Online Shopping Adoption in Delhi NCR – An Empirical Study

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Abstract

About 40 million consumers purchased products and services online this year and with better infrastructure in terms of logistics, broadband and internet-ready devices, the number is expected to grow to 65 million by the end of 2015. Improved accessibility to the internet and world wide web have made it easier and cheaper for businesses and consumers to interact and conduct commercial transactions electronically as compared the traditional approach of visiting retail stores**.** Primary data has been collected from respondents engaging in online purchases on 31 parameters which were then reduced to a fewer number of factors through factor analysis. This research offers insights into the linkage between e-shopping and customers' decisions to shop or not shop online. This information can help online marketers and retailers develop appropriate market strategies, design and implement technological initiatives and take the right decisions to retain current customers and attract new customers. If online marketers and retailers can better understand their customers, they can improve their product and service offerings and strengthen their competitive advantage. An E-M Online Shopping Adoption Model is tested and validated by significantly relating the factors affecting online shopping adoption.

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Key Words: Online Shopping, Online Shopping Adoption, Online Shopping and Media.

Introduction

Online shopping in India is an emerging trend enabling marketers to promote their merchandise in a wider geographical area using the internet. This trend is likely to grow over the coming decade.India is the fifth country globally and the second in Asia in terms of e-commerce. Indians seem to have grasped the ability to shop merchandise through internet. Mobile internet is also responsible for opening up the online world to Indian consumers.

The average annual spending of Indians on online purchases is expected to rise 67 percent to Rs. 10,000 next year from the current Rs. 6,000 a year on average, said the Assocham-PwC study. About 40 million consumers purchased something online this year and the number is expected to grow to 65 million by the end of this year 2015 with better infrastructure in terms of logistics, broadband and Internet-

ready devices. The Internet and World Wide Web have made it easier, simpler, cheaper and more accessible for businesses and consumers to interact and conduct commercial transactions electronically. This is practically the case when online shopping (i.e. Internet shopping) is compared to the traditional approach of visiting retail stores (McGaughey& Mason, 1998).

Alibaba and Tencent spent more than $8 billion last year alone backing often strikingly similar ventures, as the Chinese Internet giants race to create online one-stop-shops to win the digital loyalty of a tenth of the world's population. Monsuwe, Dellaert, and Ruyter (2004) suggest five reasons that drive consumers to shop online. Firstly, consumers can use minimal time and effort to browse an entire product assortment by shopping online. Secondly, consumers can gain important information about companies, products and brands efficiently by using the Internet to help them make purchase decisions more accurately. Thirdly, when compared to traditional retail shopping, online shopping enables consumers to compare product features, price, and availability more efficiently and effectively. Fourthly, online shopping allows consumers to maintain their privacy when they buy sensitive products. Finally, online shopping can reduce consumers' shopping time, especially for those consumers whose times are perceived to be costly when they do brick-and-mortar shopping (Monsuwe et al., 2004).

E COMMERCE INDUSTRY IN INDIA

Recent years have seen a remarkable transformation in the way India shops and trades. E-commerce has taken the world of retail by storm and captivated the imagination of an entire generation of entrepreneurs, with e-commerce ventures with various business and commercial models. The explosive growth in the last few years has already catapulted the biggest among these ventures past the billion-dollar territory. The sector has grown three times in four years to nearly 12.6 billion USD in 2013. Various industry estimates project that the sector will further growth five to seven times over the next four to five years. Ecommerce industry, which started flourishing in India nearly ten years back with eBay acquiring Avnish Bajaj owned Baazee.com, an online auction portal, has come a long way indeed. It is, at present, one of the fastest growing sectors of the Indian digital economy. The **e-Commerce industry in the India** which grew by 33% last year and saw goods and services worth $3.5 billion exchanging hands is poised for bigger growth and touch new highs. Gartner predicts a 70% growth rate for the sector and expects $6 billion worth of business in 2015.

REVIEW OF LITERATURE

Table 1: Contribution of researchers

YEAR	AUTHOR	FINDINGS
1989	Davis et al.	Next to identifying the steps of the buying process and the potential role of marketing in each stage, marketers are eager to comprehend how purchasing choices and decisions are made, how consumers are likely to react to innovation and how to predict the outcome of the customer vendor interaction.
1999	Donthu and Garcia	Proposed that risk aversion, innovativeness, brand consciousness, price consciousness, importance of convenience, variety-seeking propensity, impulsiveness, attitude toward adverting, attitude toward shopping, and attitude toward direct marketing would influence online shopping behavior.
2000	Bhatnagar, Misra and Rao	Measured how demographics, vender/service/ product characteristics, and website quality influence the consumers, their attitude towards online shopping and consequently their online buying behavior. They report that the convenience the Internet affords and the risk perceived by the consumers are related to the two dependent variables (attitudes and behavior) positively and negatively, respectively.

