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# A survey of demographic effects on the prospects of ebanking in dera Ismail khan, KPK, Pakistan

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# ABSTRACT

The word 'electronic banking' is no more new today in the 21<sup>st</sup> century. It has been made possible due to the development and use of computers and the internet. The Internet has enabled small as well as large organizations to access global markets by offering online products and services. The main advantages of Internet Banking are time saving, low cost, and no geographical restrictions. In this regard, countries have incurred huge expenses to install modern eBanking technologies to provide simple, accessible, ease-to-use, and reliable services to both the customers and the bankers to carryout business online. However, research on the implementation and use of Information technology in the banking sector reports that there is not only a digital-divide among the customers of every state and city because of getting different eBanking facilities but also every customer is demographically different from others. This research is about the effects of demographics on the Prospects of eBanking in Dera Ismail Khan, KPK, Pakistan. The literature from different countries, including Pakistan has been analyzed to understand the problem and to develop a research model for testing in the native environment.

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### Introduction

The new millennium has brought extraordinary growth and development in iBanking in several countries. It has altered conventional banking practices with iBanking and as a result a wide range of services are being offered by the banks to their customers without geographical boundaries (Alam et al., 2009). Due to IT insurgency in the last few decades, the personal computers, modems, servers, and other related electronic data equipments have been introduced and this has resulted in the increased use of IT and telecom networks to promote eBanking and eServices (Salehi & Alipour, 2010).

Internet banking refers to the use of the Internet as a remote delivery channel for banking services. Such services include opening a bank account ordering cheque-books, transferring funds to different accounts, and other modern banking services such as eBills, allowing the customers to receive and pay bills online using a bank's website (Furst et al., 2000). eBanking is the use of computer technology which bypass the timeconsuming, paper-based traditional banking. Electronic banking is, in fact, a generic title that has been used by banks and their corporate customers for some twenty years. It is a method of retrieving balance and statement information from bank's website by using desktop PC, along with the ability to generate payments, both domestic and international, from the same source (Banan, 2010).

Generally, in advanced states the banks are more able to reap the fruits of modern IS. This is mainly due to the fact that IS infrastructure and manpower is sufficiently available to them. The availability and consistent up-gradation of infrastructure is an important factor determining the success of these banks (Wahab et al., 2009). Whereas in developing countries there is a problem of IT infrastructure and lack of qualified manpower equipped with development and use of ICTs. Research shows that consumers are generally not inclined to change their behavior to extensively practice eBanking. Moreover number of consumers using eBanking is growing but majority still do not use eServices (Banan, 2010). This may be because customer demographics play an important role in shaping their behavior towards new technologies (Amin & Ramayah, 2010). In this study the researcher has studied the effects of demographics on the Prospects of eBanking in the city of Dera Ismail Khan, KPK, Pakistan.

# Literature Review

#### eBanking

The term 'electronic banking' means the provision of online information or services by a bank to its customers, via a computer or television (Daniel, 1999). eBanking is defined as an Internet portal, through which customers can use different kinds of banking services by visiting the banks' website (Pikkarainen et al., 2004). Online banking differs in many ways from traditional branch banking. One of the most important differences is the direct connection with the bank's information system. Previously, customers have had a relationship with a bank's front-desk employee, who has had access to the bank's information system. In online banking, customers have direct access to a bank's information system either from home, work, school, or any other place where a network connection is available (Sadeghi & Farokhian, 2011).

# Prospects of eBanking

Almost all the businesses are the beneficiaries of eBanking, irrespective of their size or physical locations. World Wide Web has made possible to perform all type of business and commercial transactions electronically without any geographical restriction (Yang & Ahmed, 2009). In this regard banks have proved as the major user of ICTs for the past several years because the use of IS helps in cost-reduction, mainly due to the reduction in the number of bank branches and their staff. Similarly the understanding and control of operational risks has also become easier for the banks using the modern Information Systems. Moreover, the successful use of Information System enable banks to process credit card, loan applications and other service with great speed and accuracy, without wasting time in too many formalities (Wahab et al., 2009).

The main factors determining the prospects of iBanking are convenience, low cost, and time saving (Polatoglu and Ekin, 2001). In this regard, huge expenses are incurred by the banks to install eBanking technologies, throughout the country, to provide simple, easy-to-use, accessible, and reliable eServices to the customers. Hence, the eBanking functionaries have to develop beliefs of the customers regarding the usefulness, ease of use, security and privacy of eBanking (Jahangir & Begum, 2008).

