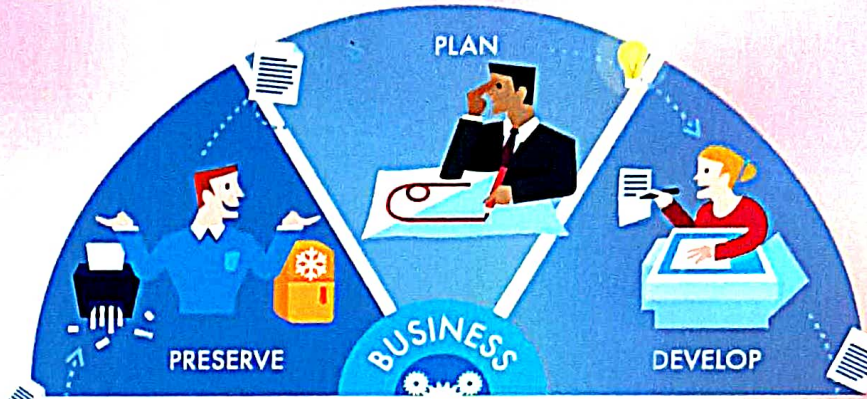




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## 4. Understanding the Relationship between Perceived Risk and the Extent of Usage of Internet Banking

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### **Abstract :**

The advancement in electronic service technology has brought about rapid changes in the delivery of various products and services by banks. Internet banking is a popular delivery channel provided by banks and is the new trend among the bank customers to perform their banking transactions and to avail of various services. Although increasing number of bank customers have been using internet banking, the extent of usage of internet banking differs among the bank customers. This study aims at understanding the relationship between Perceived Risk in using internet banking and the extent of Usage of internet banking. Analysis of the data collected through structured questionnaires from 450 bank customers using internet banking revealed that perceived risks have significant influence on the extent of usage of internet banking. The results showed that among the various types of Perceived Risk, the Financial risk, Performance risk and Time risk have a significant influence on all the dimensions of Extent of Usage. Security risk, Psychological risk and Overall Risk significantly influence all the dimensions of Extent of Usage except the number of banks at which internet banking is used, whereas Social risk significantly influences only the dimension of transactional services used in internet banking.

**Key Words:** Internet banking, Perceived Risks, Extent of Usage.

### **Introduction**

Electronic banking has provided a wider scope for banking activities both for the bank customers and the banks (Kaur & Kaur, 2011). Internet banking is a popular and increasingly used electronic banking channel which enables bank customers to perform financial transactions via the internet at any time and from anywhere, thus saving their time, effort and cost. However the extent of usage of internet banking is found to be influenced by various factors such as demographic characteristics, perceived risk, perceived usefulness, perceived ease of use and attitude towards the usage of internet banking. Although the bank customers mostly prefer

internet banking services over branch banking (Omar et al., 2011), the perceived risk of Internet banking is an important barrier to the use of the Internet banking services (Chiou & Shen, 2012). This study tries to understand the relationship between types of perceived risk and the extent of usage of internet banking.

### Literature Review

Many researchers have studied the influence of perceived risk on the intentions to adopt and use internet banking and a few studies have examined the factors influencing extent of usage. However there is scant research on the influence of types of risk on the dimensions of extent of usage of internet banking.

Li (2013) found that age, education, experience and income had an indirect effect on actual use of Internet Banking studied in three dimensions: volume of use, frequency of use and transaction amount. The study on e-banking in suburban India by Singh (2013) found that gender, age, qualification, income and tenure of accounts holding in the bank are the deciding factors for the customer to determine the frequency of usage of e-banking and the type of e-banking services to be used. Another study by Sikdar and Makkad (2013) revealed that customers belonging to relatively younger (18-40) as well older (50 & Above) age-groups have preference towards non-transactional services (i.e. checking balances, accessing statements etc.) and customers of the middle-age group (40-50) have significantly higher patronage towards transaction based services (fund transfer, bill & tax payments etc.).

The study by Ozdemir and Paul (2008) found that perceived risk was the most significant factor for users and within the risk factors, security risk was found to be the most significant barrier for Internet Banking. Another study by Maditinos, Chatzoudes, & Sarigiannidis (2013) on the adoption of internet banking in Greece, examined risk in 5 dimensions; performance risk, social risk, time risk, financial risk and security risk. The results showed that security risk and performance risk had an important effect on the intention to use internet banking.

The results of the study by Sanayei and Bahmani (2012) suggests that financial risk and security risk have an influence on customers' behavioural intentions to adopt internet banking and that security risk is the most important negative predictor of the intention to use internet banking. Basghosha, Nawaser and Parhizgar (2012) examined 13 dimensions of risk and uncertainty and found that psychological risk plays an important role in the rate of using internet banking and that the relation between social risk and the rate of using internet banking is rather weak.

