

# The Empirical Study on the Risk Perception by Users in Personal Banking Sector

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**Abstract:** Business process reengineering has made revolutionary changes in the personal banking sector. It is the Technological Innovations that improved the service quality, responsiveness and business efficiency. This study focuses on different user profiles (Earning/Non Earning), their perception of risk and confidence in technological innovations in personal banking sector.

Required data were collected through survey (online & offline) of 150 customers. All the users were qualified (i.e. graduate and above) which includes students, employees, teachers, bank and corporate employees of various age groups (>=18). Different parameters were used for analyzing risk perception, confidence in technology and also identified most frequently used technology among ATM, internet banking and mobile banking.

Applying Chi2 test using Minitab lead to the preliminary results which showed that

- No difference in perception of risk in forging password , excess payment in credit card monthly bill statement and failing online transactions for earning/non earning users
- Difference in perception of risk in sharing details in online Shopping, changing terms and conditions, mobile banking and paying utility bills for earning/non earning users

**Keywords:** Technological Innovations, Risk Analysis.

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## INTRODUCTION

In India, deregulation, globalization and advancing technology lead to the growth of banking industry. In this new era of banking, advent of information technological innovations is providing more and more personalized services to customers. Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labor intensive methods with automated processes thus leading to higher productivity and profitability [1].

Innovations in banking includes ATM, internet banking, credit & debit card, online shopping, paying of utility bills, implementation of standing instructions of customers , NEFT, retail banking, payments of utility bills, fund transfers, mobile banking etc..

But Information technology poses both opportunities and challenges and one of the biggest challenges is the customer's perception of the risk associated with these new advancements. Because of this risk perception there are customers who still rely on a branch as the anchor channel. For example consumer protection agencies warn that criminals attach mirrors to ATMs to capture PIN numbers or tamper with the machines in other ways to get your cash or information and cases of theft of credit cards.

This research paper is focused on capturing this risk perception of users.

## LITERATURE

This study used **Pearson's chi2 test of independence** for data analysis using Minitab 16 software. This test assesses whether paired observations on two variables, expressed in a contingency table, are independent of each other. The chi-square statistic assumes a discrete distribution rather than a normal distribution; the results will be statistically valid and can be used as scientific proof.

## RISK ANALYSIS

As per world retail banking report 2013, Customer Experience Index (CEI) of India was 77.0 in year 2011-2012 which is decreased by 1.6 points in 2012-2013. CEI provides insight on how customers perceive the quality of their bank interactions. [2]

This study was done whose objective was to capture the perspective of users towards personal banking. Sample of 150 people have been taken which includes students, employees, teachers, bank and corporate employees of various age groups ( $\geq 18$ ). All the users are qualified i.e. graduate and above. User groups were classified into earning and non-earning.

The major focus was given to Risk Analysis. 10 parameters (refer Table 1) were considered and ranked by users based on 5 point **Likert Scale** (Very High, High, Medium, Low Very Low) .It was also considered that users might not be aware of all the functionalities so Not Aware option was also mentioned.

Table 1: List of the parameters

S No.	Parameter	S No.	Parameter
I	Confidence in new technology in Personal Banking	VI	Risk with Fraud usage of cards
II	Risk in Forging Password	VII	Risk with Transferring funds
III	Risk in Online Shopping	VIII	Risk with Mobile Banking
IV	Risk of excess payment in credit card monthly bill	IX	Risk of failing online transactions
V	Risk in changing terms & Conditions	X	Risk in paying utility bills

### Applying the STATISTICAL ANALYSIS

- Likert scale is converted into numerical values (Very High =5, High=4, Medium=3, Very Low=2, Low=1)
- Data cleansing was done i.e. records with 1 or more Not Aware options were deleted to guard the impact on results due to distortion of Likert scale. The sample size reduced to 104.
- Users were classified into 2 profiles i.e. earning and non earning
- Data set was not following null distribution so Chi square test (Chi-square is a statistical test commonly used to compare observed data with data expected to obtain according to a specific hypothesis) was applied using Minitab
- There were 10 hypothesis considered for the study

### RESULTS & DISCUSSIONS

Tabulated analysis of all hypothesis conducted with 95 % confidence interval is show in Table 2.

