

**VIRTUAL PURCHASE INTENTION: INFLUENCE OF SECURITY AND TRUST**

**Asma javed*, Dr Wasif Ali Waseer, Dr Babak Mehmood, Mr. Kaleem Ullah Irfan,
Mr. Muzammil Husain**

* Student at Ncba &e Lahore, Pakistan

Faculty at Ncba &e Lahore, Pakistan

Associate Professor at GCUF Faisalabad, Pakistan

PhD students at NCBA&E Lahore, Pakistan

phd students at NCBA&E Lahore, Pakistan

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ABSTRACT

The fast growth of online transaction and e-commerce inspired many companies to setup their business on web pages. It is fact that online purchasing is still poor as compared to other online activities. Research study will explore factors that affect consumer's virtual purchase intention. Theory of Planned Behavior (TPB), Theory of Reasoned Action (TRA), and Theory Acceptance Model (TAM) are the groundwork theories that are used in research to investigate those factors that affect the virtual purchase intention. On the basis of literature review, trust and security factors also have strong affect on virtual purchase intentions. So it is believed that antecedents of trust and security are important in improving online purchase intention. This study explores the antecedents of trust and security to develop a virtual purchase intention model.

INTRODUCTION

There is a developing need of new theories, models and knowledge for virtual buying behavior because of the evolution of electronic commerce as it is becoming a basic aspect of customer relations and marketing strategy (Close and Kukar-Kinney, 2010). The virtual purchasing behavior should be emphasize (Herrero and San Martin, 2012) hence, it attracts to enhance research attention (Mosteller et al., 2014). virtual shopping has been invented by Michael Aldrich in the year of 1979. He was an entrepreneur. In March 1980 he attended the launch ceremony of Redifon's Office Revolution, which allowed distributors, suppliers, consumers and middle men and product and service companies to be connect with each other online to make the work or business of all people to be performed electronically. Firms working in online category sell their products and services through website. Virtual stores sometimes are very representative of new economy but they did not get strong empirical and conceptual research (Hoffman & Novak, 1996; Alba et al., 1997). An estimation made by virtual retail forecast in 2013 was that in 2017 total spending of United States will be \$327 billion. An upward growth of 45% from \$226 billion in 2013 and 62% growth from \$202 billion in 2012 (Forrester analyst, Sucharita Mulpuru, 2011). The research study investigates consumer's online purchase intention on three perspectives. The study investigates consumers' intentions to buy products at virtual stores by using three different perspectives: a trust related perspective, a privacy related perspective and perceived security related perspective. These issues are highly related to the customer's intention to buy the products online. Building virtual trust and dealing with the dangers of the online exchanges with the goal of expanding on the web purchasing is considered to be the most critical restrictions for online buying of products. Other than these difficulties, security, verification, misrepresentation, and danger of misfortune are otherwise called principle concerns (Rao, 2002). Virtual buyers see internet shopping as being more dangerous than the traditional mode of shopping gives the fulfillment of physical buy where a client can see, feel, and touch the items preceding the buy made (Heijden et al., 2003). Surveys of internet users' attitudes show that users are highly concerned about their privacy and the collection and use of their personal information (e.g., TRUSTe (2014), Pew Research Center (2014))

LITERATURE REVIEW***Virtual Purchase Intention:***

Online purchasing expectation can be characterized as a circumstance where a buyer is eager and intended to make online transactions (Pavlou, 2003). This term is utilized when virtual shoppers have the ability to seek, select and buy items by using of the Internet. George (2004) and similarly, Khalifa and Limayem (2003) defined virtual buying behavior as a procedure of acquiring items, services and product related data by means of internet, they define this term in light of prior meaning of Azjen and Fishbein (1980) on virtual buyers and their willingness to buy the products online. George (2004) explained that customers are very conscious about providing their personal



information to the online seller that is also the reason to not purchasing products online. The purchasing behavior of online buyers is identified with how buyers settle on their choices on what item or product to buy online. Virtual purchasers follow three steps in their online shopping's decision that are pre buying, actual purchasing and post buying of products Sheth and Mittal, 2004). In virtual -purchasing environment, the intention of virtual purchasing is determine people's intention of purchasing online (Salisbury et al., 2001).

