

FACTORS UNDERLYING FORMATION OF CONSUMER TRUST AND ITS IMPACT ON INTENTION TO ADOPT ONLINE BANKING

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***Abstract:** Despite the enormous measures taken to create awareness among the customers regarding online banking, still majority are reluctant to adopt online banking. Profound researchers have affirmed lack of trust as a major impediment for adopting online banking. To overcome this barrier, it is vital to understand how to build customer trust on online banking. This paper substantiates that variables like bank's reputation, security and privacy policies of the bank, recommendation and testimonies, product information, website user interface design, and reliability formulates consumer trust which in turn influences acceptance of online banking. The findings of the study would be functional for e-banking vendors to devise strategies to increase outreach of online banking.*

***Key Words:** Trust, Internet Banking, Bank's Reputation, Behavioral Intention To Adopt Online Banking*

1. INTRODUCTION

Internet banking is an undeniably convenient as well as an economical way of performing bank transactions. In spite of that, many bank customers are reluctant to use this service. Primary reason for non adoption is due to security concerns and perceived risk involved in virtual transactions. But "trust" is the force which facilitates them to transact bank activities online. This study is to examine the role of trust on behavioral intention to use online banking and also identify determinants for formation of consumer trust on internet banking. The outcome of the study would be useful for online banking services providers to understand their customers and to encourage them for banking online. Undoubtedly banks want their customer to make use of this facility as it an economical way of doing banking transactions and they save considerably by using this technology.

A pervasive review of existing literature indicates that there is a positive relationship between trust and behavioral intention to use online banking and

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determinants like bank's reputation, security and privacy policies of the bank, recommendation and testimonies, product information, website user interface design, and reliability strongly influence in building consumer trust on online banking. According to the conceptual model of research illustrated in Figure 1, the above mentioned variables strongly influence building consumer trust which in turn is a major incitement to use online banking.

2. LITERATURE REVIEW

Rousseau *et al.* (1998) defines trust as 'a psychological state comprising the intention to accept vulnerability based upon positive expectations or behaviour of another under conditions of risk and interdependence. Mayer *et al.* (1995) defines trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party"

Kim *et al.* (2004) identified lack of trust as a predominant factor, while studying the impediments in adoption of online banking. A comparative study made among users and potential users aid to identify the primary aspects determining trust which includes vendor's reputation, security policies, web designs. Goudarzi *et al.* (2013) in his extant research on impact of trust on internet banking adoption, have identified different factors building trust by an extensive review of past studies, which includes third party seals, privacy and security, reputation, brand name, quality, usability, reliability and availability. The study further revealed that the trust which is built based on the above mentioned variables has positive effect on adoption of online banking. Huang and Liu (2010) proposed a model which consists of the website quality, the structure assurance, the web vendor reputation and capability, and product

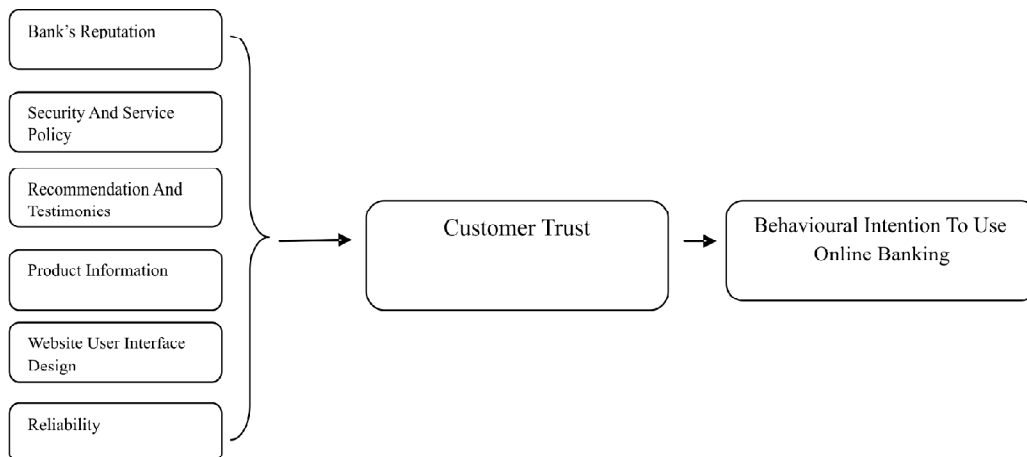


Figure 1: Research Model

information to test which factors have an effect on consumers' trust and on their subsequent intention to purchase online. Fock and Koh (2006) establishes a conceptual model that links trust, commitment and willingness to bank online. Based on the past studies, reputation, security and privacy, recommendations and testimonies, product information, website quality and design and reliability are considered as predominant variables to determine trust on online banking among customers.

