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**A STRUCTURAL EQUATION MODELLING OF CONSUMERS' ONLINE PURCHASE INTENTION**

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**INTRODUCTION**

Online Shopping refers to the shopping behavior of consumers in an online store or a website used for online purchasing purpose (Monuwe et al 2004). It saves time and offer convenience (Alba et al 1997), saves travel costs (Umair et al), offers a price cheaper than brick and mortar store (Foley and Sutton, 1998; O'Conner & O'Keefe, 1997). Internet usage currently is no longer restricted to a networking media, but it also functions as marketing and transaction medium for some people. Research indicates the development of the commercial trade that is carried out through the internet has amazingly changed the retail vista in the World economy since 1990 (Chen & Chang, 2003). Owing to mushrooming of countless of internet shop portals, the competition has also increased manifold. While shopping on the internet you have to take care of various deals offered by various websites on a day to day basis.

Various theories and approaches have been put forth to address this problem. Davis (1989) proposed the Technology Acceptance model to explain the user's behavioral intention to use a technological innovation. TAM is based on the theory of reasoned action (TRA), a psychological theory that seeks to explain behavior (Fishbein & Ajzen, 1975), and involves two variables-

perceived ease of use (PEOU) and perceived usefulness (PU) and the dependent variable behavior intention (BI). The choice for using TAM as a research model to explain consumers' online shopping adoption is attributed to its consistent capability to explain a substantial portion of variances between behavioral intention and actual behavior derived mainly from research into the purchase of technology related products (Bobbitt & Dabholkar, 2001; Gldsmith, 2002; King & He, 2006; Weng Marc Lic, 2012).

## LITERATURE REVIEW

Online Shopping is increasingly becoming attractive with penetration of internet in the modern times (Jalan Margonda Raya, 2012). There are many factors that researchers have identified as determinants of consumers purchase intention.

### Technology Acceptance Model (TAM)

A research model has been employed to investigate the technology acceptance factors that influence the adoption of online shopping. The TAM (Davis, 1989), with its basis in the TRA (Ajzen, 1991; Fishbein & Ajzen, 1975) has emerged as a powerful model in investigating the acceptance and use of information technology (Davis, 1989; Keil, et al., 1995; Mitchell & Groatorex, 1993; Roger, 1995). The choice for using TAM as a research model to explain consumers' online shopping adoption is attributed to its consistent capability to explain a substantial portion of variances between behavioural intention and actual behaviours derived mainly from research into the purchase of technology related products (Bobbitt & Dabholkar, 2001; Goldsmith, 2002; Grabner-Krauter & Kaluscha, 2003; Hanque, et al., 2006; King & He, 2006).

The TAM postulates that the perceptions or beliefs about the innovation are instrumental in the development of attitudes that will eventually result in system utilization behaviour (Davis, 1989). It also posits that the actual system use is determined by each user's behavioural intention to use, which is in turn influenced by each user's attitudes towards use. Finally, the attitude is directly affected by the usefulness and ease of use of the system. Although this model was originally conceived to model the adoption of information systems in the workplace (Davis, 1989), scholars in the area of consumer behaviour have identified two specific dimensions which are relevant to online shopping: perceived ease of use and perceived usefulness (Gefen, et al., 2003; Huang, 2008).

### Perceived Ease of Use (PEOU)

According to TAM, PEOU is a major determinant that affects acceptance of a particular technology (Davis, et al., www.ccsenet.org/mas Modern Applied Science Vol. 6, No. 4; April 2012 Published by Canadian Center of Science and Education 51 (1989). PEOU is defined as the concentration of physical and mental efforts that a user expects to receive when considering the use of technology i.e. the degree to which a particular technological system would be free from effort (Davis, 1989). According to Buton-Jones and Hubona (2005), the ease of learning and becoming skilful at using pervasive technologies, including technologies and interfaces on online shopping sites, were concluded as valid determinants as to what makes a technology easy to use. The work of Selamat et al. (2009) further added that a technology which is perceived to be easier to use than another is more likely to be accepted by users whereas the more complex a technology is perceived to be, the slower will be its rate of adoption. This is supported by Teo (2001) as the study concluded that a system which is easy to use often requires less effort on the part of users and thereby increases the likelihood of adoption and usage of a particular technology. Other scholars have also found that the perceived ease of use had a positive influence on consumers' attitude in using the

