

Customer's Perceptions on e-Banking: A Case Study of HBL Jamshoro

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ABSTRACT

Pakistan service sector is on a major technological up gradation drive and is adopting the international standards. The banking sector is the largest service providing sector in Pakistan. HBL (Habib Bank Limited) is Pakistan's second largest bank with total assets of about Rs. 11.5 billion and a network of branches and over 300 ATMs (Automated Teller Machines). This research is conducted of 100 account holders of HBL in the Jamshoro district of Sindh Pakistan to find out the extent to which they are using the various services offered by the bank. Statistical tests are employed for the data analysis by using SPSS (Statistical Package for the Social Sciences). The logistic linear regressions models are used to anticipate the predicted variables. The model estimates that the conversion of Internet users to on line banking is about 30%.

Key Words: e-Banking, Customer Perception, Internet Services, HBL.

1. INTRODUCTION

Pakistan's banking sector is on a major technology up gradation drive and is absorbing the international standards in the service sector. Country's financial markets now are characterised by financial liberalisation. When organisations invest in new technologies for their customers, their success should be evaluated not only according to how efficiently it lowers the cost of operations, but also whether customers perceive it as delivering real business enhancing benefits. This is also the case with the internet banking services offered by nationalised as well as private banks in Pakistan [1]. Customer's satisfaction is one and a major goal of the service providing industries. Banking sector is a financial institution, in which every one is involved [2].

This paper only focuses on the high-tech services providing by the bank, which includes mobile banking and internet banking. It also includes the use of ATM machines as well as telephone banking. Moreover, the research only focuses on the case study of HBL, where the sample of the population is 100 bank account holders located in the vicinity of Jamshoro, Sindh.

2. LITERATURE REVIEW

Internet banking is defined as the services provided by the banks to its customers through Internet [3]. Haq, A., [4] observed that about 34% of companies with less than \$1 million in annual revenues used online banking, as

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against 44% of those with revenues between \$1 million and \$20 million. In fact, the internet has taken only five years to achieve a critical mass of 50 million users; it took radio 38 years to achieve this figure, television 13 years and cable TV 10 years [5]. This shows how rapid the acceptance of the internet as a medium of connectivity and commerce has been [6]. Many private banks initially took to internet banking in the belief that the profitability of online banking would be huge. But most of them have failed to ensure adequate returns from these new services even after many years [7]. There is a growing understanding among banks that to survive in the future, they not only need to be organised around information and knowledge but should also be customer-centric, market-driven, highly networked, on the constant lookout for global opportunities and flexible in their ability to deliver superior value to customers [8]. This to a large extent is due to the changes in the marketplace because of the converging pressures of changing demographics, global politics, economics, technology, social requirements and so on [9]. Organisations are forced to change as customers constantly redefine the concept of value [10]. The need for research to focus both conceptually and empirically on the consumer banking technology adoption process in this context is very clear. In this situation, a banker must ideally address the question: "What are the business opportunities in net banking?" And while answering the question he should take a deep breath, and make sure he is doing everything right.

3. OBJECTIVES OF THE PAPER

The following objectives are intended to achieve in this research:

- To identify the popular services of Internet banking - whether basic or special - among the respondents according to the frequency of visits to particular areas on the site.
- To explore differences among users - link services used to demographic characteristics like income,

educational qualifications, occupation as well as the nature and period of association with the bank (age of the account).

- To predict the frequency of visits to the portal by the account holder with the help of a linear regression model and suggest suitable measures -to improve the adoption rate of various services.
- To examine quality and security standards of internet banking.

4. RESEARCH DESIGN AND DATA ANALYSIS

An exploratory survey was designed and executed among 100 Infinity account holders of HBL Bank between January and May 2010 in Jamshoro. A structured questionnaire was used as a data collection tool, and statistical judgement sampling was resorted to for the purpose of the study. The questionnaire was administered through branches on an a priori basis.

For the purpose of data analysis, the respondents were segmented according to critical variables such as the period of association and the type of account they had with the bank. This was to attain divisibility for the general demographic segmentation method adopted during the course of the study. The division was made according to variables like income, education and occupation of the respondents.

