

Confirmatory Factor Analysis: Key Factors Influencing Online Shopping Website Among Facebook Users In Tiruchirappalli District

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Abstract— According to The Economic Times, when you buy a product or a service over the internet, instead of going to a traditional brick-and-mortar store, it is called online shopping. Globally, an increasing number of people are buying over the Internet because it is more convenient. After the development of Information and Communication Technology, the trend using online shopping increased by day today especially in the young generation. More than half of India's one billion populations is under 35 years of age and is in the forefront of internet revolution. Every third person using internet and so forth Indian cities today is found to be a youth. 250 millions youth with an average age of 24. 60 per cent of the population is under the age of 30. 13.9 million (in the age group of 12-16) years with 51.7 per cent boys and 48.3 per cent girls) young influences are present in the top 35 cities of India. There are number of factors influence online shopping website among the people. The main objective of this paper is to find the key factors that influence online shopping. A survey was done on usage of online shopping among Facebook users in Tiruchirappalli District. A structured questionnaire was distributed to a targeted group. In order to find the key factors that influence the online shopping website, the researcher used Confirmatory Factor Analysis using Amos 21. The findings and suggestions will help the marketers to fish in their palms immensely show the worms on mobiles and other gadgets.

Keywords- *Online Shopping, Confirmatory Factor Analysis, AMOS, Information Communication Technology*

I. INTRODUCTION

According to The Economic Times, when you buy a product or a service over the internet, instead of going to a traditional brick-and-mortar store, it is called online shopping. Globally, an increasing number of people are buying over the Internet because it is more convenient. Every human being wants some basic need namely food, clothes, air, water and so on for survival in life. Likewise the internet plays crucial role in our day to day life. Because with the help of internet easy to contact people, accessing banking, booking of air ticket and train ticket, E-mail, Access Information, Shopping, Online Chat and so on. Among these online shopping has played a

significant role in our day to day. In ancient days people buying goods and services on the basis of barter system. After the development of Information and Communication Technology, the trend using online shopping increased by day today especially in the young generation and also buying goods on offline is lesser by day today. Manav Aggarwal (2012), the spending power of customers is also growing with the time especially middle class population has great spending powers. Many of them have started to depend on online shopping. So, Indians always prove that they can beat the world, when it comes to the figures of online shopping. More and more Indian customers are going for the online shopping and the frequency of online shopping customers is crossing the overall global averages. There are number of online shopping website are existing namely Flipkart, Snapdeal, Jabong, amzon, myntra, naaptol, shop clues and so on. Therefore number of factors influencing the people to buy goods on online shopping website so in order to find the factors that influencing people in online shopping website the researcher used as Confirmatory Factor Analysis. It is a special form of factor analysis, most commonly used in social research. It is used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (or factor). As such, the objective of confirmatory factor analysis is to test whether the data fit a hypothesized measurement model. This hypothesized model is based on theory and/or previous analytic research

(http://en.wikipedia.org/wiki/Confirmatory_factor_analysis)

II. REVIEW OF LITERATURE

Ngo Tan Vu Khanh and Gwangyong Gim (2014), the results of their study suggest that Perceived of economic benefits (PEB), Perceived of merchandise (PM), and Perceived payment benefits (PPB) have significant direct effects on consumer's behaviour adoption of online shopping. That mean, to promote online shopping in Vietnam is to increase the ability to recognize the benefits of trading products on the Internet, addition to that the usefulness of online payment.

Mahmud Mohammadian and Mahsa Ghanbar (2014), their study confirmed that security and privacy have a significant and positive effect on brand trust. Thus, the more the internet shoppers feel secure about an online brand and have confidence in providing their credit card information, the more they trust in that online brand. Moreover, when privacy policies are clearly disclosed in company's website and customers do not have any concern about disclosure of their personal information, they are more likely to trust an online brand.

Elisabeta Ioanas and Ivona Stoica (2014), they found that regarding reasons for respondents prefer buying online, the most important reason is convenience (42 per cent), followed by the delivery mode - directly to their homes - with courier companies (39 per cent), and avoidance of queues (38 per cent). The fact that in online, consumers are offered the possibility to inform better about the characteristics of the products and prices on different websites are an important reason for 24 per cent of respondents. Lower prices practiced in online stores is the most important reason for 21 per cent of respondents, and the last, is the wide range of products offered in the online environment.