2.1. Reputation

Reputation's role is to facilitate building trust. Malaga (2001) defines reputation as an overall quality or character as seen or judged by people in general. Mukherjee and Nath (2003) in his study on online relationship banking identify reputation of the bank as a very important factor of trustworthiness. Customers consider bank's reputation before processing any vital information on an online banking website. Folake N. P. (2014) in his study conducted among bank customers in Nigeria revealed good reputation and integrity of the banker has a significant impact on trust on internet banking, In addition he attributes lack of trust as a major reason for reluctance to adopt internet banking in developing countries.

2.2. Security and privacy

Lee and Turban (2001) in their study in e commerce suggested security and privacy as the key drivers to build consumer trust on e services. Lim (2003) states the security or perception of security instigates trust or vice versa. It is further stated that security acts as a mediating factor between trust and willingness in a consumer to adopt a behavior. Flavian and Guinalu (2006) in their empirical study conducted on web site loyalty revealed that trust of a consumer is influenced by the way that the data has been handled. More secured their data is, more they tend to build trust on the system. Singh (2006) states that without perception of security, the trust in banking and online transaction on internet will be low, which will in turn impede the use of internet banking among banking customers. Yousafzai *et al.* (2009) studied the multidimensional role of on trust on online banking identified security and privacy as the direct antecedents to build trust.

2.3. Recommendations and Testimonies

Trust technically we say is determined by privacy, security and reliability, but understanding of technical nuances is not enough to study trust, it also requires an understanding of human subtleties. Camp (2003) in his study enforces the importance of human nuances by way of third party seals and testimonies. Testimonies consist of a person's written or spoken statement acclaiming the advantages of a product. Customer testimonies about online banking bring forward bank's concern for its customer and its ability to transact business effectively. They also convey successful

experience of the customer and benefits derived by them while shopping online. Yousafzi *et al.* (2007) suggest that in context to e banking, where clients are not yet fully aware of system, presence of customer testimonials on the bank's web site will lead customers to develop trusting beliefs about the bank. Jones and Leonard (2008) in their study in context to e commerce acknowledged third party recognition would affect an individual's trust.

2.4. Website quality and design

Physically attractive sources are perceived to be credible sources (Etcoff, 1999). When viewed this in terms of trust, anything which is physically attractive is also accepted as credible and trust worthy as per human psychology. This bias of human brain certainly holds good, when it comes to intention to buy or use a certain product or service. When a customer visits a physical branch of a bank that has a pleasant and serene atmosphere, they perceive the bank to offer quality and superior services. Similarly in context to online banking, the bank's web site is the meeting place between the customer and the bank. If the bank's web-site layout, quality and design are impressive, they tend to bias that banking websites to be credible and trustworthy. Fung and Lee (1999) commend that the web site's information quality and good interface design plays a predominant role in building customer trust. Yousafzi *et al.* (2007) suggests that developing high-quality, professionally designed web sites will lead customers to build trusting beliefs about the bank.

2.5. Product information

Kassim and Abdulla (2006) in their paper investigated the trust –relationship commitment model included trust and attraction as drivers of consumer commitment. He identifies shared value, communication provided by the banks and opportunistic behavior as antecedents for developing customer trust which in turn builds commitment in internet banking. They identified openness, speed of response and quality of information as effective measures to study the impact of communication on trust. Moorman *et al.* (1993) states timely communication fosters trust by assisting in transacting online and solving ambiguities while performing transactions online.

2.6. Reliability

Reliability is defined as the ability to conduct promised service in an accurate manner and in a trustworthy way. Nasser *et al.* (2013) investigates the positive direct impact of perceived service quality upon customer trust and states reliability, which is taken as an important construct to measure service quality is found to be influential to build consumer trust. Madsen & Gregor (2000) found reliability to be a component of affect-based trust.