Table 2: Statistical analysis of hypothesis

Sno.	Null Hypothesis	Alternate Hypothesis	Null Hypothesis Rejected/ Accepted	Remarks
1	There is no difference in confidence in new technology in Personal Banking for different user profiles (Earning/Non earning)	There is a difference in confidence in new technology in Personal Banking for different user profiles (Earning/Non earning)	Can't Say	More data needs to be collected for capturing the perspective
2	There is no difference in perception of risk in forging password for different user profiles (Earning/Non earning)	There is a difference in perception of risk in forging password for different user profiles (Earning/Non earning)	Accepted	P > .05
3	There is no difference in perception of risk in sharing details in Online Shopping for different user profiles (Earning/Non Earning)	There is a difference in perception of risk in sharing details in Online Shopping for different user profiles (Earning/Non Earning)	Rejected	P < .05
4	There is no difference in perception of risk of excess payment in credit card monthly bill statement for different user profiles (Earning/Non Earning)	There is a difference in perception of risk of excess payment in credit card monthly bill statement for different user profiles (Earning/Non Earning)	Accepted	P > .05
5	There is no difference in perception of risk of changing terms and conditions for different user profiles (Earning/Non Earning)	There is a difference in perception of risk of changing terms and conditions for different user profiles (Earning/Non Earning)	Rejected	P < .05
6	There is no difference in perception of risk of fraud usage of cards (Debit/Credit) for different user profiles (Earning/Non Earning)	There is a difference in perception of risk of fraud usage of cards (Debit/Credit) for different user profiles (Earning/Non Earning)	Can't Say	More data needs to be collected for capturing the perspective
7	There is no difference in perception of risk with mobile banking for different user profiles (Earning/Non earning)	There is a difference in perception of risk with mobile banking for different user profiles (Earning/Non earning)	Rejected	P < .05

8	There is no difference in perception of risk in transferring funds for different user profiles (Earning/Non Earning)	There is a difference in perception of risk in transferring funds for different user profiles (Earning/Non Earning)	Can't Say	More data needs to be collected for capturing the perspective
9	There is no difference in perception of risk of failing online transactions for different user profiles (Earning/Non Earning)	There is a difference in perception of risk of failing online transactions for different user profiles (Earning/Non Earning)	Accepted	P > .05
10	There is no difference in perception of risk in paying utility bills for different user profiles (Earning/Non earning)	There is a difference in perception of risk in paying utility bills for different user profiles (Earning/Non earning)	Rejected	P < .05

Explanation of Hypothesis: 1

Null Hypothesis:

There is no difference in perception of risk in forging password for different user profiles (Earning/Non earning)

Alternate Hypothesis:

There is a difference in perception of risk in forging password for different user profiles (Earning/Non earning)

Mean= 3.022

SD= .9238

P value=.075>.05 because it is greater than 5% so can't reject null hypothesis i.e. there is no difference in perception of risk in forging password for different user profiles (Earning/Non earning) is accepted with 95% of confidence interval

- Null hypothesis is not rejected means that perception (whatever it may be) will not change with the profile (Earning/Non Earning) of user where as Null hypothesis rejected means that there is some relation between perception and user profile.
- Chi square test doesn't provide results when all the possible options have not been opted by more than 1 user so more data needs to be captured for the analysis. So risk/confidence perception of the total population can't be deducted from this test for some cases as shown in table 2

Also survey was done to find out most frequently used technology among ATM, Internet banking and mobile banking by different user groups. Fig.1 shows relatively most frequently used technology was ATM (71 %) followed by Internet banking (23 %) and Mobile banking (6%).

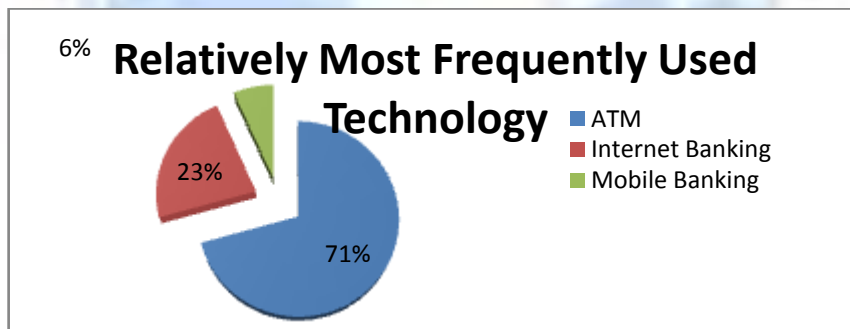


Figure 1: Relatively most frequently used technology

The obtained result is backed up by the similar study done by Internet and Mobile Association of India (IAMAI). IAMAI studied on the Internet users and found that about 23% of the online users prefer Internet Banking as the banking channel in India, second to ATM which is preferred by 53%. Out of the 6,365 Internet users sampled, 35% use online banking channels in India.

Also, in 2010-11 the number of ATMs witnessed a growth of 24 per cent over the previous year. [3]

**CONCLUSION**

- There is no difference in perception of risk in forging password , excess payment in credit card monthly bill statement and failing online transactions for earning/non earning users
- There is a difference in perception of risk in sharing details in online Shopping, changing terms and conditions ,mobile banking and paying utility bills for earning/non earning users
- Most frequently used technology is ATM (71 %) followed by Internet banking (23 %) and Mobile banking (6%).

We cannot ignore the risks associated with the usage of technology. These are not full proof systems. As banking is related money so security measures should be taken care of. Therefore, Awareness program should be conducted in different time regarding the use of other e-technology devices to make smooth, secure and prompt business transaction

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