To begin with, the respondents were asked to state the frequency of visits to the bank's portal under three categories: once a week (Code: 1), twice a week (Code: 2) and every day (Code: 3). Further, they were asked which services they used the most. Eleven types of major services offered by the bank were listed and respondents asked to indicate frequency of utilisation under three categories: not at all used (Code: 0), sometimes (Code: 1) and very often (Code: 2).

Preliminary analysis of the responses showed that there was a general acceptance of the service offered by the portal. Evidence of this could be found from the mean

score of major services: like account summary, service request, credit card payment, anywhere banking and tracking bank transactions/cheques - which were above the mean midpoint. However, services like ATM facilities, loan applications, utility bill payments, online shopping, debit card applications and fund transfers were found to be less popular. This may be due to widespread Internet fraud and lack of confidence among customers in funds transactions through the net (Table 1).

In order to do detailed analysis, multivariate statistical techniques such as factor analysis (data reduction technique) and multiple regression (dependent statistics) were resorted to with the help of the software SPSS (ver. 11.5). The rationale for choosing factor analysis is that it would help reduce the bulk of the data by grouping them under meaningful factors [11]. The outcome of this analysis would provide an empirical basis for assessing the structure of variables and potential, selecting a subset of representative Internet services for further analysis. Regression analysis is widely used to predict the likely pattern of decision -making in an uncertain environment [12]. Here, we opted for step-wise estimation because of varying levels of association and interdependence among services. In this method, selecting a variable in the

regression equation starts by best prediction of the dependent variable. Initial analysis shows that there is a relationship between four variables, which are the true indicators of predicting the respondent's frequency of visits.

4.1 Data Reduction by Factor Analysis

By analysing this research (Table 2 showing commonalities), the factor loading for service request and loans were explained as being marginally low to the tune of 11.5 and 25.1% respectively of total variance. However, the remaining nine services were explained reasonably well as evidenced by the high factor loading score of above 0.7. For services like fund transfer (loading 0.944) and credit card payment (loading 0.959), total variance in the estimate was extracted well above 94%.

The initial Eigen value shows significant variation exists among only three factors. Table 3 explains the extraction statistics and the number of factors qualified for retaining to the next level of analysis. By applying a priori criterion with cut off initial Eigen value of 2.0, two factors were identified. By applying orthogonal (VARIMAX) rotation, variance has been redistributed so that factor loading pattern and percentage of variance for each of the factors

TABLE 1. DESCRIPTIVE STATISTICS OF THE SAMPLE

	N	Minimum	Maximum	Mean	Standard Deviation
Frequency of Visit	100	1	3	2.18	0.702
Account Summary	100	1	2	1.51	0.502
Debit Card	100	0	2	0.74	0.661
ATM	100	0	2	0.74	0.733
Loans	100	0	2	0.73	0.709
Service Request	100	0	2	1.27	0.737
Bills Payment	100	0	2	0.84	0.692
Credit Card	100	1	2	1.48	0.502
Anywhere Banking	100	1	2	1.49	0.502
Tracking Transactions/Cheques	100	0	2	1.40	0.569
Shop Online	100	0	2	0.92	0.692
Fund Transfer	100	0	2	0.82	0.626
Valid N (Listwise)	100				

are different. The first factor accounted for 50.42% of the variance explained compared to 40.283% in the unrotated matrix. Likewise, the second factor accounted for 32.247% versus 22.106% in the unrotated solution.

