

# Internet Banking: Issues of Security, Trust, Usefulness & Customer Satisfaction

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*Internet Banking has been growing exponentially with the advent of advanced technology. But this technology has also brought with it some major issues i.e. Security, Trust & Usefulness. The present study is an attempt to study association among these factors and how these factors determine the level of satisfaction. The study is done on sample of 150 internet banking users. Hypotheses were developed after reviewing existing literature, indicating possible associations among the factors. Path analysis was used with the help of correlation & regression analysis to determine the association between the four factors. The study revealed that the factors, Security, Trust, Usefulness & Customer Satisfaction are closely and positively associated with each other. The results of the study have serious implications for bankers & online customers. This paper concludes that security and trust should be integrated to establish usefulness & customer satisfaction.*

**Keywords:** Internet Banking, Security, Trust, Usefulness, Customer Satisfaction

## INTRODUCTION

E-business is now a standard in industry. Many companies have found successful ways for advertising, marketing, and distributing their products and services online. Others are hesitant because they are afraid of being left far behind by the current online. Lots of activities such as communicating, transacting, environmental scanning and collaborating with other organizations are now done through the Internet and the world-wide-web.

Banking on an Internet environment involves building and maintaining customer relationships using online activities to assist the exchange of ideas, products, and services. Internet banking makes use of digital interactive technologies and information technology to fulfill the traditional practices of creating, communicating and delivering value to customers.

Internet-based relationships seem to be sufficiently different from traditional relationships and therefore require specialized attention. The Internet alters the customers' perspective of the benefits gained from that relationship. As a result of this, customers are transferring physical, tangible elements of a relationship into the intangible Internet environment. By doing this, they try to gain reassurance and strengthen the relationship. The Internet influences two types of bonds in a

relationship. These are grouped into technical and social elements, or structural and social bonds.

As a result of the growing use of the Internet globally, there has been an apparent increase in the use of the Internet for financial service transactions. There are massive opportunities that the Internet has brought to the banking industry in recent years including the rise of pure online banks. Online banking has gained special attention in academic studies. Attractiveness to Internet banking is enhanced by the ability to conduct banking transactions anytime and anywhere, faster and with lower fees compared to using traditional bank branches.

## REVIEW OF LITERATURE

Anderson and Narus, (1990) defined trust in manufacturer-distributor relationships as a belief that the partner company will perform actions that will lead to positive outcomes, and that this partner will not take unanticipated actions that may result in negative outcomes for the firm. There is some sort of agreed consent that trust encompasses two essential elements: credibility; and benevolence (Doney, Barry, & Abratt, 2007). Woodruff (1997) argued that satisfaction and value are complementary, yet distinct constructs. Kotler (2000) opined that customer delivered value is the difference between total value and total customer cost. Das and Samanta (2005) were of the view that Customer satisfaction as the key element for success in business is a major concern for any industry. Goutam et al (2007) identified the drivers that influence the customer satisfaction in a business-to-business context, namely: 1) reliability, 2) product-related information, and 3) commercial aspects. Customer satisfaction has been considered as an important factor for determining the re-purchase. Smith et al (1999) presented a model of customer satisfaction with service encounters involving failure and recovery. Customers often react strongly to service failures, so it is critical that an organization's recovery efforts be equally strong and effective. A model of customer satisfaction with service