Lee (2009) studied the different types of risk and found that security risk, financial risk, performance risk and time risk have a significant negative influence on intention to adopt



internet banking through attitude and that the influence of social risk was insignificant. The study also revealed that security risk was the most important inhibitor and that financial was the second most important inhibitor to the intention to adopt internet banking.

### Objectives of the Study

- 1) To understand the influence of perceived Risks on the Extent of usage of internet banking among the bank customers.
- 2) To analyse the influence of the types of perceived Risks on the dimensions of extent of usage of Internet Banking.

### Methodology

The primary data for the study were collected by adopting the Convenience sampling method from 450 users of internet banking from the state of Goa in India. A structured questionnaire was administered having a five point likert scale with responses ranging from Strongly Disagree (1) to Strongly Agree (5) for the items of perceived risk and from Never (1) to Always (5) for the frequency of use of the internet banking services. Cronbach's Alpha scores for the internet banking services used was 0.837, for the other items of extent of usage was 0.702 and for each of the types of risk was 0.726 and above, thus suggesting good reliability of the scale items ( $> 0.7$ ). The 30 items for different types of perceived Risks were finalized by conducting content validity, Inter rater reliability and face validity. The 11 items for the internet banking services used were finalized by conducting content validity and face validity. The significance of the relationship between the types of risk and the extent of usage is analysed by using one-way analysis of variance (ANOVA) and mean difference test. The hypotheses are checked at 0.05 percent level of significance.

### RESEARCH MODEL

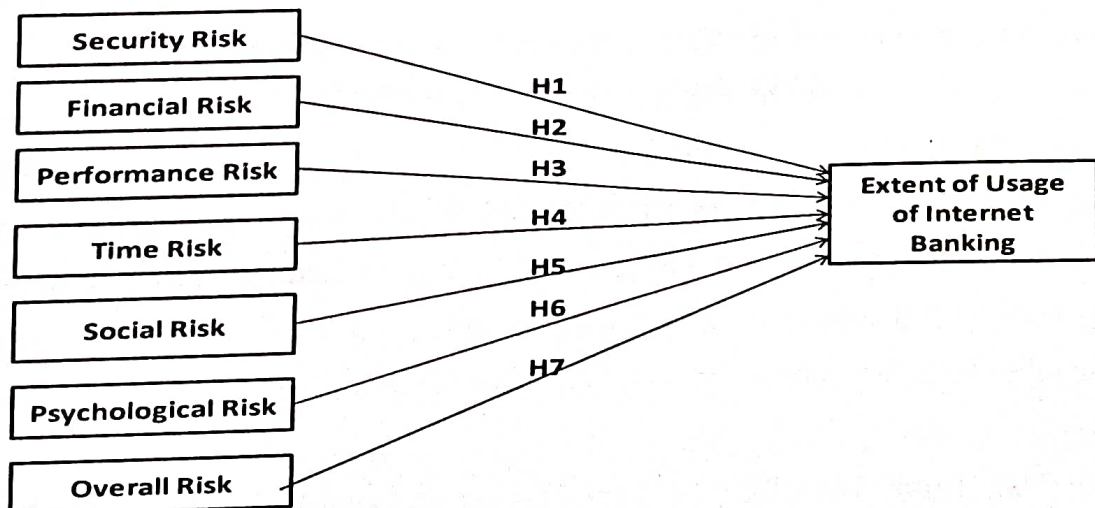


Figure 1. The proposed Research Model

The research model shown in Figure1 studies the influence of the 6 types of risk and also the overall risk on the extent of Usage of internet banking by the bank customers. The extent of Usage of internet banking is examined under the dimensions; period of use of internet banking, number of banks at which internet banking is used, frequency of use of internet banking in a month, non transactional services used and the transactional services used. The 11 items of internet banking services used have been grouped into non transactional services (5 items) and transactional services (6 items relating to payments and transfer of funds).

The meaning of the 6 types of risks studied is as follows:

1. Security risk is the risk of private financial information known to others without permission or a potential loss due to fraud or a hacker compromising the security of an online bank user (Lee, 2008).
2. Financial risk is the possibility of monetary loss due to misuse of the bank account or transaction error.
3. Performance risk refers to the banking transaction not being completed successfully due to the lack of proficiency on the part of the customer and by malfunctioning of online banking websites or lack of Internet connectivity.
4. Time risk refers to the loss of time in learning how to operate internet banking or while performing the internet banking transaction.
5. Social risk refers to the possibility that using internet banking may result in disapproval of one's family and friends and also the lack of face-to-face communication with bank personnel.
6. Psychological risk refers to the anxiety and stress faced by the customers in using internet Banking.