Rahul Argha Sen (2014), The cost factor is the most important factor that influences the online purchase of products in Kolkata. By selling online, a company can undertake cost savings in a number of ways and such savings should be passed on to the consumers in terms of price reductions. Moreover, offers discounts and other sales promotional techniques should be undertaken to attract customers to purchase the products online. After the cost factor, the next important factor that influences the online purchase of products in Kolkata is the convenience factor. After the cost related aspect, the customers focus on the convenience of shopping online as compared to the traditional form of shopping. Customers find it much more convenient to shop at home and save time also. Moreover, customers look for proper product information on the websites, a safe and secured online payment system and cash on delivery facilities.

Gagandeep Nagra and Gopal (2013), their study concludes that the respondents have perceived online shopping in a positive manner. This clearly justifies the project growth of online shopping. The frequency of online shopping is relatively less in the country. Online shopping organizations can apply the relevant variables and factors, identified from the research, to create their strategies and tactics. The organizations can prioritize the consumer inherent and unequivocal requirements in online shopping environment.

Lingying Zhang *et al.*, (2012), their study has found that there are eight dimensions of consumers' perceived risk (CPR) for the overall process of B2C. They all have good explanations about the risks from different phases of B2C. Five of them such as perceived health risk, perceived quality risk, perceived time risk, perceived delivery risk and perceived after-sale risk have negatively influence on online consumers' purchasing behaviour.

A. Statement Of The Problem

The online shopping website provides wide variety of products namely, computer accessories, mobile phone, clothing, electronic goods and so on. Now a day's wide variety of online shopping website exiting like a departmental store. Some famous online shopping website are www.jabong.com, www.myntra.com, www.yebhi.com, www.amzon.con, www.flipkart.com and so on. Hence, while choosing the online shopping website certain factors are influencing in order to know what are the factors influencing online shopping website. So the researchers use the measurement model.

B. Objective Of The Study

The overall objective of the study is to know the key factors influencing online shopping website among Facebook users in Tiruchirappalli district using Confirmatory Factor Analysis.

C. Hypothesis Of The Study

The factors that influence the online shopping website are positively correlated with selected variables.

III. METHODOLOGY

A. Data Collection

The researcher has collected data using online survey through Google Forms regarding key factors influencing of online shopping website among Facebook users in Tiruchirappalli district. Google form is an online survey tool, it was powered by Google. Com. The researcher can create new form from scratch or upload existing documents, spreadsheets and presentations. There's no software at present to download, and all they works are stored safely online and can be accessed by any computer only by the researcher. The researcher has sent the research questionnaire link (<https://docs.google.com/forms/d/1jLiwp0kPtlGfUMhGPTdJyipv0Xh7IGxwnF1IRiRyNg/viewform>) to Facebook users in Tiruchirappalli district through a message.

Facebook is a one of the leading social networking sites so the researcher used Facebook users for fulfilling the research objectives. The data collected from Facebook users in Tiruchirappalli district. Facebook is a well-known and top first social networking site in Social Network Services. The researcher has been sending the questionnaire link to all the Facebook users in Tiruchirappalli district. Finally, the data was collected from 200 respondents among Facebook users in Tiruchirappalli district; Then, the researcher conducted Cronbach's Alpha Test. The test reveals 0.89. i.e., 89 per cent.

B. Tools Used

The researcher collected data through online survey from the Facebook user in Tiruchirappalli district and the researcher used Statistical Packages for Social Sciences (SPSS 22) and Analysis of Moment Structure (AMOS 21) with appropriate coding for the drawing inferences.

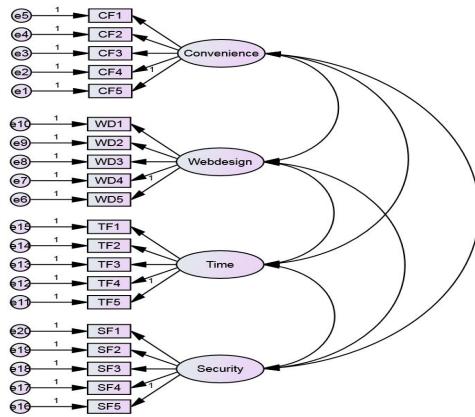


Figure 1 - Research Model Specification / Description

TABLE I

Variables Specification For Factors Influencing Online Website Manifest And Latent Variables For Cfa		
Manifest variables	Latent variables	
Time delivery	Convenience Factor	CF1
Detailed information		CF2
anytime 24 hours 7 days		CF3
easy to choose and make comparison		CF4
low price and low shipping cost		CF5
searching the products easily	Website design/Features Factor	WD1
ease of navigation and order		WD2
website layout		WD3
familiarity with the website		WD4
Can view different models with demo video		WD5
Less time to purchase	Time Factor	TF1
The big billion day		TF2
Less time in evaluating and selecting a product		TF3
Door delivery		TF4
Fast and reliable		TF5
safe and secure in payment and return	Security Factor	SF1
protects my identity		SF2
trustworthy website		SF3
Product quality		SF4
Unique account		SF5