2000	Hoffman and Novak	Consumers who experience the flow state in a hypermedia CME exhibit exploratory behaviors (e.g., shopping behavior) than those who do not.
2000	Rowley	Studied that the financial risks had been cited as a main reason to stop internet shopping and security had become a major concern both in online transaction relationships.
2001	Heijden, Verhagen, and Creemers	Online purchase intention at the website is strongly determined by attitude towards online shopping at the website. Also, trust-oriented models appear to be more appropriate to explain online purchase intention than website-oriented models.
2001	Lee and Turban	The findings indicate that merchant integrity is a major positive determinant of consumer trust in Internet shopping, and that its effect is moderated by the individual consumer's trust propensity.
2002	Sofres	Given the continuous expansion of the Internet in terms of user numbers, transaction volumes and business penetration this massive research endeavor is not surprising. More than 20 per cent of Internet users in several countries already buy products and services online while more than 50 per cent of US net users regularly buying online.
2002	Lee	Internet meltdown at the end of the 1990s and plenty of more recent anecdotal and empirical evidence indicate that many online firms still do not completely understand the needs and behavior of the online consumer while many of them "...continue to struggle with how effectively to market and sell products online".
2002	Lee & Johnson	Intention will predict actual behavior is somewhat suspect based on the large numbers of dropouts or those who note they are only browsing while online.
2003	Park and Kim	Information affects information satisfaction and relational benefit that, in turn, are significantly related to each consumer's site commitment and actual purchase behavior.
2005	Lim and Dubinsky	Attitude toward online shopping is reinforced to the extent to which consumers think their relevant others support their online purchase behavior.
2005	Chiu, Lin and Tang	Consumer attitudes play a significant role in facilitating their purchase intentions. Also, the influences of perceived ease of purchasing on both attitudes and online purchase intentions are stronger for females than for males.
2006	Schlosser, White, and Lloyd	Effective investments signal the component of trusting beliefs that is most strongly related to online purchase intentions.
2009	Suki and Suki	Conducted a study on 'Cellular Phone Users' Willingness to Shop Online'. The study suggested that marketers should propose more on attractive promotion such as advertisements or discounts through the web.
2011	Chowdhury and Ahmad	Conducted a study on 'factors affecting consumer participation in online shopping in Malaysia'. The major focus of the study was to describe the relationship between independent variables and dependent variable using Pearson's correlation method.

OBJECTIVES OF STUDY

The Objectives of Study are as follows:-

(1) To explore the factors influencing customers decisions to adopt online shopping instead of non – online shopping.

(2) To examine the effect of demographic factors on the adoption of online shopping.

HYPOTHESES OF STUDY

The following Hypotheses were formulated as follows:-

Here $\mathbf{H_0}$ represents Null Hypothesis and $\mathbf{H_A}$ represents Alternative Hypothesis.

Hypothesis 1:-

$\mathbf{H_{01}}$**:** There is no significant relationship between well designed website contents and adoption of online shopping.

$\mathbf{H_{A1}}$**:** There is a significant relationship between well designed website contents and adoption of online shopping.

Hypothesis 2:-

$\mathbf{H_{02}}$**:** There is no significant relationship between security and adoption of online shopping.

$\mathbf{H_{A2}}$**:** There is a significant relationship between security and adoption of online shopping.

Hypothesis 3:-

$\mathbf{H_{03}}$**:** There is no significant relationship between service quality and adoption of online shopping.

$\mathbf{H_{A3}}$**:** There is a significant relationship between service quality and adoption of online shopping.

Hypothesis 4:-

$\mathbf{H_{04}}$**:** There is no significant relationship between cost to customer and adoption of online shopping.

$\mathbf{H_{A4}}$**:** There is a significant relationship between cost to customer and adoption of online shopping.

Hypothesis 5:-

$\mathbf{H_{05}}$**:** There is no significant relationship between product variety and adoption of online shopping.

$\mathbf{H_{A5}}$**:** There is a significant relationship between product variety and adoption of online shopping.

Hypothesis 6:-

$\mathbf{H_{06}}$**:** There is no significant relationship between customer resources and adoption of online shopping.

$\mathbf{H_{A6}}$**:** There is a significant relationship between customer resources and adoption of online shopping.

Hypothesis 7:-

$\mathbf{H_{07}}$**:** There is no significant relationship between product guarantee and adoption of online shopping.

$\mathbf{H_{A7}}$**:** There is a significant relationship between product guarantee and adoption of online shopping.

Hypothesis 8:-

$\mathbf{H_{08}}$**:** There is no significant relationship between convenience and adoption of online shopping.

$\mathbf{H_{A8}}$**:** There is a significant relationship between convenience and adoption of online shopping.

Hypothesis 9:-

$\mathbf{H_{09}}$**:** There is no significant relationship between demographic factors (Gender, Age, Marital Status, Education level, Occupation, and family income) and adoption of online shopping.

$\mathbf{H_{A9}}$**:** There is a significant relationship between demographic factors (Gender, Age, Marital Status, Education level, Occupation, and family income) and adoption of online shopping.

PROPOSED THEORETICAL RESEARCH MODEL

Fig 1: Proposed E-M Online Shopping Adoption Model

The model is designed on the names of the researchers who formulate it as 'E' stands for Esha Jain and 'M' stands for Manish Madan.