### **Hypotheses**

**H1:** There is significant influence of perceived Security risk on the extent of usage of internet banking.

**H2:** There is significant influence of perceived financial risk on the extent of usage of internet banking

**H3:** There is significant influence of perceived Performance risk on the extent of usage of internet banking.

**H4:** There is significant influence of perceived Time risk on the extent of usage of internet banking

**H5:** There is significant influence of perceived Social risk on the extent of usage of internet banking.



**H6:** There is significant influence of perceived Psychological risk on the extent of use of internet banking.

**H7:** There is significant influence of perceived Overall Risk on the extent of use of internet banking.

### Data Analysis and Interpretation

#### 1. Sample Profile

In the sample, it was found that most of the respondents were males (63%) and were relatively young, 77% of them were in the age group of 20 to 39 years. Regarding their marital status, 55% of the respondents were married and 45% were single. In terms of occupation, 70.4% of the respondents are in service and most of them (52%) have graduation as their highest qualification.

#### 2. Extent of Usage of internet banking.

Analysis of data revealed that the extent of usage of internet banking varied among respondents. Most of the bank customers interviewed (55%) have been using internet banking for a period up to 3 years and most of them (53%) have been using internet banking at 1 bank, followed by the customers (32%) using the service at 2 banks. Regarding the frequency of use, 38% of the respondents use internet banking 1 to 2 times in a month closely followed by 28% of the respondents using the service 3 to 6 times in a month. The non transactional services mostly used by the respondents are viewing the account statements and downloading the account history. Sometimes personal data is updated and request are made for cheque book and demand draft through internet banking. The transactional services mostly availed by using internet banking are making payments towards utility Services and online reservations and for fund Transfer.

#### 3. Relationship between types of Perceived Risk and Extent of usage of internet banking.

**Table 1 : Influence of Financial risk, performance risk and time risk on Extent of Usage**

Sr. No.	Extent of Usage	Financial Risk		Performance Risk		Time Risk	
		F Value	Sig.	F Value	Sig.	F Value	Sig.
1	Period of Use	2.077	.004	2.553	.000	2.109	.003
2	Number of Banks	2.041	.005	1.701	.017	1.898	.009
3	Frequency of use	2.855	.000	2.066	.002	3.153	.000
4	Services Non Transactional	3.254	.000	2.154	.001	3.107	.000



5	Services Transactional	3.765	.000	2.966	.000	3.809	.000
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The Analysis of Variance (ANNOVA) results show that there is a significant influence of financial risk, Performance risk and Time risk on all the dimentions of the Extent of Usage of Internet Banking. Hence Hypotheses **H2, H3 and H4** are fully supported.

**Table 2 : Influence of Security risk, Social Risk, Psychological risk and Overall risk on Extent of Usage.**

Sr. No	Extent of Usage	Security Risk		Social Risk		Psychological Risk		Overall Risk	
		F Value	Sig.	F Value	Sig.	F Value	Sig.	F Value	Sig.
1	Period of Use	1.690	.032	1.452	.139	3.540	.000	1.393	.018
2	Number of Banks	1.363	.136	.775	.676	1.444	.117	.965	.571
3	Frequency of use	3.127	.000	1.595	.090	2.673	.000	1.544	.003
4	Services Non Transactional	2.983	.000	1.295	.218	2.875	.000	1.322	.039
5	Services Transactional	4.531	.000	1.827	.042	4.262	.000	2.090	.000

The ANNOVA results show that there is a significant influence of Security risk, Psychological risk and Overall risk on the dimensions of the Extent of Usage of Internet Banking except for the number of banks at which internet banking is used. Hence hypotheses **H1, H6 and H7** are not fully supported. The results also show that there is no significant Influence of perceived Social Risk on the dimensions of Extent of Usage (**H5**) except for Transactional Services used.

The analysis by comparing means shows that the respondents who perceive low risk of all types have been using internet banking for a longer period, at more than one bank and more frequently in a month. The usage of non transactional services and transactional services is also higher among those who perceive low risk as compared to those respondents who perceive high risk. Further it was found that the performance of Transactional services by using internet banking is influenced by all the dimentions of perceived risk. However there are differences in



the relationship between the different types of perceived risk and the other dimensions of  
of Usage of internet banking.

### Conclusion

The data analysis and results show that the different types of perceived risk have varying influence on the dimensions of extent of usage of internet banking. Among the types of perceived risk; financial risk, Performance risk and Time risk have a significant relationship with all dimensions of extent of usage. Security risk, Psychological risk and Overall Risk influence and Social Risk is found to influence only the use of the Transactional Services. The results revealed that the extent of Usage of Internet Banking is higher among the respondents who perceive low risk in using internet banking as compared to those who perceive higher risk.

An understanding of the relationship between the types of perceived risk and dimensions of extent of usage shall be of great help to the bankers in directing their marketing efforts in the most effective manner so as to enable the bank customers to increase their usage of internet Banking. As banks benefit by means of reduced operational cost from the use of internet banking by the bank customers, there is need for banks to launch awareness campaigns to address the fears of the customers on issues such as lack of privacy, security, fear of losing money and fear of committing error in transactions so as to enhance their confidence in the use of Internet banking. With reduction in the bank customers' risk perceptions, the popularity and extent of usage of internet banking is expected to grow rapidly in future.

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