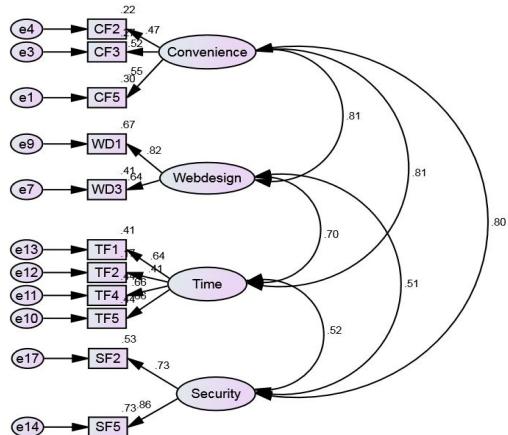


Figure 2 - Standardised Estimates Confirmatory Factor Analysis for factors influencing online shopping website among Facebook users

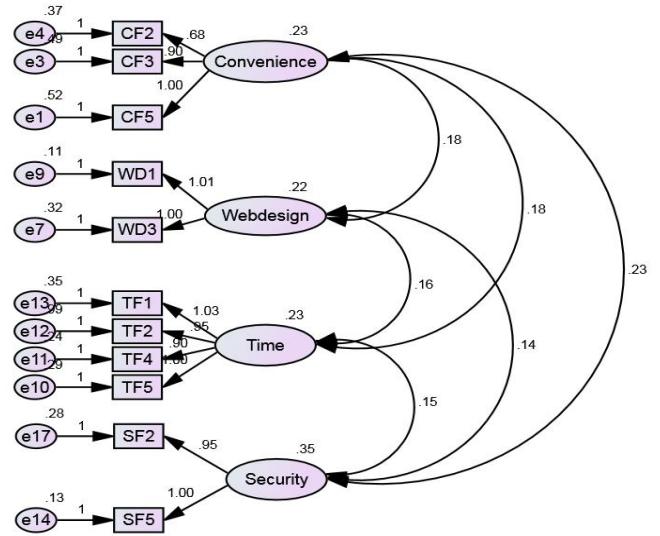


Figure 3 - Unstandardised Estimates Confirmatory Factor Analysis for factors influencing online shopping website among Facebook users

TABLE II

Confirmatory Factor Analysis for Factors Influencing Online Shopping Usage Among Facebook Users						
Variables		Unstand ardized Co-efficient	S.E.	Standar dized Co-efficient	t value	P value
Low price and low shipping cost	<--	Conv enien ce	1.000	.196	.551	< 0.001 **
Anytime 24 hours 7 days	<--	Conv enien ce	.902	.160	.521	< 0.001 **
Detailed information	<--	Conv enien ce	.681		.469	< 0.001 **
Website layout	<--	Web desig n	1.000	.177	.642	< 0.001 **
Searching the products easily	<--	Web desig n	1.015		.820	< 0.001 **
Fast and reliable	<--	Time	1.000	.156	.663	< 0.001 **
Door delivery	<--	Time	.901	.240	.661	< 0.001 **
The big billion day	<--	Time	.948	.183	.413	< 0.001 **
Less time to purchase	<--	Time	1.030		.637	< 0.001 **
Unique account	<--	Securi ty	1.000	.149	.856	< 0.001 **
Protects my identity	<--	Securi ty	.949	.196	.730	< 0.001 **

Note: 1. ** denotes significant at 1% level.