There are a many factors which hold back the popularity of iBanking services in spite of the fact that customers and bankers can benefit from it. The majority of banks are still struggling in eBanking because of low awareness of customers, perceived usefulness, perceived ease of use, and security and privacy issues of the technology (Pikkarainen et al., 2004). Several studies show that users' attitude performs a mediating role in their perceived usefulness, ease of use, security and privacy, and adoption of technology. Therefore, management should focus on users' attitude, of which perceived usefulness, ease of use, security and privacy are very vital antecedents (Jahangir & Begum, 2008).

#### Demographic effects on Customer Behavior

There is a series of research studies on the measurement of demographic implications on the users of computer based information systems including eBanking (see for example, Ramayah et al., 2003; Shih, 2007; Padachi et al., 2007; Yang & Ahmad, 2009; Adesina & Ayo, 2010; Amin & Ramayah, 2010). Demographics have been identified as the important variables in affecting the customer acceptance as well as the prospects of eBanking (Tat et al., 2008; Wahab et al., 2009).

In this regard the researchers have explored and tested several demographic characteristics including: Gender, education, marital status, position (Ramayah et al., 2003); Gender, age, involvement, and seeking behavior (Floh & Treiblmaier, 2006); age, education, and income (Padachi et al., 2007); experience with eBanking, experience of using Internet, and frequency of use (Shih, 2007); Gender, marital status, education level, and religion (Amin & Ramayah, 2010). In this study the researcher has used the following demographics to measure their effects on the prospects of eBanking: Respondent Type, Education, Gender, Age, Experience with eBanking, eBank(s) used, and Frequency of Use.

# Research Methodology

#### Approach

Survey approach through the application of questionnaires is very popular among the researchers to study the prospects of new technologies in the Banking sector (see for example, Chau & Lai, 2003; Mashadi et al., 2007; Jahangir & Begum, 2008; Alam et al., 2009; Adesina & Ayo, 2010). Thus, the researcher has also used survey approach in this study.

#### Population & Sample

The population of this study consists on all the literate users of eBanking in Dera Ismail Khan City. Since their number is infinite therefore, the researcher has classified them into five groups, i.e., bank employees, teachers, students, doctors, and businessmen.

Initially the researcher has conducted a pilot study to know the error in their responses and then used the same pilot data for determining the sample size. Table 1 shows the results of pilot study and the use of statistics for determining the sample size for this study which is 178. However, 173 questionnaires were received and used for analysis, thus the rate of questionnaire return was 97.19%.

 Table 1 The 'Statistics' from Pilot Study and Computation of the Sample-Size

z-Score	Std. Deviation	Std. Error	Error	Sample Size		
1.96	0.28	0.021	0.04116	178		
Formula for Sample-size = (((z*z)*(sd*sd))/(e*e))						

#### **Data Collection**

Data was collected by using the following two methods:

1. Literature Survey for Secondary Data: The literature survey provided concepts relating to the topic, their mutual relationships and the theoretical-model underlying these relationships.

2. Questionnaire for Primary Data: Questionnaire is instrumental to the survey research. A structured questionnaire was prepared according to the extracted variables and guidelines for questionnaire construction (Goode & Hatt, 1952:133; Babbie, 1993:146).

A structured questionnaire was extracted from the literature containing 7 demographic items and one research variable (Prospects of eBanking). All the questions for research variable were measured on 5-point Likert scale representing 1 = strongly disagree, 2 = disagree, 3. neutral, 4 = agree and 5 = strongly agree. This scale has also been used by several other researchers of the same field (see for example: Daniel, 1999; Chau & Lai, 2003; Mashadi et al., 2007; Tat et al., 2008; Jahangir & Begum, 2008; Alam et al., 2009; Banan, 2010; Adesina & Ayo, 2010).

### Data Analysis

Data has been analyzed by using both the descriptive and the inferential statistical tools according to the requirements of the hypotheses. Descriptive statistics explain the position and nature of the respondents and the research variable whereas; inferential tools used for hypothesis-testing (Levin, 1978). Following statistical tools were used for data analysis:

a. ANOVA applications

b.t-Tests

c. Regression analysis (step-wise)

#### **Research Model:**

This research model (shown in Figure 1) is developed on the basis of literature review showing the relationships of customer demographics with the Prospects of eBanking.