The above discussed variables determine consumer trust which in turn leads to creating the behavioural intention to use online banking. Various studies have discussed the importance of trust to develop intention to use online banking.

3. RESEARCH METHODOLOGY

3.1. Survey Design

The survey questionnaire was designed. 7-point Likert's scale was used to measure the variables. Respondents indicate their level of perception with each of the questions on a rating scale ranging from 7 (strongly agree), through 4 (neutral), to 1 (strongly disagree).

3.2. Research population and samples

The population of this survey is defined to internet users in Trichy city, which is a Tier II city in the Indian state of Tamil Nadu. The total sample number in this study was 230.

3.3. Research Model

Figure 1 shows the research model which is the theoretical framework of the study. The model defines six variables viz bank's reputation, security and privacy policies of the bank, recommendation and testimonies, product information, website user interface design, and reliability significantly influences consumer trust which in turn positively impacts acceptance of online banking.

3.4. Hypotheses

Hypotheses try to identify the influential factors in increasing consumer trust in online banking. For analysis purposes the following Null Hypotheses were framed to find the inferences:

1. H(o) There is no significant relationship between bank's reputation and customer's trust on online banking .
2. H(o) There is no significant relationship between security and service policy of the bank and customer's trust on online banking
3. H(o) There is no significant relationship between recommendation and testimonies and customer's trust on online banking.
4. H(o) There is no significant relationship between availability of product information and customer's trust on online banking
5. H(o) There is no significant relationship between website user interface design and customer's trust on online banking

6. H(o)There is no significant relationship between reliability and customer's trust on online banking.
7. H(o)There is no significant relationship between customer's trust on online banking and behavioural intention to use online banking.

4. DATA ANALYSIS AND INTERPRETATION

Data analysis was performed in descriptive and inferential level. At descriptive statistics level, central and dispersion indexes were determined for describing the data collected. Descriptive statistics however, does not help us to derive conclusions hence we have to perform inferential statistics to reach conclusions regarding any hypotheses framed. At inferential statistics level, Kolmogorov– Smirnov test, Spearman's correlation test, Regression analysis has been performed to test the hypotheses.

4.1. Descriptive Statistics

Table 4.1 analyses the data at descriptive level. Mean and standard deviation has been provided in the table. From the mean values we infer, bank's reputation, reliability and security and privacy policies of the bank are significantly influences formation of consumer trust.

4.2. Inferential statistics analysis

4.2.1. Kolmogorov-Smirnov test

The assumption of normality is particularly common in many classical statistical tests. In order to ascertain whether the data was normally distributed Kolmogorov-Smirnov test was done and the results were given in Table 4.2.1 The null hypothesis formulated is the observed distribution fits the normal distribution. P value is more than 0.05 hence null hypotheses is accepted. The data available with us is normally distributed and fit for further analysis.

4.2.2. Spearman correlation tests

4.2.2(i) Results of the spearman correlation tests between determinants of trust and consumer trust

The hypotheses of the study propose that there is significant relationship between determinants of trust and customer's trust on online banking. In order to evaluate these hypotheses, Spearman correlation tests has been done and results are presented in Table 4.2.2(i). From the above results presented, we infer spearman's correlation coefficients is 0.632 and the level of significance is less than .05 at 95% confidence level, therefore we conclude null hypothesis is rejected. There is statistically significant positive relationship between bank's reputation and consumer trust. If the bank reputation increases consumer trust on online banking also increases and vice versa.

Table 4.1
Mean and standard deviation

| | <i>Mean</i> | <i>Standard Deviation</i> |
|--------------------------------|-------------|---------------------------|
| Trust in online banking | 5.83 | 1.31 |
| Bank's Reputation | 6.11 | 1.03 |
| Security Policy of the Bank | 5.43 | 1.08 |
| Recommendation and Testimonies | 4.63 | 1.28 |
| Product Information | 4.21 | 1.25 |
| Website User Interface Design | 4.55 | 1.12 |
| Reliability | 5.27 | 1.06 |

Table 4.2.1
The summary of kolmogorov-smirnov test

| <i>Kolmogorov – Smirnov</i> | <i>P-value</i> <i>Asymp. Sig. (2-tailed)</i> | <i>N</i> |
|-----------------------------|---|----------|
| 0.736 | .652 | 230 |

