceived usefulness, which indicates that e-Banking is strongly committed to security and privacy measures to ensure costumers transactions and e-Banks does not allow any third person to access customer's personal information and the e-Banking

login system is completely secure. Moreover, job relevance is also found to be having significant effect on perceived usefulness with next higher level, which indicates that e-Banking is relevant to the customers' jobs, and being used in organizations daily financial operations. Further, it confirms that e-Banking enhanced their job performance and it actually increased their level of productivity in the office. In other hand, output quality is not found to be having significant effect on perceived usefulness, which indicates that e-Banking services are not standardized in Afghanistan, e-Banking services performance are not fast and e-Banks are not equipped with the up to date technology. With the three possible correlations among the Design Features such as security and privacy, job relevance, output quality, all three are found to be significantly correlated.

## Conclusion

The aim of this study is to investigate the factors influencing the perceived usefulness of e-Banking services in Afghanistan. Based on the research objective, research model, analyses and results, number of conclusion can be outlined. Perceived usefulness depends on group of factors named as Design Feature such as job relevance, output quality and security & privacy in e-Banking. The results indicate that perceived usefulness of e-Banking services is significantly dependent on these group of factors. Moreover, with the three possible correlations among the Design Features, all three correlations are found to be significant. Though all the possible efforts have been made to maintain reliability, validity and objectivity of the research, limitations of this research could not be ignored. Due to privacy and security issues in the e-Banking operations, the respondents might have hesitated to provide accurate information for some of the items in the survey instrument.

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