

# An Empirical Study on Factors Influencing Consumers' Trust in E-Commerce

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## Abstract

In today's business scenario Internet is one of the key contributors in the globalization of markets which have become one of the main sources of capital flows to emerging economies. Internet technology has adopted for various application like E-governance, E-Procurement and E-commerce. E-Commerce has many advantages such as efficiency and flexibility but also disadvantages such as threat, security and fraud. In General Context, the consumer prefers to purchase the product through physical location rather than through E-Commerce. As the approach is based on the trust, there is a need to identify and analyze the factors such as security, privacy and familiarities that are affecting the trust in electronic transactions. Further, this paper provides an overview of role of trust in e-commerce and attempts to answer the questions such as how the trust can be established between the consumer and online vendor so they can purchase the product through E-commerce. In addition, the finding suggests that perceived security of E- transaction on trust is intervened by perceived privacy and perceived familiarities, and consumer's trust in E- transaction is considerably related with the reliability of E- vendors. Also consumer's trust is negatively related with perceived risks in E- transactions. However, there is no important impact from perceived privacy, security and familiarities to the trust in E- transactions.

**Keywords:** WWW- World Wide Web, Trust, E-Commerce,

## 1. Introduction

This study is basically on the aspect of e-commerce that utilizes the Internet and World Wide Web (WWW) as the technological infrastructure to correspond, distribute and conduct information exchange that would accordingly lead to the commercial transactions between vendors and the consumers. Further this study would likely to identify the trustworthiness of vendors to engage in e-commerce transaction and the effectiveness of security methods and applications in ensuring the familiarities, security and privacy of e-commerce transactions. The present research intends to identify the factors which are directly related to consumer's trust to adopt E-Commerce. Therefore this study is undertaken to answer the research questions ; Do consumers 'privacy ,security and familiarities concerns of e-transactions significantly relate to the their trust in e-commerce adoption ? How do the trustworthiness and reliability of the vendors relate to the consumer's adoption of e-commerce? What are the inter-relationships of security, privacy and familiarities concerns, trust beliefs and risk behavior intention to adopt e-commerce?

## 2. REVIEW OF LITERATURE

Abundance of research was done in the past on E-commerce transaction but not much of research papers appear to have done in building of trust in e-commerce transaction.

**Jarvenpaa and Todd** in 1996 did empirical study and found that consumers are still apprehensive when using the Internet for private purchases, including the risk of misuse of personal data and unsolved legal position .According to the authors; consumer-perceived risk is reduced with the increase in Institutional Trust and economic incentive. On 2011 **Whelan and Maxelon** widely publicized security lapses on the Internet, where hackers have accessed personal financial information. Internet users are constantly sending confidential information to the clients and vendors over the Internet. Security has become a main issue influencing the purchase of products on the Web (**Salisbury et.at 2001**). **According to Abdul 2001** there are two majors security threat that are transaction and storage security. A survey of companies in India interested in e-business found that 80% of the respondents believed that security was the most important barrier to e-commerce. Other surveys have also revealed that people are ready to give information on their credit cards over the Internet. There is the fear that as the information travels over cyberspace, it might be intercepted by hackers and used to perpetrate fraud. Many people feel that the Internet is not secure because it is a public network. A widely cited issue (OECD, 2000) with online systems is security. This is the principal issue concerning e-commerce for both buyers and sellers (Dave et al., 2000). The ability to shop online (anytime, anywhere), is drastically changing the