Virtual purchase intention:

Attitude plays an important role in developing an individual's behavioral choices and intentions (Fishbein & Ajzen, 1975), visual aspects of marketing messages may have the potential to influence behavioral intentions without considering attitude as mediator (Goodrich, 2011; Smith, Mackenzie, Yang, Buchholz, & Darley, 2007; Sundar & Noseworthy, 2014). Thus, the challenge for online advertisers and marketers is to envision such gaps and develop their virtual communication strategies accordingly. The intentional measures are more suitable than behavioral measures to examine customer's psyche as they may prefer virtual shopping because of limitations rather than real preference (Day, 1969). In previous decades, many researchers conducted researches to find out the factors that influence consumer's intention to purchase the product.

Following are the related empirical studies.

Related Theories:

In (1998) Davis introduced Technology Acceptance Model that is utilized to examine the conduct of customers about innovative investigations. Theory of Planned Behavior (TPB) was embraced by Ajzen (1985) and Fishbein and Ajzen (1975) received the Theory of Reasoned Action (TRA). TRA is considered very important theory when human behavior needs to be explored. The Theory of reasoned action demonstrates that behavioral intention consists of two factors: 'attitude towards behavior' and 'subjective norm'. Attitude deals with individual's own acts of the behavior rather than of his/her conduct in general. Subjective norm consists on the set of normative beliefs. Normative beliefs are engage with the Likelihood that persons or groups would accept or reject the behavioral performance.

TPB extended the theory of reasoned action by including the "perceived behavioral control." In theory of planned behavior, behavior and intention introduce an additive determinant in the form of perceived behavior control. It is an extended form of theory of reasoned action for uncontrolled situations. This theory explains the relationship between attitude and behavior of individuals by their actions. This theory says that all actions performed by humans are based on three factors that are: Behavioral beliefs, normative beliefs and control beliefs. Behavioral beliefs comprise on the positive result of individual's behavior and the assessments of these results. Normative beliefs of others and inspiration to carry on these sentiments and control beliefs are about the consumer's estimated opportunities, and the expected hurdles or obstacles towards performing the target behavior.

TAM also is an advancement of TRA; it is tailored to IS contexts, and Technology Acceptance model was developed to predict the acceptance of technology on workplace.

Unlike TRA, the final approach of TAM eliminates the attitude composition to better explain the intention economically. TAM has been broadly concerned to a different set of technologies and clients. In technology acceptance theory intention is considered as the consumer's attitude towards the technology usage and the perception regarding its usefulness. People's beliefs about the use of technology build up their attitude. The conviction of perceived usefulness (PU) is the consumer's "subjective Probability that if specific technology or application is use on job application tasks, it will enhance the job performance".

The belief of perceived ease of use (PEU), is "the degree to which a person consider that the target technology/system is easy to use and does not contain any complication while using." Above three theories clarifies the relationships among belief, attitude, and behavioral intention of virtual buyers when he is presumed to do web base shopping.

Table.1 shows the factors that effect on online purchase Intention based on the three main theories

Theory	Concepts	Factor on behavior intention	Theory cited by
TRA Behavior of consumer is anticipated by his/her purchase intention and the intentions are	Belief+ Evaluation = Attitude Motivation +Normative Belief = Subjective norm Subjective Norms+ Attitude =	Attitude Subject norm	Chen and Well 1999; Bezjian <i>et al.</i> , 1998; Goerge, 2004; Battacherjee, 2000



Considered as the attitude of individuals toward behavior and his/her subjective norms.	Behavioral Intention Behavioral Intention =Actual Behavior		
TPB Behavioral intention of individuals influences the behavioral control encouragement and consumer's habits.	Evaluation +Belief = Attitude Motivation= Normative Belief = Subjective Norms Perceived Facilitation + Control Behavior = Perceived Behavioral Control Perceived Behavioral intention + Attitude + Subjective Norms= Behavioral Intention Behavioral Intention +actual behavior = Behavior	Attitude Subject norm Perceived behavioral Control	Shim <i>et al.</i> 2001; Limayen, <i>et al.</i> ,2000; Choi <i>et al.</i> , 2003; Barnett and Presley, 2004; Delafrooz <i>et al.</i> , 2011 Goerge, 2004; Battacherjee, 2000 Timothy and Sulaiman, 2008. Swidi <i>et al.</i> , 2012
TAM Perceived usefulness (PU) and perceived ease of use (PEOU) Influenced by the consumer's intention.	Perceived Ease of Use +Perceived Usefulness= External variables Attitude= Perceived Ease of Use +Perceived Usefulness Attitude= Behavioral Intention Behavioral Intention =Actual Behavior	Attitude	Choi <i>et al.</i> , 2003;Lin <i>et al.</i> , 2010 Park and Kim, 2003; Wen <i>et al.</i> , 2011; Delafrooz <i>et al.</i> , 2011; Heijden <i>et al.</i> 2003