failure/recovery encounters has been developed in the study. The results of the study revealed that customers prefer to receive recovery resources that are in line with the type of failure they experience in amounts that are corresponds with the magnitude of the failure that occurs. The research also provided useful guidelines for establishing the proper fit between a service failure and the recovery effort. Roberts & Oueslati-Boulahia (2000) pointed on the issue of providing Quality of Service (QoS) guarantees in the Internet. The researchers tried to find that QoS depends essentially on how much of the capacity is possessed to handle expected demand. They argued that flow awareness is additionally necessary to ensure that traffic is directed over routes with available capacity and to avoid congestion collapse in case of overload. Thus due to this congestion, it may also lead to Denial of Service (DOS), leading to low QoS. Study conducted by Bay et al (2003) revealed that during 2000 and 2001 consumers saved an average of 16% off the average listed price while shopping electronics products at the lowest prices at shopper.com. They revealed that when two firms list prices, consumers save 1% by purchasing at the lowest price rather than at the average price. These savings jump to 20% when more than 30 firms list prices. The study also revealed that the potential savings accrue only to consumers on the "right" side of the digital divide. Hensley & Sulek (2007) examined the importance of customer perceptions of waits in a multi-stage service. The stages included the wait at the point of service-entry, the wait during the service stage in which the core service was experienced and the wait at the service-exit stage as the customer was preparing to leave. Researchers used four measures of customers' perceptions of service quality. These included overall customer satisfaction, willingness to recommend the service to friends, willingness to bring friends to the service and repatronage intentions. Results of the study showed that the only wait satisfaction that consistently affected customer perceptions of service quality involved the service-entry wait. Trasorras et al. (2009) assessed customers' perceived value of professional services and analyzed its influence on satisfaction, loyalty and

retention. Findings of the study revealed that there exist a significant relationship between service and customer retention, quality and customer retention, image and customer retention, price and customer retention, and value and customer retention. Also, a significant relationship was observed between value and satisfaction on customer retention; between value and loyalty's effect on customer retention; and among value, satisfaction and loyalty on customer retention. The study suggested that service, quality, image and price are each directly related to customer retention and therefore should be used as an important strategy to retain customers. Manzano et al. (2009) identified & analysed the determinants of internet banking use, with special focus on the role of product involvement, perceived risk and trust. Findings of the study revealed that ease of use and perceived risks (security, privacy, performance and social) have a direct influence on e-banking adoption. Trust appeared as a key variable that reduces perceived risk. Involvement played an important role in increasing perceived ease of use. Research suggested that web contents and design are key tools to increase internet banking services adoption. The study also provided recommendations to increase web usefulness and trust, by a) practicing sincerity and transparency in terms of being able to fulfill the commitments and promises made; b) by improving bank's communication policy; c) by investing to improve the performance of the tasks and ensure that consumers perceive greater competence and skill in the organisation & d) by focusing on the web information content. Malhotra & Singh (2010) attempted to present the present status of Internet banking in India and the extent of Internet banking services offered by Internet banks. They conducted a survey on a sample of 82 banks. Researcher applied multiple regression technique to explore the determinants of the extent of Internet banking services. The results showed that the private and foreign Internet banks have performed well in offering a wider range and more advanced services of Internet banking in comparison with public sector banks. Among the determinants affecting the extent

of Internet banking services, size of the bank, experience of the bank in offering Internet banking, financing pattern and ownership of the bank are found to be significant. Vijaya (2011) discuss about one of the security threats i.e. online identity theft. The study reveals that there has been an increase in identity theft in the last few years which could pose a serious problem in the future, resulting in loss of trust by the customer towards net banking. Most of the Indian banks are taking initiatives to address the problem but still more work is to be done in the case of small and rural banks. Efforts have been made by the researcher to come out with the security measures that can be adopted by different firms in enhancing security and protect the identity of their online customers. Yousafzai & Mirella (2012) indicated the importance of customer-specific factors in predicting actual behaviour. They opined that Technology readiness, age and gender moderate the beliefs-intention relationship. They found that Customers with varying levels of technology-related views and demographics hold different beliefs about technology.

The present research undertakes a study of association of four factors that have been found very important in doing business online i.e. Perceived Security, Usefulness, Trust & Customer Satisfaction.

### *Perceived Security*

Consumers perceive a greater uncertainty when a transaction is carried out using the Internet and are very concerned about security in the online context. Using online applications under security threats is associated with risk. Consumers associate security risk with loss of money in cash or through credit cards. Previous research in countries with different levels of e-commerce adoption shows that perceived security risk is an important predictor of Internet banking adoption.