4.2 Extraction Method: Principal Component Analysis

Table 4 simplifies the data by grouping them under two common factors. The factor solution was derived from the component analysis with VARIMAX rotation of the 11

TABLE 2. COMMONALITIES OF FACTOR ANALYSIS

	Initial	Extraction
Account Summary	1.000	0.869
Debit Card	1.000	0.863
ATM	1.000	0.793
Loans	1.000	0.251
Service Request	1.000	0.115
Bills Payment	1.000	0.825
Credit Card	1.000	0.959
Anywhere Banking	1.000	0.830
Tracking Transactions/Cheques	1.000	0.745
Shop Online	1.000	0.785
Fund Transfer	944	

services listed for the purpose of the study. The cut-off point for interpretation purposes is +0.55 or -0.55 for the sample size of 100. Factor 1 has five significant loading, while four services were listed significantly under factor 2. Services like loan applications and service requests were found to be insignificant due to their non-standardised pattern. For the purpose of naming the factor, factor 1 was designated as special services - which include fund transfers, shopping online, utility bill payments and ATM services - since it was generally opted for only by certain

TABLE 4. ROTATED COMPONENT MATRIX

	Component	
	1	2
Fund Transfer	0.944	-0.232
Debit Card	0.903	-0.218
ATM	0.885	-9.21 E-02
Shop Online	0.874	-0.145
Bills payment	0.872	-0.254
Loans	-0.381	0.118
Service Request	-0.318	0.118
Credit Card	-0.195	0.960
Account Summary	-0.218	0.906
Anywhere Banking	-0.242	0.878
Tracking Transactions/Cheques	-0.161	0.848

TABLE 3. EXTRACTION STATISTICS OF FACTOR ANALYSIS

Component	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)
1	5.547	50.424	50.424	5.547	50.424	40.424	4.431	40.283	40.283
2	2.432	22.106	72.530	2.432	22.106	72.530	3.547	32.247	72.530
3	1.072	9.747	82.277						
4	0.877	7.972	90.249						
5	0.510	4.637	94.886						
6	0.282	2.560	97.445						
7	0.182	1.851	99.890						
8	5.208E-02	0.473	99.570						
9	3.484E-02	0.317	99.886						
10	1.250E-02	0.114	100.000						
11	1.683E-16	1.530E-15	100.000						

categories of respondents. Factor 2 was designated basic services, which covers credit card payment, account summary, anywhere banking and tracking transactions/cheques.

These factor scores were converted to positive score by adding the highest negative value to all factor scores on a case-to-case basis for normalisation and better interpretation.

5. MAJOR FINDINGS

Data was analysed into two stages, first the responses were categorised according to critical variables and then, the responses were correlated for predicting subsequent visits by respondents to the bank's portal.

5.1 Analysis of Variables

The respondents were segmented according to the period of association with the bank (age of the account) and type of account. The differences were analysed statistically using one-way ANOVA and Tamhane.

5.1.1 Type of bank Account

The nature of the respondents' transactions was analysed according to the type of account they had with the bank. For the purpose of analysis the accounts were classified as CA (Current Account), SB (Savings Bank Accounts), RA (Roaming Accounts) and FD (Fixed Deposit) accounts [13]. The utilisation of service by the roaming and FD account holders had very little fluctuations as the roaming account holder adopted more special Internet-based (Factor 1 and Factor 2) services.

Fluctuations were tested subsequently by using one-way ANOVA at 95% level of confidence. The analysis clearly shows that there are significant differences between various accounts as far as the utilisation of basic and special services are concerned (Table 5).

5.1.2 Period of Association with the Bank

For convenient analysis, respondents were divided into four groups. The first group comprised respondents who had an account for less than six months, were probably new and less familiar with technological innovations. The

next group of employees, who operated the account for between 6 and 12 months, was in the process of experiencing Internet banking. The third group had 12 to 18 months' experience, much older and stabilised with the service provider. The results, show that these respondents lack a clear view of the implications of electronic banking or may not be interested in continuing to use special services. Additionally, the middle segment may experiment with Factor 1 (special) services but the service provider may fail to retain them. At the same time adoption of basic services continues along with their association period. Fluctuations were tested subsequently by using one-way ANOVA at 95% level of confidence. The analysis clearly shows that there are significant differences among various accounts in the utilisation of basic and special services (Table 6).