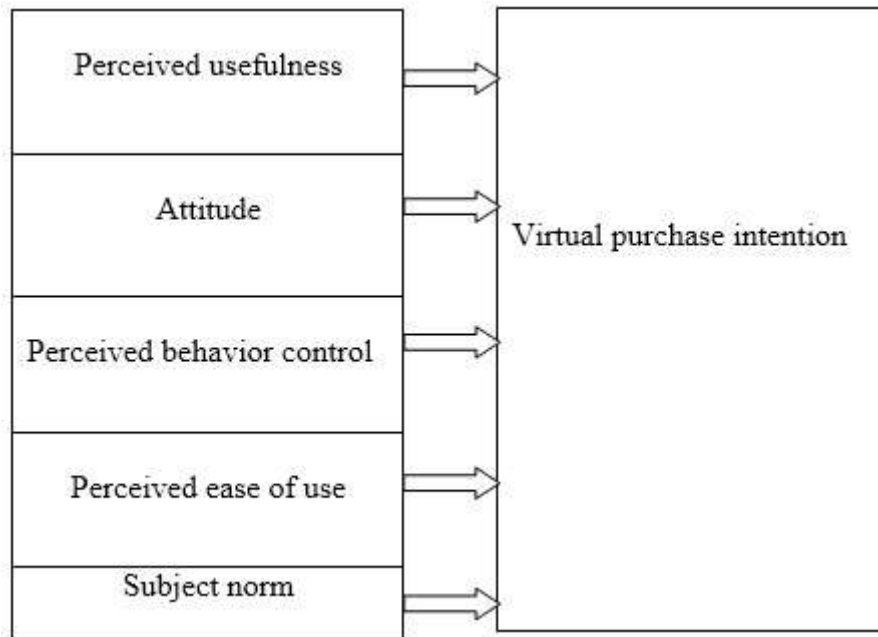


Figure1. Factors Influencing on virtual purchase intention on the basis of following theories (TRA, TPB and TAM)

Perceived Trust:

Trust is very important and one of the main factor that affect the buyer and seller's relations and it also affect the consumer's purchase intention (Swidi et al., 2012; Jarvenpaa et al., 1998; Naveed and Eddaoudi 2009; Yuliharsi et al. 2011;). In virtual shopping trust consists on the expectation of customers on internet seller (McKnight et al., 2002). In (2002) Kraeuter evaluated that trust is one of the main hurdle for understanding the consumer's potential about online shopping. When consumer trust on website, sales person and organization that is selling the products online, then he/she decide to purchase the product (Kim et al., 2008).

In a few investigations, trust is recognized as a factor that influences straightforwardly on people state of mind or attitude (Jarvenpaa et al., 1999; Heijden et al., 2003; Thompson and Liu, 2007; Kim et al., 2008; Meskaran et al., 2010). It is also analyzed that lack of trust on seller leads to decrease the online purchase intention. NECTEC (2006) resulted that more than 63 percent of internet refuse to web purchasing because they have no trust on the virtual store. Virtual buying expectation is strongly affected by trust (Tariq and Eddaoudi, 2009). Similarly,



Delafrooz et al., 2011 Heijden et al., 2003; Kim et al., 2008 analyzed the trust as an antecedents of virtual purchase intention. Heijden et al., (2003) and Delafrooz et al.,(2011) identified that trust is the most significant factor that influence the purchase intention.