### *Trust*

Trust is central to the development of successful service relationships in business-to-business markets and for the achievement of customer

loyalty. In a business-to-customer environment, trust between parties is established very differently from business-to-business environments. Trust is faith of the Customer on the seller.

### *Perceived Usefulness*

Davis (1989) defined "perceived usefulness" as "the degree to which a person believes that using a particular system would enhance his or her job performance", and perceived "ease of use" as "the degree to which a person believes that using a particular system would be free of effort". Moreover, "attitude" can be understood in terms of an individual's feelings or emotions about using the technology, whereas "intention to use" was understood in terms of the likelihood that an individual would use the technology in the future.

### *Customer Satisfaction*

In the era of electronic commerce customer satisfaction is taking a mammoth shape. Expectations of online customers are much higher than that of brick-and-mortar customers. More the expectations, more difficult it becomes to meet the expectations and hence reduced customer satisfaction. One way of achieving customer satisfaction is presented through understanding customer value, as evident from the vast literature that perceived value is considered as an important contributor to customer satisfaction.

## **RESEARCH METHODOLOGY**

### *Research Objectives of the Study*

The study has been undertaken keeping in mind the following objectives.

1. To find out the relationship between Perceived Security, Usefulness, Trust & Customer Satisfaction of the customer using internet banking.
2. To find out how Perceived Security, Usefulness & Trust influence Customer Satisfaction.

### *Scope of the study*

The study focuses customers who use internet for banking purposes. Respondents were chosen from different geographic regions of Punjab to get better representation of total population of customers who use internet banking in Punjab.

### *Data collection*

For the purpose of the present study primary as well as secondary data were collected. Secondary data was used to review the present scenario in the internet banking. Primary data were collected by administering a questionnaire to 200 customers using internet banking out of which 172 filled in questionnaires were received back and thus analyzed.

### *Statistical method*

In the present study multiple regression analysis has been conducted and a path analysis is developed thereon.

### *Research Hypotheses*

- H1: Perceived security is positively associated with usefulness
- H2: Perceived security & usefulness are positively associated with trust
- H3: Perceived security, usefulness & Trust are positively associated with Customer satisfaction

## **DATA ANALYSIS AND FINDINGS**

The data collected were analyzed with the help of multiple regression analysis and developing a Path analysis thereon. The results are presented in following tables of regression coefficients.

### *Respondents' Profile*

Attempt was made to gather data from different sets of customers using internet banking to get a better representation of the total universe. Respondents profile is presented in table 1.

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Table 1 : Respondents' Profile

	Frequency	Percentage
<b>Age</b>		
Less than 30 yrs	47	27
31-40 yrs	60	35
41-50 yrs	37	22
51-60 yrs	23	13
61 yrs and above	5	3
<b>Total</b>	<b>172</b>	<b>100</b>
<b>Gender</b>		
Male	98	57
Female	74	43
<b>Total</b>	<b>172</b>	<b>100</b>
<b>Monthly Family Income</b>		
Upto Rs. 20,000	20	12
Rs. 20001-40000	60	35
Rs. 40001-60000	44	26
Rs. 60001-80000	16	9
Rs. 80001-100000	21	12
Above Rs. 100000	11	6
<b>Total</b>	<b>172</b>	<b>100</b>

### Hypotheses Testing

#### H1: Perceived security is positively associated with usefulness

Table 2 presents the regression coefficients. In the following table, Usefulness has been taken as dependent variable and Perceived Security is taken as independent variable. It was observed that perceived security has a positive & significant influence on usefulness. Hence H1 is accepted.

#### H2: Perceived security & usefulness are positively associated with trust

Table 3 presents the regression coefficients. In the following table, Trust has been taken as dependent variable and Perceived Security & Usefulness are taken as independent variable. It was observed that both the factors have a positive & significant influence on customers' trust. Hence H2 is accepted.