Internet to shop online (Bisdee, 2007; Yuliharsi & Daud, 2011). This is consistent with the work of Childers et al. (2001) which argued that online retailers which are able to provide online shopping sites which are clear and understandable, with less mental effort requirement, and allow consumers to shop the way they want to shop results in ease of use perceptions in consumer minds with favourable attitudinal attachment to online retailers which are able to do so.

### **Perceived Usefulness (PU)**

PU is another major determinant of attitude toward use in the TAM model (Davis, et al., 1989). PU is defined as the degree to which the user believes that the technology will enhance the performance of an activity (Davis, 1989). According to McCloskey (2004), the ability to improve shopping performance, shopping productivity, and most importantly, accomplishing shopping goals, were concluded as valid determinants as to what makes consumers' shopping activity a success. This is in line with the findings of Barkhi et al. (2008) as their study suggests that consumers will develop favorable attitudes toward products and/or services that they believe to provide sufficient benefits or attributes toward a solution and negative attitudes toward those that are inadequate.

Given this scenario, Kim et al. (2003) argued that online shopping sites which provide functions which aid consumers in making better shopping decisions will be perceived as useful. The same logic was observed in the work of Bisdee (2007) as online shopping sites which are able to provide useful services to consumers and services which are not available through traditional shopping (e.g. comparison between products at a glance) will be perceived as useful by consumers, and thus leads to the development of favourable attitudes toward online shopping. This notion is supported by Childers et al. (2001) whereby their findings suggest that consumers which had favourable attitudes toward online shopping were found to perceive online retailers as being useful as online retailers were able to enhance their shopping productivity, effectiveness and ability.

### **Perceived Risk**

Perceived risk was developed from psychology by Bauer (1967) and since then has been widely discussed in consumer behavior literature and regarded as one of the basic concepts. Risk is related to consumers' perception of the insecurity and the significance of participating in an activity (Dowling & Staelin, 1994). Consumers evaluate product purchases based on both the long-term consequences of the purchase and the immediate benefits, which influence their purchase intention (e.g., Grewal, Gotlieb, & Marmorstein, 1994; Sweeney, Soutar, & Johnson, 1999).

Previous research has found that perceived risk has a negative effect on consumers' purchase intention (Ahasanul, Ali, & Shameem, 2009; Akram, 2008; Al-Mowalad & Lennora, 2012; Ali, Farhad, & Nooshin, 2010; Tian & Ren, 2009). Consumers who perceive a high risk when purchasing products on the internet are unlikely to purchase e-customised products online (Park et al., 2013)

Cox (1967) considered that perceived risks lies in the notion that consumer behavior is a goal-oriented activity, and purchase of the product is associated with this goal; its acceptable expectation level is measured by the degree of achievement to this goal. However, the consumers may not be aware of any risk component so that their behavior may be affected sub-consciously and this may influence some direct actions.

Perceived risk related to shopping includes (i) financial risk, which is related to the potential monetary loss and perception of insecurity regarding online credit card usage (Forsythe, Liu, Shannon, & Gardner, 2006; Lim, 2003); (ii) performance risk, which is related to the possibility that a purchased product fails to provide the desired benefits or does not function properly (Crespo, del Bosque, & de los Salmones Sanchez, 2009; Grewal et al., 1994; Lim, 2003); (iii) physical risk, which is related to the possibility of physical injury and damaged health caused by a purchase (Hassan, Kunz, Pearson, & Mohamed, 2006; Lim, 2003); (iv) social risk, which is related to a consumer's concern about how other people perceive their shopping behavior and about the potential loss of social status (Crespo et al., 2009; Lim, 2003)

## **RESEARCH METHODOLOGY**

### **Objective of the study:**

The purpose of the study is to explore the influence of various factors on consumers' intention to buy online.