Table 2: Antecedents of the trust perception

No	Factor	Reference
1	Reputation of store	Meskarani <i>et al.</i> , 2010; Peszynski; Thanasankit, 2002; Thomson and Liu, 2007; Kim <i>et al.</i> , 2008 and Jarvenpaa <i>et al.</i> , 1999
2	Cybercrime	McKnight <i>et al.</i> , 2002; Nelson Sofres, 2003; Furnell, 2004; Dayal <i>et al.</i> , 1999.
3	Risk	Jarvenpaa <i>et al.</i> , 1999; Gefen <i>et al.</i> , 2003; Peszynski and Thanasankit, 2002; Thompson and Liu, 2007; Kim <i>et al.</i> , 2008; Meskarani <i>et al.</i> , 2010.
4	Security (System assurance)	Kini and Choobineh, 1980; Thompson and Liu, 2007; Ambrose and Johnson, 1998.
5	Attitude	Thompson and Liu, 2007; Jarvenpaa <i>et al.</i> , 1999; Heijden <i>et al.</i> , 2003; Meskarani <i>et al.</i> , 2010.
6	Payment	Hawak, 2004; Efendioglu <i>et al.</i> , 2003; Meskarani <i>et al.</i> , 2010.

CONSUMER PERCEPTION ON SECURITY

Consumers are most concern about security when they are supposed to do virtual purchase Naveed and Addoudi, (2009); (Flavian et al.2006; Chang and Chen, 2008. Researchers also described that security is not only considered important in technical issues but it is also important for organizational and human aspect. Security can be defined as the degree by which internet buyers consider website is secure. Virtual consumers are very conscious about providing their personal or financial detail to the online dealer (Salisbury, 2001).

View of security is delegated subjective security issues and objective security issues. Objective security incorporates estimation of security strategy explanations and specialized assurance while subjective security incorporates general security (Chellappa and Pavlou, 2002). Chang and Chen (2008) explained that a web page is not an authentic place for secure purchasing. Virtual stores should ensure security by their online stores and protect consumer. They also mentioned that WebPages are main target of attackers

Among the current models for online purchase intention, Belanger et al., 2002; Delafrooz et al., 2011 and Park and Kim, 2003 concluded the security as the factor that influence virtual purchase intention. Sharma and Yurcik (2004) have depicted the elements that influence security recognitions are highlights of security, demonstrating outsider security seal and state of mind toward security and experience about website's assurances as the variables that influence security discernment. Furnell (2004) explained that if online store shows policy statement and third party seals on websites are effective factors in consumer's point of view.

Tsai and Yeh (2010) analyzed the security as a main factor that directly affects the purchasing decision. They concluded that design of web page ,quality of product, behavior of seller, information provided and, delivery of products are factors that relates to perceived risk of information security and purchase intention.

Table 3: Antecedents of security perception

No	Factors	References
1	Policy statement	Frunell, 2005
2	Third party seals	Sharma and Yurcik ,2004; Frunell, 2005
3	Service quality	Tsai and Yeh , 2010
4	Security features	Sharma and yurcik,2004
5	Webpage features	Sharma and yurcik,2004;Tsai and yeh,2010
6	Product quality	Tsai and Yeh , 2010
7	Attitude	Sharma and Yurcik ,2004

Perceived Risk Influencing on Online Purchase Intention:

In (1960) Bauer gave the idea of estimated risk. He clarified the risk as the aggregate sum of customer's estimated risk while settling on the buy choice with respect to buy process. Liang and Huang (1998) reasoned that buyer's



internet buying choices rely upon their aggregate sum of assessed chance. For the most part, customers relate a larger amount of risk with virtual buy as opposed to conventional buy. Unlike offline consumers, online consumers are involved in virtual shopping like providing credit/debit card number and personal information (Heijden et al., 2003). Perceived risk is known as a key factor that affects virtual purchase intention (Zhou et al., 2007; Choi et al., 2003).

Many studies had been conducted and mentioned that consumer's purchase intention is influenced by the risk factor (Jarvenpaa et al., 1998; Meskaran et al., 2010; Thompson and Liu, 2007), they described a negative relationship of trust on risk and risk on trust. Risk is one of the main factor that directly effects online purchase intention, security and trust. Several studies have

Concluded that building a consumer's trust on online store is a key to success of that store for long time (Suh and Han, 2003; Pavlou and Fygenson, 2006; Vos et al., 2014), but online purchasing is negatively influenced by the perceived risks (Hong and Cha, 2013; Kamarulzaman, 2007) associated with both products (Ward and Lee, 2000) and web-vendors (Jiang et al., 2008).