#### H3: Perceived security, usefulness & Trust are positively associated with Customer satisfaction

Table 5 presents the regression coefficients. In the following table Customer Satisfaction has been taken as dependent variable and Perceived Security, Usefulness & Trust are taken as independent variable. It was observed that all the factors have a positive & significant influence on customer satisfaction. Hence H3 is accepted.

Table 5 presents the multiple regression values. As already mentioned, that all these variables are inter-related they were considered as dependent as well as independent variables one by one. The table clearly shows high value. Figure 1 also depicts these values as relationship of all the four variables with the help of path analysis.

## CONCLUSION

The results show that Perceived Security, Usefulness & Trust have positive and significance influence on Customer Satisfaction of customers in internet banking. Moreover, a channel has been formulated in the study through a path analysis, which depicted how different variables influence each other and finally leading to customer satisfaction. Thus, bankers must look into this matter how they can build up more trust, increase usefulness and ultimately lead to customers' satisfaction. Perceptions of security directly affect trust and usefulness and affects customer satisfaction indirectly. It is therefore a major contributor to the acceptance of internet banking in Punjab.

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Table 2 : Coefficients of Regression on Usefulness

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	1.766	0.266		6.629
Perceived Security	0.492	0.074	0.427	6.621

Dependent Variable: Usefulness

Table 3: Coefficients of Regression on Trust

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	0.845	0.243		3.477
Perceived Security	0.490	0.068	0.444	7.245
Usefulness	0.284	0.059	0.297	4.837

Dependent Variable: Trust

Table 4: Coefficients of Regression on Customer Satisfaction

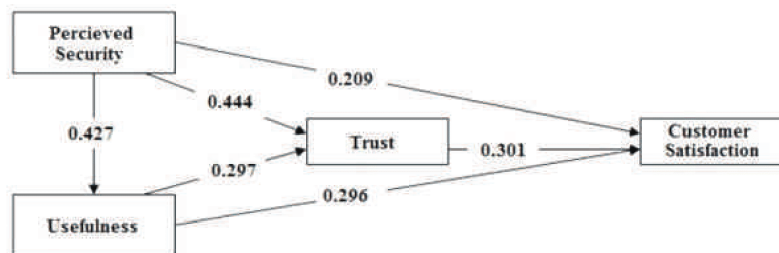
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	0.771	0.236		3.270
Perceived Security	0.223	0.072	0.209	3.112
Usefulness	0.275	0.059	0.296	4.693
Trust	0.292	0.067	0.301	4.333

Dependent Variable: Customer Satisfaction

Table 5: Regression Values

Dependent Variable	Independent Variable(s)	Beta*
Customer Satisfaction	Perceived Security	0.209
	Usefulness	0.296
	Trust	0.301
Trust	Perceived Security	0.444
	Usefulness	0.297
Usefulness	Perceived Security	0.427

\*All the values of beta are significant at 0.05



## BIBLIOGRAPHY

Akamavi, R. K. (2005), "Re-engineering service quality process mapping: e-banking process", *International Journal of Bank Marketing*, 23(1), 28-53.

Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411-423.

Anderson, J. C., & Narus, J. A. (1990). A Model of Distributor Firm and Manufacturer Firm Working Partnerships. *Journal of Marketing*, 54(1), 42-58.

Bauer, H.H., Hammerschmidt, M., Falk, T. (2005), "Measuring the quality of e-banking portals", *International Journal of Bank Marketing*, 23(2), 153-175.

Baye, M. R., Morgan, J., Scholten, P. (2003), "The Value of Information in an Online Consumer Electronics Market", *Journal of Public Policy & Marketing*, 22(1), 17-25

Baye, M. R., Morgan, J., Scholten, P. (2003), "The Value of Information in an Online Consumer Electronics Market", *Journal of Public Policy & Marketing*, 22(1), 17-25.

Bolton, R. N. (1998), "A Dynamic Model of the Duration of the Customer's Relationship with a Continuous Service Provider: The Role of Satisfaction", *Marketing Science*, 17(1), 45-65.