### **Research Design and Framework**

This study focused on exploring the influence of perceived ease of use, perceived usefulness and perceived risk on consumers online purchase intention. The current research is descriptive in nature. Data was collected by questionnaire from 120 respondents and after shifting out the invalid ones, 100 questionnaires were used for the study. The questionnaire comprised of 15 questions regarding perceived ease of use, perceived usefulness and perceived risk. According to the above mentioned research goals and literature review, the framework of the study is shown in Fig 1

Table 1: Questionnaire Items, Reliability and validity

Construct	Manifest Variable	Factor Loading	Cronbach's Alpha	T value	P value
Perceived ease of Use	The online shopping website is easy to use. (X8)	0.42	0.64	4.423	0.000(sig.)
	The online shopping website is flexible to interact with. (X13)	0.58			
	It is easier to use the Internet to find products that I want to buy.(X14)	0.58			
Perceived Usefulness	Using the internet, enables me to finish my shopping tasks more quickly. (X1)	0.53	0.62	0.62	0.53
	Using the internet for shopping, saves my money(X3)	0.23			
	Using the internet makes it easier to make purchases. (X5)	0.29			
	Using the internet for shopping helps me to make better purchase decisions.(X10)	0.51			
Perceived Risk	It is not safe to buy online.(X2)	0.68	0.81	0.60	0.54
	I am afraid that products purchased from online vendors will not be delivered on time.(X4)	0.76			
	I am concerned about the trustworthiness of some companies.(X6)	0.79			
	It is difficult to feel, try and experience the products prior to online shopping.(X7)	0.68			
Online Purchase	I intend to continue using online shopping.(X11)	0.66	0.76		

Intention	My intention is to continue using online shopping rather than traditional shopping.(X12)	0.70			
	I intend to purchase products about internet to get experience about online shopping. (X15)	0.62			
	If I could, I would like to continue shopping online as much as possible in the future.(X9)	0.63			

### Hypothesis

According to previous review and discussion, three main research hypothesis are proposed:

Hypothesis 1: Perceived ease of use affects consumers' online purchase intention.

Hypothesis 2: Perceived usefulness affects consumers' online purchase intention.

Hypothesis 3: Perceived risk affects consumers' online purchase intention.

### ANALYSIS AND RESULTS:

Data was analyzed through Structural Equation Modeling which includes measurement model and path analysis. It is an effective way to find the causal relationships between constructs and their underlying measurement suitability and AMOS Software with maximum likelihood estimation was used to implement SEM. The actual results are stated below:

### Reliability and Internal Consistency

Reliability test using Cronbach's Alpha was conducted on the variables to measure the inter- reliability. Cronbach's Alpha was utilized to ensure consistency of survey data(Wang, et al,2005) . Overall Cronbach's alpha of the variables came out to 0.70 .Cronbach alpha was calculated for each factor and each was found reliable. The loading factor values of each manifest variable as shown in Table 1 indicated that internal consistency and convergent validity are good.

**Structural Model: Path Analysis****Overall model fit**

Overall fit indexes are reported in table 2, which shows that the model was reasonably consistent with the data, with all the fit indexes better than recommended values. Figure 2 indicates the path loadings