Thus, it is very important to analyze the risk as a key factor that affects online purchase intention of internet consumers. In 2011 the Internet generated world-wide revenue of more than 340 billion US dollars, and mainly focused on tourism and travel related products (Amaro and Durate, 2015).

When consumers face negative purchase experience their attitude become negative (Gao and Bai, 2014), they no longer trust the online seller, and they moved to find the alternative sellers to fulfill their needs (Lee, 2014). , the trust level of buyers exposed to inconsistent product information and revisions significantly influences their purchase intention (Zhang et al., 2014).

Other Factors That Affect Online Purchase Intention:

Many researchers include some other factors that affect the consumer's virtual purchase decision. These factors includes

- Privacy: it is provided information by the consumer on the web page while making the purchasing transaction. Many researches included privacy as factor that influence virtual purchase intention (Tariq and Eddaoudi, 2009; Belanger et al., 2002).
- Web features: Multiple analysts characterized it in various angles. For instance, In 1999 Cheskin and SA portrayed that web highlights incorporate the variables like the polished methodology of the Website, quality and simple to utilize the site page. Balanger et al. (2002) clarified that web highlights incorporate security and protection. Highlights of site additionally demonstrate the nature of the site page (Ranganthan and Sanjeev, 2007) use interface quality (Park and Kim, 2003). A few examinations considered the web includes as a compelling element to impact virtual buy aim (Park and Kim, 2003; Belanger et al., 2002).
- Past online experience:

Some studies analyzed virtual shoppers purchasing behavior depends on the past experience of their online transactions. If they have good past experience, they will continue to shop the products from virtual stores and if they have bad virtual purchase experience than their intention to purchase online will be negative.

Numerous past examinations said past virtual buy experience as one of the precursors of online buy goal (Laroche et al., 2005; Ranganthan and Sanjeev, 2007; Kwon and Noh, 2010).

Related Models of Online Purchase Intention:

Latest models on virtual purchase intention have created on the premise of three essential theories (TRA, TPB and TAM). As this investigation has fundamental concentrate on trust and security, Table.4 unites the models with the components that have direct and indirect effect on virtual buy aim. factors are highlighted on the basis of (TRA, TPB and TAM) and furthermore examined trust and security factors. TAM was discovered the most utilized theory in investigating the shopper's virtual buy (Gefen and Straubin, 2005; Choi et al., 2003; and Heijden et al.2003;Delafrooz et al., 201; Wen et al., 2011). In spite of the fact that, Security and trust are most vital and known components that impact online buy expectation of virtual customers Belanger et al., 2002; Tariq and



Eddaoudi, 2009 and Delafrooz et al., 2011 considered the two elements (put stock in, security) that have coordinate effect on virtual purchase intention.