Table 4.2.2(i)
Results of the spearman correlation tests between determinants of trust and consumer trust

| <i>DETERMINANTS OF TRUST</i> | <i>CONSUMER TRUST</i> | | |
|---|---|------------------------|---------------------|
| | <i>Spearman's correlation coefficient</i> | <i>Sig. (2-tailed)</i> | <i>Significance</i> |
| Bank's Reputation | .632 | .001 | Significant |
| Security and service policies of the bank | .571 | .001 | Significant |
| Recommendation And Testimonies | .489 | .002 | Significant |
| Product Information | .489 | .002 | Significant |
| Website User Interface design | .313 | .003 | Significant |
| Reliability | .513 | .002 | Significant |

There is statistically significant positive relationship between security and service policies of the bank and consumer trust. Spearman's correlation coefficients is 0.632 and the level of significance is less than .05 at 95% confidence level, therefore we conclude null hypothesis is rejected. If the security and service policies are enhanced consumer trust on online banking increases and vice versa.

There is statistically significant positive relationship between recommendation and testimonies and consumer trust. Spearman's correlation coefficients is 0.489 and the level of significance is less than .05 at 95% confidence level, therefore we conclude null hypothesis is rejected. Trust increases based on the recommendation and testimonies of other users and endorsements. Subjective norms are indeed an important determinant to build trust upon a new technology and for its adoption.

There is statistically significant positive relationship between availability of product information and consumer trust. Spearman's correlation coefficients is 0.489 and the level of significance is less than .05 at 95% confidence level, therefore we conclude null hypothesis is rejected. Awareness about a product and its usage increases, trust also increases.

There is statistically significant positive relationship between Website User Interface design and consumer trust Spearman's correlation coefficients is 0.313 and the level of significance is less than .05 at 95% confidence level, therefore we conclude null hypothesis is rejected. The properly designed website, Clearly indicated icons and easy navigation and assistance helps to build up user friendly website. An unhandy website could make customer insecure and in turn adversely affect trust.

4.2.2(ii) Results of the spearman correlation tests between consumer trust and behavioral intention to use online banking

From the results presented in table 4.2.2(ii) we infer spearman's correlation coefficients is 0.742 and the level of significance is less than .05 at 95% confidence level, therefore we conclude null hypothesis is rejected .There is statistically significant positive relationship between customer's trust on online banking and its behavioral intention to use online Banking.

Table 4.2.2(ii)
Results of the spearman correlation tests between consumer trust and behavioral intention to use online banking

| | <i>Consumer Trust Spearman's correlation coefficient</i> | <i>Sig.(2-tailed)</i> | <i>N</i> |
|--|--|-----------------------|----------|
| Behavioral intention to use online Banking | .742 | .000 | 230 |

4.2.3. Multiple Regression analysis

4.2.3 (i) Multiple Regression analysis of independent variables on consumer trust

Table 4.2.3 measures the amount of total variation in dependent variable due to the independent variable. The *R* value in the table 4.2.3(i) represents the simple correlation and is 0.742 which indicates a high degree of correlation. The Adjusted R^2 value (.522) value indicates that there is almost 55% variation in dependent variable (consumer trust) due to a one unit change in independent variables. *F* value is 34.150 at 0.000 significant levels which show that the model is good. All the six variables taken for the study viz bank's reputation, security policy of the bank, recommendation and testimonies, product information, website user interface design and reliability are having a significant influence on consumer trust.

Table 4.2.3
Multiple Regression analysis of independent variables on consumer trust

| <i>Variables</i> | <i>Std Error</i> | <i>Beta</i> | <i>t</i> | <i>P value</i> |
|--------------------------------|------------------|-------------|----------|----------------|
| Bank's Reputation | .047 | 0.212 | 18.702 | .000* |
| Security Policy of The Bank | .037 | 0.187 | 13.86 | .000* |
| Recommendation and Testimonies | .049 | 0.063 | 3.241 | .013* |
| Product Information | .051 | 0.052 | 4.12 | .008* |
| Website User Interface Design | .021 | 0.073 | .983 | .003* |
| Reliability | .03 | 0.164 | 9.232 | .000* |