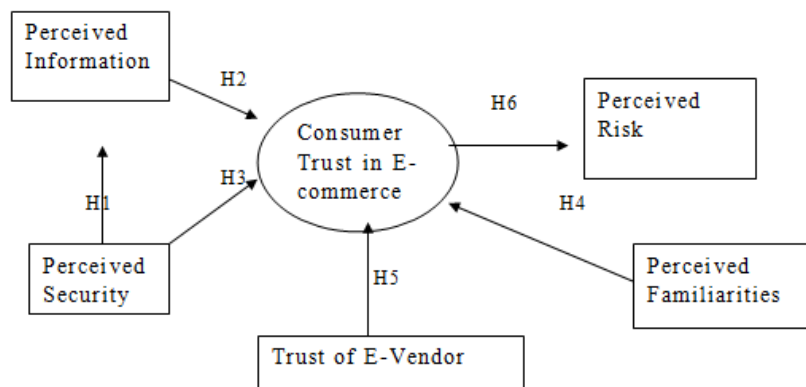
way Internet users shop and thus adding more dimensions to customer privacy (Jatinder et al., 2002). People do not like their personal information going to a third party or falling into the wrong hands for manipulation. To trust a certain merchant, Internet users require the online merchant to determine their level of information privacy. Privacy is the protection of the individual's right to non-disclosure (Schneider and Perry, 2009). Privacy also refers to controlling the distribution and use of data. This includes information that is both knowingly and unknowingly disclosed, or a by-product of the information technology itself (Cate, 2007). **Familiarities** refers to when a new product or an innovative technology is introduced in the market, Internet users learn about it, decide whether to buy it and whether to repeat purchasing it in the future. In other words, they decide whether to adopt it or not. Adoption implies that Internet users have accepted the product or technology innovation and use it regularly. Innovations are diffused in the market as individual Internet users make their decisions to adopt them at different time intervals (Adam et al., 2010). According to Turban and King (2009) e-commerce can result in a fundamental and radical change in the manner by which business is done. Therefore, resistance to trust from employers and employees, as well as vendors and Internet users, may develop.

Trust is necessary for online relationship exchanges because it involves personal and financial information, which takes place in a virtual environment characterized by uncertainty, lack of control and potential opportunism (Hoffman et al, 1999; Bhattacharjee, 2002).

### 3. Objective of the Study

#### To identify the factor that affecting trust in E-commerce transactions.

The factor considered to be persuading consumers coolness to adopt e-commerce are divided into four important categories : consumers approach towards safe E-transaction processing systems, privacy of consumers personal data, trust and dependability of E-Vendors and consumers perceived risk in E-commerce transactions. The model to be tested in shown figure 1.



On the above research model the following hypothesis are to be tested:

- H1: A consumer's perceived security of E-transaction absolutely contributes to his/her trust in E-transaction.
- H2: A consumer's perceived privacy of E-transaction completely contributes to his /her trust in E-transaction.
- H3: The influence of consumer's perceived privacy of E-transaction on trust is mediated by perceived security.
- H4: A Consumer's perceived familiarities of E-transaction is absolutely contributes to his/her trust in E-transaction.
- H5: A consumer's trust in E-transaction is positively related with trustworthiness of E-Vendor.
- H6 : A consumer's trust in E-transaction is negatively connected with perceived risk in E-transaction.

### 4. Research Methodology:

A survey prevails in the form of questionnaire was designed that consisted of three sections. Section '1' consisted of questions to collect respondents' personal information (i., gender, age and sex etc). Section '2' consisted of questions casing some of the variables related to online purchase and acceptance of electronic-commerce. Particularly, the questions were intended to collect information on frequency of internet use, frequency of online purchases, intention to continue online purchasing, etc. Section 3 consisted of questions covering some of the variables linked with the factors that affecting e-commerce security, privacy, and trust as well as risk perceptions. Questions in this section collected information related to approach towards secure online transaction processing system, privacy of personal data, trustworthiness of Web vendors, and consumers' perceived risk.

Pre and pilot study was conducted before sending the questionnaire in the mass it could be a series of informal interviews with few internet savvy people of Dehradun to ensure that they were properly operationalised. In this survey, the target group of respondents was the 65 numbers of internet savvy people. Only people (35.5% males

and 24.5% females) from Dehradun are participated in this study. The majority of the respondents (about 96.5%) are age between 20 to 30 while remaining about 1.4% is age between 31 to 42.

The results obtained were summarized using the statistical software package SPSS version 21. The entire variable in this section by using a Likert scale, and the mean and standard deviation were computed. The Likert scale used was from 1 (strongly agree) to 5 (Strongly disagree) and therefore factors with mean value below 3.1 are considered important. An analysis of frequency is also examined to make the people trust in E-commerce.

Thus, the sampling frame for the purpose of the study constitutes the following variables:

	<b>Information Security Concern</b>
1	Confidentiality in Information
2	Return Policy
3	Payment
4	Virus Protection
5	Official Body to complain
	<b>Information Privacy Concern</b>
1	Abuse of Information
2	Junk Email
3	Third Party Interruption
4	
	<b>Information Familiarities Concern</b>
1	Reputation
2	Facility
3	Behavioral Experience
4	Brand Name and Trade Mark

## 5. ANALYSIS OF DATA & DATA INTERPRETATION

### 1. Security Concern :

The respondents were asked about the importance of security factor that would likely make them trust e-commerce usage. The questions that were raised to internet savvy people to them include confidentiality, return policy, E-payment, virus communication and relevant official body.