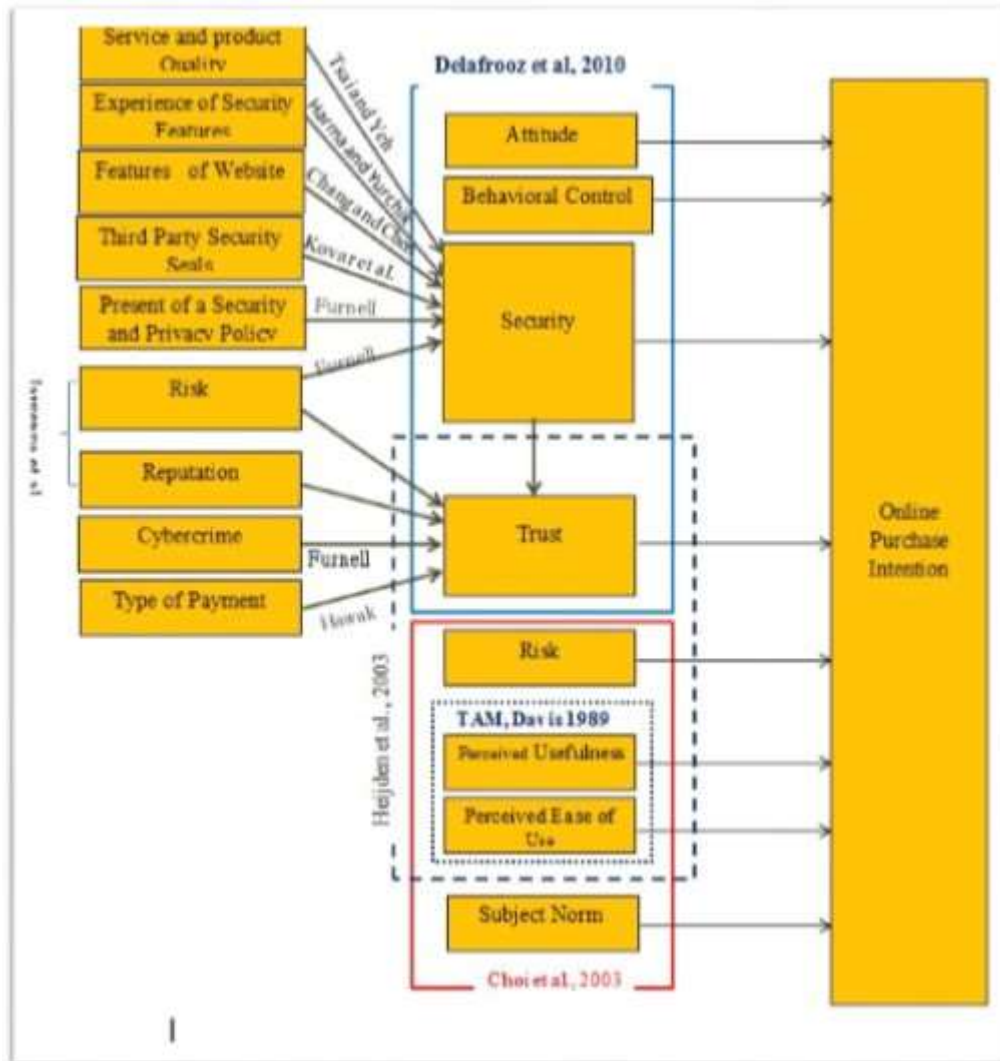
Table 4: List of construct considered for the proposed model of online purchase intention.

No	Model	Direct Factors	Indirect factor	Reference
1	Model of purchase intention and willingness to give information	Trustworthiness; Privacy; Security; enjoyment; Web features	---	Belanger <i>et al.</i> , 2002
2	Model of Purchase intentions	Ease of use; Usefulness; Social presence; Trust	---	Gefen and Straubin, 2005
3	Model of virtual purchase intention	Risk, Usefulness of website; Perceive ease of use; Subject norm	Third party assurance seal ; Trust	Choi <i>et al.</i> , 2003
4	Model of Actual purchase behavior	Interface quality; Information quality; User Security	---	Park and Kim, 2003
5	Model of internet purchase intention	Attitude	Perceived ease of use; Perceived usefulness; Trust in online store; Perceived Risk	Heijden <i>et al.</i> , 2003
6	Model of purchase intention	Consumer trust; Perceived risk	self-efficacy; Online transaction; Disposition to Trust	Kim and Kim 2005
7	Model of willingness to shop online	Age; security; trust; Privacy; Awareness	---	Tariq and Eddaoudi, 2009
8	Model of Purchase intention	Perceived behavioral control (Trust, Security); Attitude;	Online shopping orientation; Demographic; Consumer perceived benefits	Delafrooz <i>et al.</i> , 2011
9	Model of Intention	Normative belief; Attitude; Self efficiency	Usefulness; Ease of use; Compatibility; Privacy; Security	Yulihhasri <i>et al.</i> , 2011

Comprehensive Proposed Model:

A comprehensive virtual purchase model is developed on the basis of existing studies on antecedents of virtual purchase intention (trust, security).

The model consists on all factors that directly affect the virtual purchase intention. These factors are subject norms; behavioral intention, security, attitude, risk, perceived usefulness, trust and ease of use. Model of Choi et al., (2003), Heijden et al., (2003), and Delafrooz et al., 2011 are used in this comprehensive model.



LIMITATIONS AND FUTURE SCOPE

Research study was based on the theories. Three theories are considered to build virtual purchase model. More theories can be added to check the effect on virtual purchase intention. It is suggested to test the model for further research. More factors that directly or indirectly affect the virtual purchasing can also be added for future work.

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