*N=230, Adjusted R Square = 0.55 overall model significance = 0.05 level

Table 4.2.3(i)
Model Summary

| <i>Model</i> | <i>R</i> | <i>R Square</i> | <i>Adjusted R Square</i> | <i>Std. Error</i> |
|--------------|----------|-----------------|--------------------------|-------------------|
| 1 | .742 | .550 | .522 | 236.66 |

Table 4.2.3(ii)
Linear regression model of trust and behavioral intention to use online banking

| <i>Response variable</i> | <i>Influential variable</i> | <i>Un standardized Coefficients</i> | <i>Standardized Coefficients</i> | <i>t</i> | <i>Sig.</i> |
|--------------------------|--|-------------------------------------|----------------------------------|----------|-------------|
| Consumer Trust | Behavioral Intention to Use Online Banking | .554 | .742 | 4.236 | .000 |

Higher beta values in the Table 4.2.3(i) signifies that bank's reputation, security policy of the bank and reliability have a positive as well as strong impact on consumer trust where as recommendation and testimonies, product information and website user interface design are having significant but weak impact on consumer trust.

4.2.3 (ii) Regression model of trust and behavioral intention to use online banking

From the above Co efficient presented in table 4.2.3(ii) the final regression equation can be expressed as follows

$$Y=C +.742X$$

Where Y represents behavioral intention to use online banking and X represents consumer trust. The positive sign in front of the X term indicates that there is a positive-linear relationship between consumer trust and behavioral intention to use online banking. It implies that one unit increase in trust would lead to 0.742 unit increase in behavioral intention to adopt online banking.

5. CONCLUSION

In an era of cut throat competition faced by the banks, sustainability of banks depends upon how effectively there are able to utilize technology and persuade their customers

to adopt it. Banks wish to increase the customers' willingness to adopt online banking and it is pivotal that the consumer has to trust the medium in order to adopt it. Online banking usage could be increased by building trust on security systems of the banks. Non users of online banking could be shifted from traditional banking system to online banking system provided trust is built among them. The results of the study concludes that all the variables taken in the study are significantly correlated with consumer trust in online banking. The statistical results also supports the conclusion. Bank's reputation, security policies and reliability, are identified as the most significant factors in predicting the trust of the customers to perform online banking. Website design information about the product and recommendations provided by the existing users, testimony and celebrity endorsements are also considered influential to build consumer trust. Consumer trust will in turn, increase the behavior to adopt online banking.

The customers should feel secured while performing transactions online. Banks should not only adopt state of the art technology to avoid phishing or any other kind of such hacking attacks but also keep the customers informed about same. It's the banker's responsibility to convince the users that bank has the secured system to transact their money online. Transparency in banking practices helps to build trust among customers. Advertisements, third party endorsements, excellent customer service helps to build banker's reputation which in turns builds trust in the system. To conclude, research helps to accelerate the adoption of online banking by building the major predominant factor in adoption namely Trust and suggest measures to improve trust among banking customers.

References

- Camp, L. J. (2003), "Designing for trust. Trust, Reputation, and Security: Theories and Practice". Springer-Verlang (Berlin).
- Etoff, N. (1999), *Survival of the prettiest: The science of beauty*. New York: Doubleday.
- Flavia'n C. and Guinalý'u M. (2006), Consumer trust, perceived security and privacy policy Three basic elements of loyalty to a web site *Industrial Management & Data Systems*, Vol. 106, No. 5, 2006, pp. 601-620.
- Fock S. T., Koh H. C., "Conceptualization of Trust and Commitment and Understanding the Relationships Between Trust, Commitment and Willingness to Try Internet Banking Services", *International Journal of Business and Information*, Volume 1, Number 2, 194-208.
- Folake N. P. (2014), "The Impact of Trust Antecedents in Acceptance of Internet Banking in Nigeria" *International Journal of Economic and Business Management*, Vol. 2(2), pp. 19-24.
- Fung, R., & Lee, M. (1999), EC-trust (trust in electronic commerce): Exploring the antecedent factors. In W. D. Haseman & D. L. Nazareth (Eds.), *Proceedings of the Fifth Americas Conference on Information Systems*, Milwaukee, WI pp. 517-519.
- Goudarzi, S, Ahamed N., Soleymani S. A., Hosseini M. N. (2013), "Impact of Trust on Internet Banking Adoption: A Literature Review" *Australian Journal of Basic and Applied Sciences*, 7(7): 334-347.