Broderick, A. J.; Vachirapornpuk, S. (2002), "Service quality in Internet banking: the importance of customer role", *Marketing Intelligence & Planning*, 20(6), 327-335.

Carlton D. W.; Chevalier, J. A. (2001) "Free riding and sales strategies for the Internet", *The journal of industrial economics*, XLIX(4).

Carlton D. W.; Chevalier, J. A. (2001) "Free riding and sales strategies for the Internet", *The journal of industrial economics*, XLIX(4).

Caruana, A. (2002), Service loyalty: The effects of service quality and the mediating role of customer satisfaction", *European Journal of Marketing*, 36(7/8), 811-828.

Caruana, A., (2002), "Service loyalty: The effects of service quality and the mediating role of customer satisfaction", *European Journal of Marketing*, 36(7/8), 811-828.

Chakraborty, G.; Srivastava, P.; Marshall, F. (2007), "Are drivers of customer satisfaction different for buyers/users from different functional areas?", *Journal of Business & Industrial Marketing*, 22(1), 20-28

Chakraborty, G.; Srivastava, P.; Marshall, F. (2007), "Are drivers of customer satisfaction different for buyers/users from different functional areas?", *Journal of Business & Industrial Marketing*, 22(1), 20-28

Chakraborty, G.; Srivastava, P.; Marshall, F. (2007), "Are drivers of customer satisfaction different for buyers/users from different functional areas?", *Journal of Business & Industrial Marketing*, 22(1), 20-28.

Das, N; Samanta, N. (2005), "Evaluation of Customer Satisfaction Level of Different Projects", *Quality Assurance*, 11(2), 75-84.

Das, N; Samanta, N. (2005), "Evaluation of Customer Satisfaction Level of Different Projects", *Quality Assurance*, 11(2), 75-84.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technologies. *MIS Quarterly*, 13(3), 319-340.

Domegan, C. T. (June, 1996), "The adoption of information technology in customer service", *European Journal of Marketing*, 30(6), 52.

Doney, P. M., Barry, J. M., & Abratt, R. (2007). Trust determinants and outcomes in global B2B services. *European Journal of Marketing*, 41(9/10), 1096-1116.

Goolsbee, A. (2001), "Competition in the Computer Industry: Online Versus Retail", *The Journal Of Industrial Economics*, XLIX(4).

Gronroos, C., Heinonen, F., Isoniemi, K., Lindholm, M. (2000), "The NetOffer model: a case example from the virtual marketplace", *Management Decision*, 38(4), 243-252.

[http://www.media.wiley.com / product\\_data / excerpt / 18 / 04714595 / 0471459518.pdf](http://www.media.wiley.com / product_data / excerpt / 18 / 04714595 / 0471459518.pdf)

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[http://www.media.wiley.com / product\\_data / excerpt / 18 / 04714595 / 0471459518.pdf](http://www.media.wiley.com / product_data / excerpt / 18 / 04714595 / 0471459518.pdf)

Johnson, M. E., Whang, S. (2002), "E-business supply chain management: an overview and framework", *Production and Operations Management*, 11(4), 413-23.

Johnson, M. E., Whang, S. (2002), "E-business supply chain management: an overview and framework", *Production and Operations Management*, 11(4), 413-23.

Johnson, M.E., Whang, S. (2002), "E-business supply chain management: an overview and framework", *Production and Operations Management*, 11(4), 413-23.

Kippenberger, T; Gould, B. (1998) "The essence of excellent service", *The Antidote*, 3(5).

Malhotra, P.; Singh, B. (2010) "An analysis of Internet banking offerings and its determinants in India", *Internet Research*, Vol. 20 Iss: 1, pp.87 106

Manzano, J. A.; Navarré, C. L.; Mafé, C. R.; Blas, S. S. (2009), "Key Drivers of Internet Banking Services Use", *Online Information Review*, 33(4), 672-695

Morton, F. C.; Zettelmeyer, F.; Silvarisso, J. (2001), "Internet Car Retailing", *The Journal Of Industrial Economics*, XLIX(4).