Criteria	CMIN	AGFI	NFI	CFI	RMSEA
Actual value	1.625	0.85	0.81	0.88	0.059

**Regression Results****Standardized Regression Weights: (Group number 1 - Default model)**

		Estimate
INTENTION <---	EASY	.777
INTENTION <---	USEFULNESS	.168
INTENTION <---	RISK	-.101

**Correlations:****(Group number 1 - Default model)**

		Estimate
EASY <-->	USEFULNESS	-.137
USEFULNESS <-->	RISK	.061
EASY <-->	RISK	.199

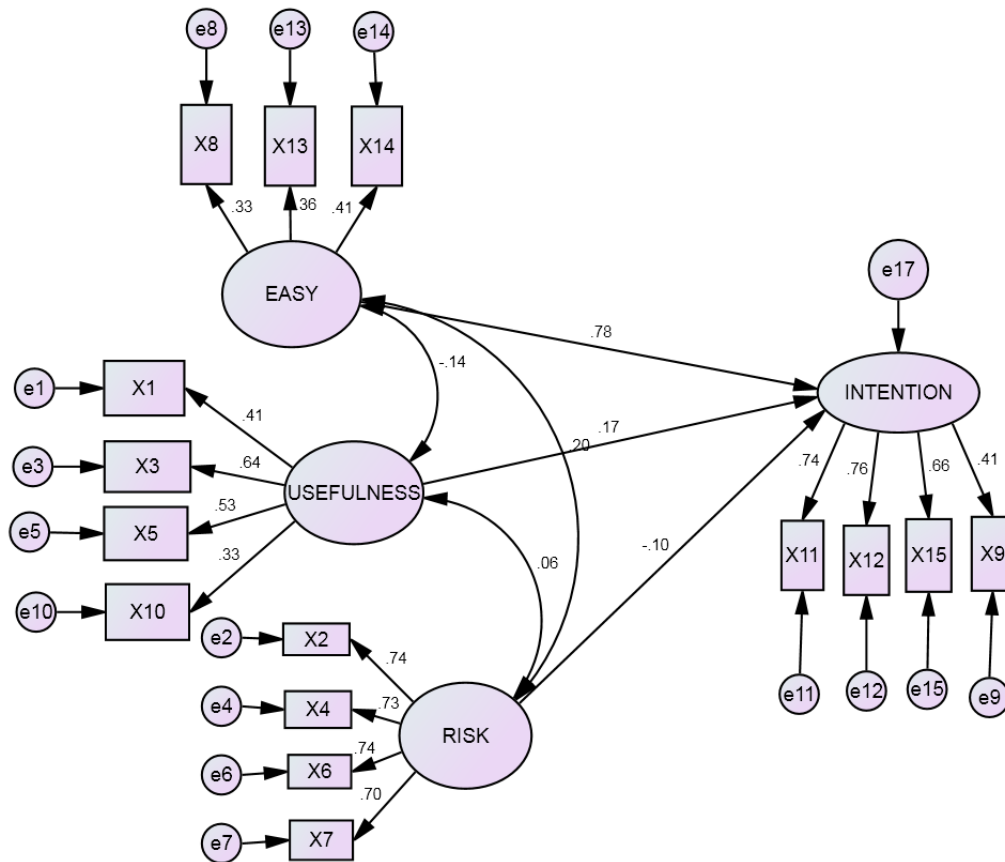


Fig.2 : Path coefficients for SEM Model

## FINDINGS

Based on the test results, the following conclusions were drawn:

- 1) For the SEM Modeling with the constructs, perceived ease of use was the most important and perceived usefulness was next and perceived risk was the least important construct. Therefore, convenience and comfort have much influence on consumers purchase intention.
- 2) Hypothesis 1 stated that perceived ease of use affects online purchase intention proved valid. P value is less than 0.05, so H1 is strongly supported. This means that consumers want easiness and comfort while shopping online.
- 3) Hypothesis 2 stated that perceived ease of use affects online purchase intention proved invalid. P value is more than 0.05, so H2 is not supported. This means that perceived usefulness did not affect much on online shopping intention.
- 4) Hypothesis 3 stated that risk affects online purchase intention proved invalid. P value is more than 0.05, so H3 is not supported. This means that perceived risk did not affect much on online shopping intention.



**CONCLUSION**

This paper has examined the influence of various factors on purchase intention by the use of Structural Equation Modelling. It may be concluded that perceived ease of use is the most important factor and perceived risk is the least important and affects purchase intention negatively. The results highlighted the importance of TAM Model towards consumers' online purchase intention. This study provided managerial implications for online shopping retailers and marketers to serve and pull consumers to shop online.

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