- Huang, E. and Liu, C. C. (2010), "A study on trust building and its derived value in C2C-commerce", *Journal of Global Business Management*, Vol. 6 No. 1, pp. 186-95.
- Ja-Chul, G., L. Sang-Chul and S. Yung-Ho, (2009), Determinants of behavioral intention to mobile banking. *Expert Syst. Appl.*, 36: 11605-11616.
- Jones, K. & L.N. Leonard, (2008), Trust in consumer-to-consumer electronic commerce. *Information & Management*, 45: 88-95.
- Kassim N., Abdulla A. K. (2006), "The influence of attraction on internet banking: an extension to the trust-relationship commitment model", *International Journal of Bank Marketing* Vol. 24 No. 6, pp. 424-442.
- Kim, Hee-Woong; Xu, Yunjie; and Koh, Joon (2004), "A Comparison of Online Trust Building Factors between Potential Customers and Repeat Customers," *Journal of the Association for Information Systems*: Vol. 5: Iss. 10, Article 13.
- Krebs, B., (2008), Digging Deeper into the Check Free attack [Electronic version]. The Washington Post, Retrieved from the washingtonpost.com web site: <http://voices.washingtonpost.com>, (Accessed on: May 17, 2012).
- Lee, M., & Turban, E. (2001), A trust model for consumer Internet shopping. *International Journal of Electronic Commerce*, 6, 75-91.
- Lim, N. (2003), Consumers' perceived risk: sources versus consequences. *Electronic Commerce Research and Applications*, 2, 216-228.
- Madsen, M. & S. Gregor, (2000), Year. Measuring human-computer trust. In: Proceedings of Eleventh Australasian Conference on Information Systems, Citeseer, 6-8.
- Malaga, R.A. (2001), "Web-based reputation management systems: problems and suggested solutions", *Electronic Commerce Research*, Vol. 1, pp. 403-17.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995), An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709-734.
- Mei-Jane Chan, Dr. Yann-Haur Huang, Factors that affect consumer trust in online shopping in Taiwan, *The Journal of International Management Studies*, Volume 4.
- Min, H., & Galle, W. P. (1999), Electronic commerce usage in business-to-business purchasing. *International Journal of Operations & Production Management*, Vol. 19 No. 9, pp. 909-21.
- Moorman, C., Deshpande, R. and Zaltman, G. (1993), "Constructs affecting trust in the market research relationships", *Journal of Marketing*, Vol. 57 No. 1, pp. 81-101.
- MS. Khan, S.S. Mahapatra and Sreekumar, Service quality evaluation in internet banking. *Int. J. Indian Culture and Business Management*, Vol. 2, No. 1, 2009.
- Mukherjee, A. and Nath, P. (2003), "A model of trust in online relationship banking", *The International Journal of Bank Marketing*, 21(1), pp. 5-15.
- Nasser, A. M., Yusoff. R. Z., Islam R., Nasser A. A. (2013), "E-Service Quality and its Effect on Consumers' Perceptions Trust" *American Journal of Economics and Business Administration* 5 (2): 47-55.
- Nor Aziati Abdul Hamid and Tun Hussein Onn Malaysia (2008), "The Relative Importance of Trust and Usable Website Design in Building E-Loyalty Intention on Internet Banking " *Communications of the IBIMA* Volume 3, pp. 101-113.

- Rousseau, D., Sitkin, S., Burt, R., Camerer, C., (1998), Not so different after all: A cross discipline view of trust. *Academy of Management Review* 23(3), 393-404.
- Singh S. (2006), "The Social Dimensions of the Security of Internet banking", *Journal of Theoretical and Applied Electronic Commerce Research*. Vol. 1(2): 72-78.
- Unithan, C. R. & Swatman, P., "Online banking Adaptation and Dot.Com Viability: A Comparison of Australian and Indian Experiences in the Banking Sector", School of Management Information Systems, Deakin University, No. 14, 2001.
- Yousafzi S., Pallister J., Foxall. G. R. (2009), "Multi-dimensional role of trust in Internet banking adoption" *The Service Industries Journal*, Vol. 29, No. 5, 591-605.
- Yousafzi S., Pallister J., Foxall. G. R. (2007), "Strategies for Building and Communicating Trust in Electronic banking: A Field Experiment" *Psychology & Marketing*, Vol. 22(2): 181-201.