Figure 1. Schematic Diagram of the Theoretical Framework



Hypotheses:

Following hypotheses were tested in this study:

	• 1		
	Hypotheses	Code	Test
1	Teachers score higher.	H1	ANOVA
2	30-40 age group scores high.	H2	ANOVA
3	Score is high on 5-10	H3	ANOVA
4	Masters & Above score high.	H4	t-Test
5	Males score higher than females.	H5	t-Test
6	Those with 5 & Above experience score	H6	t-Test
	high.		
7	Score is high on 1-100	H7	t-Test
8	All demographics predict Prospects of	H8	Stepwise
	eBanking		Regression

Table 2. List of hypotheses

#### **Research Findings**

Descriptive Statistics of Respondents for Prospects of eBanking: Table 3. Respondent Type

		-				- PO-					
R	Respondent T	ype		N	Mean		Std. Devia	Std. Deviation		Std. Error	
B	ank Employ	ees		34	3.8676		.50466		.08655		
T	eachers			35	4.1	714	.47268		.0799	0	
St	udents			33 3.9470		9470	.94115		.1638	3	
D	octors			31 3.9919		919	.66922		.1201	9	
B	usinessmen			40	3.9	9563	.62503		.0988	3	
T	otal			173	3.9	9870	.65938		.0501	3	
				Tab	le 4	. Edu	ication				
F	Education		N	V	Me	an	Std. Deviat	ion	Std. Er	ror	
E	Below Maste	ers	5	51	3.9	853	.62131		.08700	1	
Ν	∕lasters&Ab	ove	1	22	3.9	877	.67714		.06131		
				Ta	ble	5. G	ender				
	Gender	Ν		Me	an	Sto	l. Deviation	Sto	l. Error		
	M ale	13	1	4.0	496	.71	146	.06	216		
	Female	42		3.7	917	.40	918	.06	314		
				]	<b>Fable</b>	e 6.	Age				
Γ	Age	l	Ν	I	Mean		Std. Deviatio	n	Std. Error		
-	20 - 30	1	71	2	.017	6.	81867 .		.09716		
Γ	30 - 40	(	54	2	1.046	9.	.47949		.05994		
Ē	40 & Abov	e 3	38	3	8.828	9.	.57276		.09291		
	Total	]	173	3 3	8.987	0.	65938	.05013			
			1	Tabl	e 7.	Exp	erience				
	Experience	e l	Ν	Μ	ean	St	d. Deviation	S	Std. Error		
	1 - 5	1	78	4.	0481	.7	8548	.0	8894		
	5 & Abov	e 9	95	3.	9368	.5	3342	.0	5473		
		Ta	abl	le 8.	No.	of 1	Banks Used	l			
N	o. of Banks	Used	ł	Ν	M	ean	Std. Devia	tion	Std. E	rror	
1	- 5		93 4		4.0	108	.54037		.05603		
5-10 64		64	3.8	984	.82702		.1033	8			
	Tab	le 9	. F	requ	ienc	y of	Using eBa	nkiı	ıg		
F	requency of	Use	]	N	M	ean	Std. Deviation		Std. Error		
0	1 – 100			143	4.0	297	.68977		.0576	8	
10	00 & Above			30	3.7	833	.44399		.0810	6	

# a. Testing the Significance of Mean Differences

Following are the results of the tests of significance applied on testing the mean differences between different groups emerging from the demographic attributes of the respondents. Tests have been applied on the role of RTP (respondent-type), EDU (education), GDR (gender), AGE (age), EXP (experience), BKU (banks-used) & FOU (frequency of use).

1. ANOVA tests:

Table 10. ANOVA Statistics for Prospects of eBanking (df-4)

		(•	<b>a</b> = <b>1</b> )			
	Hypotheses	df	Sum of	Mean	F	Sig.
			Squares	Square		
1	Teachers score higher than other groups	4	1.766	.442	1.016	.401
2	The 30-40 age-group scores higher than other groups	2	1.245	.623	1.439	.240
3	Respondents who use '5- 10' banks score high	2	1.302	.651	1.506	.225

The above table shows the results of three ANOVA tests for hypotheses testing. Here, we can see that all the three hypotheses have been rejected due to the p-value greate than 0.05 (i.e., 0.401, 0.240, and 0.225). 2. t-Tests:

 Table 11. t-Test Statistics for Prospects of eBanking (df=171)

		df	F	Sig.	Т	Sig. (2-
						tailed)
1	'Masters & Above'	171	.389	.534	022	.983
	score higher					
2	Males score higher than	171	5.370	.022	2.232	.027
	females					
3	Respondents with	171	3.801	.053	1.105	.271
	'5&More' years of					
	experience score high					
4	Respondents who use	171	3.330	.070	1.874	.063
	eBanking '1-100' times					
	score high					

The above table shows the results of four t-tests for hypotheses testing. Here, we can see that the second hypothesis has been accepted due to the p-value less than 0.05 (i.e. 0.027), whereas as the first, third, and fourth hypothesis has been rejected because of the p-value greater than 0.05 (i.e., 0.983, 0.271, & 0.063 respectively).

b. Predicting the Prospects of eBanking (PRS) with Demographics

Hypothesis 8. All the demographics predict Prospects of eBanking (PRS).

Table 12. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the	F	Sig.
				Estimate		
1	.168(a)	.028	.023	.65188	4.980	.027(a)

#### Table 13. Coefficients (included)

				· · · ·		
Model		Unstandardized		Standardized	Т	Sig.
		Coefficie	ents	Coefficients		
		В	Std.	Beta		
			E			
1	(Constant)	3.792	.101		37.695	.000
	DGDR	.258	.116	.168	2.232	.027

#### Table 14. Excluded Variables

Model		Beta	Т	Sig.	Partial	Collinearity
		In			Correlation	Statistics
						Tolerance
1	DRTP	.113(a)	1.410	.160	.108	.886
	DEDU	.052(a)	.688	.492	.053	.998
	DAGE	.010(a)	.135	.892	.010	.971
	DEXP	.080(a)	1.061	.290	.081	.999
	DBNK	.076(a)	.985	.326	.075	.960
	DFQU	.108(a)	1.393	.166	.106	.943

a Predictors in the Model: (Constant), DGDR

b Dependent Variable: PROSPECTS

The table 12 shows the summary results of Demographic impact on Prospects of eBanking (PRS). However, the only Demographic Gender (DGDR) shown in table 13 is having significant effect on the Prospects of eBanking because of the pvalue less than 0.05 which is the required threshold. Whereas the other demographics (as shown in 14) DRTP (p-value = 0.160, DEDU (p-value = 0.492), DAGE (p-value = 0.892), DEXP (p-value = 0.290), DBNK (p-value = 0.326), and DFQU (p-value = 0.166) are insignificant in determining Prospects of eBanking (PRS) due to p-values greater than 0.05, which is the

deciding point. Hence, the hypothesis is partially supported with only one out of seven (1/7) demographics.

 
 Table 15. Summary of the Predictions based on Demographic Attributes

	Predictors	DEMOGRAPHICS
	Criterion	**PRS
	Models	1
	R2	.028 (3%)
1	Respondent Type (RTP)	-
2	Qualification (QUA)	-
3	Gender (GDR)	.027
4	AGE	-
5	EXP	-
6	BKU	-
7	Frequency of Use	-

\* CA = Customer Acceptance

\*\* PRS = Prospects

The above table shows that the demographic prediction of Prospects of eBanking has not emerged as successful. There is very nominal role of the demographic attributes in changing the attitude of respondents towards using iBanking technologies. Only 3% of change is predicted in the Prospects of eBanking. These results confirm the findings from the applications of t-Tests and ANOVA which have also suggested that the role of demographic attributes is not established.

#### Conclusions

In this research the researcher has studied the effects of seven demographics, i.e., Respondent Type, Education, Gender, Age, Experience with eBanking, eBank(s) used, and Frequency of Use. However, it has been seen that the demographics play a very little role in predicting the Prospects of eBanking. For example, the only demographic Gender (GDR) has an important role in predicting the Prospects of eBanking (PRS). Similarly taking into account the demographic attributes of the respondents it can be seen that out of seven (7) tests of significance only one (1) was proven significant.

Thus, it can be concluded from the current empirical study that the demographics have indicated no role in the prediction of Prospects of eBanking except the 'Gender' which is the only critical factor, the role of demographics is very little as a whole (1/7), i.e., 14.29%, and the gender is the only demographic variable having significant mean differences for the Prospects of eBanking.

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