5.2 Regression Analysis

Residuals are instrumental in selecting violations of model assumptions and by employing partial correlation. Beta coefficient measures the relative explanatory power of the dependent variable (the frequency of visit). This shows the relative importance of Internet banking service options with the user group. Tracking transactions/cheques had the highest beta value (1.23), followed by utility bills payment (0.368). Error variance is explained by constant (a) by 24%. This is followed by tracking transactions/cheques (22.1%), credit card payment (23.8%), utility bill payment (14.9%) and ATM services (12.8%). Further sample t-test distribution correlates positively for tracking transactions (6.889) with frequency of visits of the Infinity account holder (Table 7).

The coefficient of determinant (R) measures the proportion of dependent variables about its mean that is explained by the independent or predictable variable. Degree of freedom measures how restricted the data are to reach a certain level of prediction. It is measured as total observations minus number estimated parameters. The overall model fit increases from 0.37410-0.632 by adding more variables such as tracking transactions/cheques, credit card payment and utility bill payment to the independent variable in step-by-step process. The adjusted R square also shows an increase from 0.1310-0.374.

6. CONCLUSIONS

The research is conducted of 100 account holders of HBL in the Jamshoro district of Sindh Pakistan in order to discover the extent to which the account holders are using the various services offered by the bank. Statistical tests are performed for the data analysis. The SPSS is used as the qualitative data analysis was not possible as the users are more than 100 and the research needs the positivism results in its epistemology. It was found during the analysis that respondents who had a long association with the bank, higher levels of education (professional) are aware

of the positive consequences of basic services offered through e-banking. This fragment of the customers is influencing the bank to offer additional services, such as possible after the recession in 2009. Conversely, respondents who are holding different post-graduate degrees, operated savings bank accounts, having a limited annual income between Rs 1 Lac and 2 Lac or a relatively short-term association (6-18 months) with the bank are adopting the special services offered by the bank. More specifically, savings bank account holders were more optimistic about the positive outcome of Internet banking services. The “stand alone/network” cluster manages to conserve a more objective view of present-day reality,

TABLE 5. MULTIPLE COMPARISONS BETWEEN VARIOUS TYPES OF ACCOUNTS

Dependant Variable	(I) Nature of Account	(j) Nature of Account	Mean Difference (I-J)	Standard Error	Significant Bound	Lower Bound	Upper
Factor-1	SB	FD	0.6062	0.25762	0.320	-0.4407	1.6531
		Current	1.0820	0.21965	0.000	0.4789	1.6851
		Roaming	0.2478	0.24950	0.907	-0.4440	0.9395
	FD	SB	0.6260	0.25762	0.320	-1.6531	0.4407
		Current	0.4758	0.2849	0.582	-0.5264	1.4780
		Roaming	-0.3584	-0.30851	0.852	-1.3681	.6512
	Current	SB	-1.0820	0.21965	0.000	-1.6851	1.6531
		FD	-0.4758	0.28491	0.582	-1.4780	1.6851
		Roaming	-0.8342	0.27759	0.026	-1.5996	0.9395
	Roaming	SB	-0.2478	0.24950	0.907	-1.6531	0.4407
		FD	0.3584	0.30815	0.852	-0.5264	1.4780
		Current	0.8342	0.27759	0.026	-1.3681	0.6512
Factor-2	SB	FD	-0.1327	0.36242	1.000	-1.9148	1.6531
		Current	-1.0187	0.20264	0.000	-1.6531	1.6851
		Roaming	-0.4136	0.27311	0.593	-1.3681	0.9395
	FD	SB	.1327	0.36242	1.000	-1.8654	0.4407
		Current	-0.8860	0.37438	0.357	-.5264	1.4780
		Roaming	-0.2809	0.41676	0.988	-1.3681	0.6512
	Current	SB	1.0187	0.20264	0.000	-1.6531	1.6890
		FD	0.8860	0.37438	0.357	-0.5264	9.6881
		Roaming	0.6051	0.28880	0.231	-1.3681	0.9395
	Roaming	SB	0.4136	0.27311	0.593	-1.6531	1.6531
		FD	0.2809	0.41676	0.988	-0.5264	1.6851
		Current	-0.6051	0.28880	0.231	-1.9854	0.9395

underlining more precisely the strong and weak points of the relationship with the bank. In contrast, current account holders were more sceptical, citing 'risk' as the main factor that prevented them from deriving more benefits from special services in electronic banking. The managerial implication is that the bank must efficiently use the marketing practices such as road shows, educating the customers, media commercials to ensure that all account holders had an Infinity account. This will not only attract and encourage the customers to use the e-banking facilities but also minimises the negative perceptions about e-banking. The bank can use this as an opportunity rather

than threat. The results of this study may provide the benchmarks for the private banks intending to offer the different e-banking services.