TABLE III

Confirmatory Factor Analysis Fit Indices for Factors Influencing Online Shopping Usage Among Facebook Users	
Indices	Value
Chi Square Value	39.882
CMIN/DF	1.050
GFI	.948
AGFI	.910
CFI	.994
RMSEA	.019

TABLE IV

Summary Of Testing Hypotheses		
Hypotheses	Hypothetical relationship	Results
H1: There is a positive influence of Low price and low shipping cost and the Convenience factors of online shopping website.	Positive	Confirmed at < 0.001**
H2: There is a positive influence of Anytime 24 hours 7 days and the Convenience factors of online shopping website.	Positive	Confirmed at < 0.001**
H3: There is a positive influence of Detailed information and the Convenience factors of online shopping website.	Positive	Confirmed at < 0.001**
H4: There is a positive influence of Website layout and the Web design/ features factors of online shopping website.	Positive	Confirmed at < 0.001**
H5: There is a positive influence of Searching the products easily and the Web design/ features factors of online shopping website.	Positive	Confirmed at < 0.001**
H6: There is a positive influence of Fast and reliable and the time factors of online shopping website.	Positive	Confirmed at < 0.001**
H7: There is a positive influence of Door delivery and the time factors of online shopping website.	Positive	Confirmed at < 0.001**
H8: There is a positive influence of The big billion day and the time factors of online shopping website.	Positive	Confirmed at < 0.001**
H9: There is a positive influence of Less time to purchase and the time factors of online shopping website.	Positive	Confirmed at < 0.001**
H10: There is a positive influence of Unique account and the security factors of online shopping website.	Positive	Confirmed at < 0.001**
H11: There is a positive influence of Protects my identity and the security factors of online shopping website.	Positive	Confirmed at < 0.001**

IV. RESULTS AND DISCUSSION

The Figure 1 contains twenty variables for factor influencing online shopping website. The overall model fit statistics for the research model specification for 20 items is not fit for this model so the researcher further modified the model to obtain a better model fit with the guidance of modification indices. As a consequence, nine variables are excluded from the fitted model.

The Table I shows that manifest and latent variable for research specification or description model. As per the modification indices the researcher constructed better model in Figure 2 (Standardised estimates) and Figure 3 (Unstandardised estimates) for factor influencing online shopping website.

The Table II exposes that the regression coefficient of exogenous variables. It is found that t value of the following Low price and low shipping cost, Anytime 24 hours 7 days, Detailed information, Website layout, Searching the products easily, Fast and reliable, Door delivery, The big billion day, Less time to purchase and Unique account manifest variable are significant at 1 per cent level. Among the selected variable all measured variables are positively correlated with factors affecting the online shopping website. Hence remaining nine variables namely Time delivery, easy to choose and make comparison, ease of navigation and order, familiarity with the website, Can view different models with demo video, Less time in evaluating and selecting a product, safe and secure in payment and return, trustworthy website, Product quality are not positively correlated with factors influencing online shopping website because these manifest variable are not fit for the model as per the modification indices.

The Table III reveals that the calculated CMIN/DF (Chi-square Minimum /Degree of Freedom) value is 1.050. The fit between the data and the proposed measurement analysis can be tested with a Chi-square Minimum /Degree of Freedom (CMIN/DF) test where the probability is lesser than or equal to 3 indicates the model is fit. Here GFI (Goodness of Fit Index) and AGFI (Adjusted Goodness of Fit Index) values are positioned at 0.948 and 0.910. The calculated CFI (Comparative Fit Index) value is 0.994 and also it is found that RMSEA (Root Mean Square Error of Approximation) value is 0.019. It can be understood that from table 3, CMIN/DF (Chi-square Minimum /Degree of Freedom) value is not more than 3. The values of GFI, AGFI and CFI for this analysis are more than 0.9 and RMSEA below 0.08 which means the model is acceptable and valuable.

The Table IV shows that the following measured variable Low price and Low shipping cost, Anytime 24 hours 7 days, Detailed information, Website layout, Searching the products easily, Fast and reliable, Door delivery, The big billion day, Less time to purchase and Unique account manifest variable are influenced with latent variables and have positive relationship with 1 per cent the significant level of factors influencing the online shopping website. The figure 2 suggests that all the measured variables are influenced to latent variables.

V. CONCLUSION

Social networking plays crucial role for communication. Especially Facebook became very popular among other social networking sites. It allows the user to create own profile, chatting, message, sharing and so on. By Confirmatory factor analysis, it was found that shopping is due to Low price and Low shipping cost, Anytime 24 hours 7 days, Detailed

information, Website layout, Searching the products easily, Fast and reliable, Door delivery, The big billion day, Less time to purchase and Unique account manifest. The researcher conclude that based on the result of the Confirmatory Factor Analysis, the key factors of online shopping website positively influence the behaviour of Facebook users. This will help the marketers to fish their palms immensely show the worms on mobiles and gadgets.

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