Rao, S., Goldsby, T. J., & Iyengar, D. (2009). The marketing and logistics efficacy of online sales channels. *International Journal of Physical Distribution & Logistics Management*, 39(2), 106-130.

Rhonda L. Hensley; Joanne Sulek (2007), "Customer satisfaction with waits in multi-stage services", *Managing Service Quality*, 17(2), 152-173

Rhonda L. Hensley; Joanne Sulek (2007), "Customer satisfaction with waits in multi-stage services", *Managing Service Quality*, 17(2), 152-173

Roberts, J. W.; Oueslati-Boulahia, S. (2000) "Quality of Service by

Flow-Aware Networking", *Philosophical Transactions: Mathematical, Physical and Engineering Sciences*, 358(1773), 2197-2207

Roberts, J. W.; Oueslati-Boulahia, S. (2000) "Quality of Service by Flow-Aware Networking", *Philosophical Transactions: Mathematical, Physical and Engineering Sciences*, 358(1773), 2197-2207.

Rust, R., Lemon, K.N. (2001), "E-service and the consumer", *International Journal of Electronic Commerce*, 5(3), 83-99.

Santos, J. (2003), "E-service quality a model of virtual service dimensions", *Managing Service Quality*, 13(3), 233-247.

Sivadas, E.; Prewitt, J. B. (2000) "An examination of the relationship between service quality, customer satisfaction, and store loyalty", *International Journal of Retail & Distribution Management*, 28(2), 73-82.

Smith, A. K.; Bolton, R. N.; Wagner, J. (1999), "A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery", *Journal of Marketing Research*, 36 (3), 356-372

Smith, A. K.; Bolton, R. N.; Wagner, J. (1999), "A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery", *Journal of Marketing Research*, 36 (3), 356-372.

Storbacka, K; Strandvik, T; Grönroos, T (1994), "Managing Customer Relationships for Profit: The Dynamics of Relationship Quality", *International Journal of Service Industry Management*, 5(5), 21-38.

Taylor, S.; Baker, T. (1994), An Assessment of the relationship between service quality and customer satisfaction in the formation of consumer's purchase intentions", *Journal of Retailing*, 70(2), 163-178

Trasorras, R.; Weinstein, A.; Abratt, R. (2009), "Value, Satisfaction, Loyalty and Retention in Professional Services", *Marketing Intelligence & Planning*, 27(5), 615-632

Vijaya, G., (2011) "Online identity theft an Indian perspective", *Journal of Financial Crime*, Vol. 18 Iss: 3, pp.235 246

Woodruff, R. B. (1997), "Customer value: the next source for competitive advantage", *Journal of Academy of Marketing Science*, 25(2), 139-53.

Woodruff, R. B. (1997), "Customer value: the next source for competitive advantage", *Journal of Academy of Marketing Science*, 25(2), 139-53.

Woodruff, R. B. (1997), "Customer value: the next source for competitive advantage", *Journal of Academy of Marketing Science*, 25(2), 139-53.

Woodruff, R. B. (1997), "Customer value: the next source for competitive advantage", *Journal of Academy of Marketing Science*, 25(2), 139-53.

Yagil, D. (2006), "The relationship of service provider power motivation, empowerment and burnout to customer satisfaction", *International Journal of Service Industry Management*. 17(3), 258-270.

Yeung, M. C. H.; and Ennew, C. T. (2000) "From customer satisfaction to profitability", *Journal of Strategic Marketing*. 8(4), 313-326.

Yousafzai, S.; Yani-de-Soriano, M. (2012) "Understanding customer-specific factors underpinning internet banking adoption", *International Journal of Bank Marketing*, Vol. 30 Iss: 1, pp.60-81

Zeithaml, V.A. (2000), "Service quality, profitability and the economic worth of customers: what we know and what we need to learn", *Journal of the Academy of Marketing Science*, 28(1), 67-85.

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## BIOGRAPHIES

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