Out of the 45 respondents in the below Table 1 shows that 63.5 percent of the respondents feel and strongly agreed in the importance of guaranteed information confidentiality for trust building in online transactions. In addition, 32.2 percent of the respondents were neutral and 3.3 percent of the respondents did not think confidentiality of information as important. As shown in the table, 15.2 percent and 50.2 percent of the respondents feel and strongly agreed that return policy affected consumer trust and performing online transactions. 3.2 percent of the respondents did not treat the factor as significant, whereas the rest of them were neutral (26.3 percent).

About 60.5 percent of the respondents strongly feel and agreed that payments made online is good. Less than 5.0 percent of the respondents disagreed with the statement while 31.2 percents were neutral. The majority of the respondents (56.6 percent) agreed that the facility for virus transmission protection while performing transaction online is very important in trust building. 35.4 percent of the respondents were neutral while 4.0 percent disagreed with the statement. The respondents were also asked about the importance of an official body to handle complaints when transactions go wrong. More than 54.0 percent agreed and strongly agreed about the statement that there is a need for a special body as reference whenever needed. 33.3 percent of the respondents were neutral and 8.5 percent disagreed with the idea.

**Table 1. Frequency element of Security Concern**

Element	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Confidentiality in Information	19.7	44.8	33.2	2.3	0.01	100.01
Return Policy	17.2	51.2	28.3	3.3	0	100
Payment	21.5	39.7	32.2	6.6	0	100
Virus Protection	23.1	35.5	36.4	5	0	100
Official Body to complain	24	35.5	31.4	10	0	100.9

The responses by the largely respondents about security as a trust factor that makes the people confident in performing e-commerce transactions are summarized in Table 1.1. At mean value of 3.01 the respondents agreed that all the security factors given were important factors which made them trust e-commerce transaction. As can be seen from the table, return policy on the websites was set up to be the most important factor in trust building. This is followed by confidentiality of personal information, the fortification of virus transmission while

performing e-commerce transactions and security for payment made online. The least priority for them is the existence of a particular body to complain if anything goes wrong.

Table 1.1- Factor Analysis- Security Concern

**ITEMS OF SECURITY- FACTOR ANALYSIS**

ITEMS	MEAN	STD DEVIATION	RANK
<b>Confidentiality of my information is guaranteed</b>	<b>2.16</b>	<b>0.76</b>	<b>2</b>
<b>Return policy is clearly stated</b>	<b>2.14</b>	<b>0.74</b>	<b>1</b>
<b>Payment can be made safely online</b>	<b>2.16</b>	<b>0.84</b>	<b>3</b>
<b>Protection Virus</b>	<b>2.21</b>	<b>0.86</b>	<b>4</b>
<b>Official Body to complain</b>	<b>2.25</b>	<b>0.91</b>	<b>5</b>

**2. Perceived Concern**

The results show in the table 2 that 67.6 percent of the respondents feel and strongly agreed as a whole that they would trust e-commerce transactions if the web vendor did not abuse their personal information. About 21.3 percent of the responses were neutral and 8.1 percent did not consider these factors as important. Next, the respondents were asked about consumers' personal information being sold to third parties. The majority of the respondents (67.2 percent) feels and strongly agreed in total that they did not trust moving out e-commerce transactions if their individual information was sold to other people. 6.4 percent of the respondents were not affected if their personal information was obtained by other people, while 21.3 percent of the respondents were neutral on the matter. More than 67 percent of the respondents feel that they felt their privacy were desecrated if they are worried by unsolicited/junk email later on after the online business transaction had taken place. 15.4 percent of the respondents' responses were unbiased and the rest of the respondents did not take the junk mail factor.

In the last question in the privacy section, respondents were asked if their messages were interrupted by any third party during the business transaction. 68 percent of the respondents agreed that they will be confident in carrying out electronic transactions if there were no interruptions to their messages while performing the online transaction. 23.7 percent of the respondents were unbiased.