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TABLE 6. PERIOD OF ASSOCIATION WITH THE BANK

Dependant Variable	(I) Age of Account	(j) Age of Account	Mean Difference (I-J)	Standard Error	Significant	Lower Bound	Upper Bound
Factor-1	Up to 6 Months	6-12 Months	0.6565	0.56492	0.376	-0.4546	1.7631
		12-18 Months	-1.1597	0.87435	0.000	0.4776	1.6887
		Above 18 Months	0.0126	27650	0.907	-0.4440	0.93876
	6-12 Months	Up 6 Months	0.6565	0.26562	0.320	-1.7631	0.48767
		6-12 Months	-0.16182	0.28654	0.582	-0.5874	1.4780
		Above 18 Months	-0.8891	-0.36791	0.852	-1.3871	0.65765
	12-18 Months	Up 6 Months	-6565	0.54375	0.000	-1.6765	1.6765
		6-12 Months	-1.1597	0.26578	0.582	-1.9870	1.6765
		Above 18Months	.0126	0.27654	0.026	-1.9876	0.96549
	Above 18 Months	Up 6 Months	-0.2478	0.27654	0.907	-1.0981	0.47658
		6-12 Months	0.3584	0.398754	0.852	-0.52876	1.4876
		Above 18 Months	0.8342	0.209865	0.026	-1.3098	0.68707
Factor-2	Up to 6 Months	6-12 Months	-0.1327	0.38754	1.000	-1.9765	1.6530
		12-18 Months	-1.0187	0.28731	0.000	-1.9871	1.6987
		Above 18 Months	-0.4136	0.20964	0.593	-1.3981	0.99876
	6-12 Months	Up 6 Months	0.6565	0.39756	1.000	-1.8876	0.48753
		6-12 Months	1.1597	0.39854	0.357	-0.52876	1.4876
		Above 18 Months	0.0126	0.46576	0.988	-1.3098	.68765
	12-18 Months	Up 6 Months	1.0187	0.29867	0.000	-1.8767	1.6876
		6-12 Months	0.8860	0.39868	0.357	-0.52876	9.6876
		Above 18 Months	0.6051	0.27680	0.231	-1.3987	0.98765
	Above 18 Months	Up 6 Months	6565	0.27541	0.593	-1.6877	1.6531
		6-12 Months	1.1597	0.48766	0.988	-0.5876	1.6851
		Above Months 18	0.0126	0.20980	0.231	-1.9876	0.93956

TABLE 7. STEP BY STEP MULTIPLE REGRESSION

No.	Constant	Un-Standardized Coefficient		Standardized Coefficient	T	Significant
		B	Standard Error	Beta		
1.	Tracking	1.532	0.176	0.374	8.686	0.000
	Transactions	0.463	0.116		3.971	0.000
2.	Tracking	1.960	0.192	1.042	10.210	0.000
	Transactions	1.289	0.224	-0.762	5.759	0.000
	Credit card	-1.012	2.254		-4.211	0.000
3.	Tracking	2.340	0.210	1.069	11.126	0.000
	Transactions/Cheques	1.323	0.212	-0.864	6.253	0.000
	Credit Card	-1.214	0.243	-0.303	-4.990	0.000
	ATM	-0.290	0.081		-3.5363	0.001
4.	Tracking	2.029	0.240	1.231	1.231	0.000
	Transactions/Cheques	1.523	0.221	-0.911	-0.911	0.000
	Credit Card	-1.278	0.238	-0.566	-0.566	0.000
	ATM	-0.542	0.128	0.368	0.68	0.014
	Bill Payment	0.373	0.149			

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