Table 2-Frequency Element of Privacy Concern

**Frequency Element of Privacy**

ITEMS	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
<b>Abuse of information</b>	27.3	41.3	22.3	9.1	0	100
<b>Junk Email</b>	31.4	38.8	23.3	7.4	0	100.9
<b>Third party Interruption</b>	29.8	48.8	17.4	3.3	0.8	100.1

The element of privacy concern in related to Factor Analysis also very important in E-commerce. This is clearly shown in table 2.1 where the mean score for all the items was than value 3.01. The respondents chose not to be affected by junk email as the top most priority privacy element of the trust factor. They also did not want to disclose their personal information.

**2.1 Factor Analysis- Privacy Concern**

**ITEMS OF PRIVACY FACTOR ANALYSIS**

ITEMS	MEAN	STD DEVIATION	RANK
<b>Abuse of information</b>	<b>2.13</b>	<b>0.92</b>	<b>4</b>
<b>Junk Email</b>	<b>1.92</b>	<b>0.81</b>	<b>3</b>
<b>Third party Interruption</b>	<b>2.05</b>	<b>0.84</b>	<b>2</b>

**3. Familiarities Concern :-**

The results of the familiarities analysis can be seen in Table 3. When the respondents were asked if either well known merchants would encourage them to purchase online, more than 81.5 percent of them feel and strongly agreed as a whole. About 1.6 percent disagreed and the others were unbiased. The respondents were also asked about their opinions if well-known commercial websites would affect people's trust in e-commerce usage. About 85.7 percent of the respondents agreed and strongly agreed in total, with the factor, while less than 2.0 percent of the respondents disagreed and 18.5 were neutral. The table also shows the respondents' opinion on the factor of facilities provided by commercial websites to make people familiar with them such as the facility of free email. Majority of the respondents (56.0 percent) strongly agreed and agreed that facilities such as free email would give them exposure to the website and they would become more familiar with the internet. The rest of the respondents (34.5 percent) were unbiased and less than 5.8 percent of the respondents disagreed. However, less than 2.0 percent strongly disagreed with the factor. Previous interactions either online or offline was also one of

the significant factors for trust building in e-commerce usage among the respondents. As shown in Table 3, about 54.2 percent of the respondents strongly agreed and agreed with the statement, in total. In addition, about 3.5 percent of the respondents disagreed, while 41.3 percent were neutral. Table 3 also demonstrated that about 61.3 percent of the respondents believed that familiarity with the products they have like trust building on ecommerce usage. About 2.3 percent of the respondents disagreed with the point of view and 30.4 percent were neutral.

**Table -3 Frequency Element of Familiarities**

ITEMS	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Reputation	31.4	52.1	14.9	1.7	0	100.1
Facility	33.3	54.2	12.4	0.8	0	100.7
Behavioral Experience	31.9	53.2	15.2	0.5	0	100.8
Brand Name and Trade Mark/Commercial Website	33.5	55.6	10.9	1.6	0	100.6

Further Analysis has been done for Familiarities as a trust factor. Table 3.1 shows the sharing of the overall opinions by the respondents on familiarity as a factor to trust in e-commerce transactions.

It was found that the respondents absolutely accepted all factors that were asked to them elements of the trust factors as important. E-Commerce sites being well known and reputable were perceived as the most important reason to trust e-commerce transaction compared to other factors.

**Table 3.1 – Factor Analysis- Familiarities Concern**

ITEMS	MEAN	STD DEVIATION	RANK
Reputation	1.86	0.71	2
Facility	2.36	0.84	5
Behavioral Experience	2.37	0.66	6
Brand Name and Trade Mark	2.38	0.85	7

**Limitation of the study:**

The study has several limitations that influence the dependability and security of the findings. The study did not take into account femaleness biases, educational biases, income and other demographic variables with the research hypotheses. Further, only elected respondents participated in the study and therefore a self-selection bias might have affected the findings of this study and it may also limit the generalizability of the findings. Since sampling was based on convenience sample of only few people, there are chances that the responses afforded might not be the true indication of the population in general and the findings may not represent Dehradun consumers as a whole; therefore, any statement of the findings may not be 100% dependable.

**Conclusion**

This study concludes that while dependability of Online Vendor is a critical factor in explaining consumers’ trust to adopt e-commerce, it is important to compensate attention to the consumers’ risk concern on e-commerce transactions. Although in previous researches, security and privacy appear to be the top main apprehensions for consumers’ trust in e-commerce adoption, the empirical results specify that there is a poor connection between perceived security and perceived privacy with consumers’ trust. Since consumers get used to the Internet and to the techniques that can be used to defend themselves online, the security and privacy are becoming less responsive matters over as time.

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