RESEARCH DESIGN

The research design is explorative in nature. In order to collate the responses, 7- point Likert's scale from strongly agree to strongly disagree is employed. Exploratory factor analysis was used to identify the factors that influence consumers' decisions to adopt online shopping, which in turn, satisfied the first research objective. The responses obtained from the respondents are analyzed using the Regression analysis. The test of significance is done with the help of t – test and ANOVA. This study is restricted to respondents shopping in Malls in Delhi and NCR. The importance of this study is that it focuses on investigating the impact of various factors on the behavior of customers to adopt online shopping.

SOURCES OF DATA

To cater the need of the research, the researchers have used primary data through self-constructed structured Questionnaire and as far as the secondary data is concerned that was obtained from web sites, journals etc. to explore the significance of various factors on the behavior of customers to adopt online shopping.

DATA COLLECTION TECHNIQUE

Primary data were collected from customers shopping in various malls of Delhi and NCR. There were 197 respondents from various places in Delhi and NCR, out of which 150 filled questionnaires were used for this study (rest 47 rejected due to non-response). Structured questionnaire was constructed to interview the respondents doing shopping in various malls of Delhi and NCR. The responses of the respondents are measured on Likert's seven point scale (ranging from strongly agree to strongly disagree).

SAMPLING TECHNIQUE

As far as the sampling technique is concerned, non-probability convenience sampling is used to collect data.

STATISTICAL TOOLS USED

IBM SPSS 20 (Statistical Package for the Social Sciences), for data analysis and as far as hypothesis testing is concerned, the statistical tools used is regression analysis; for the reduction of factors, the factor analysis is done using Rotated component matrix; for the reliability, the Cronbach's Alpha was calculated; and sample adequacy was tested on KMO and Bartlett's Test.

DATA ANALYSIS AND INTERPRETATION

Reliability Analysis

In order to check the reliability of the questionnaire, the Cronbach's Alpha test was applied (Refer Table 2). The value of Cronbach's alpha is found to be 0.864. As the value of Cronbach's Alpha is more than 0.6, which considers the data to be reliable for hypothesis testing.

Table 2: Reliability Statistics

Reliability Statistics		
Cronbach's Alpha	**Cronbach's Alpha Based on Standardized Items**	**No. of Items**
0.864	0.853	31

Validity Analysis

From Table 3, it is found that the value for Kaiser-Meyer-Olkin Measure of Sampling Adequacy was more than 0.6, and it is 0.852 also Bartlett's Test of Sphericity has significant value less than 0.05 at 5 % level of significance. So factor analysis was conducted successfully for data reduction.

Table 3: KMO and Barlett's test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.852
Bartlett's Test of Sphericity	Approx. Chi-Square	6349.232
	Df	630
	Sig.	0.000

FACTOR ANALYSIS

The results of statistical assumption tests revealed that the data set was appropriate for factor analysis. Thus, principal component factor analysis was conducted on all of the items that were identified from the literature review. Rotated Component Matrix is given in Table 4.

Table 4: Factor Analysis by using Rotated Component Matrix

	1	2	3	4	5	6	7	8
My Contact Details and Information kept secret by Retailer	0.752							
Online Purchases are of low risk.	0.782							
My bank card detail and online payment detail are safe.	0.731							
It gives sense of confidence in me that my details are kept secret by retailer.	0.724							
In terms of security online shopping can be comparable with the traditional shopping.	0.629							
Regular and continuous access to internet		0.841						
Regular and continuous access to computer		0.863						
Skill level in using Internet		0.725						
Awareness about process of making online purchase		0.671						
The design of website of retailer is attractive			0.862					
Easy to access and complete transaction through retailer website			0.881					

Flexible links are available on the website of retailer to move back and forth			0.552					
Navigation of retailer's website is easy			0.620					
Website contain in-depth information to solve queries of customers			0.719					
Online purchases help to reduce transportation cost				0.847				
Online purchases help to buy similar products at cheaper prices				0.519				
Online purchases is better value for money				0.723				
Internet offers comparatively low prices than the traditional retailers				0.838				
Online Retailers encourages for feedback and suggestions					0.521			
Online Retailers understand the needs of the customers					0.838			
After sales services are easily provided by online retailers					0.619			
Internet retailers provide personalized customer service to the buyers					0.730			

Internet retailers provide personalized customer service to the buyers					0.730			
Less time and efforts in making online purchases						0.581		
Online purchases saves time so that other activities can be done during that time						0.883		
Online purchases are more convenient than the traditional purchases						0.739		
The product received on delivery is similar in quantity and quality as per commitment of online retailer							0.553	
Product Guarantee is honored by online retailers							0.771	
Delivery time is as per promised time							0.842	
Wide Variety of products are available on the internet								0.927
I always purchase the types of products I want from the Internet.								0.620
I can buy the products that are not available in retail shops through the Internet								0.881

From the Table 4, the 31 variables are condensed to eight factors viz.

Factor 1: This factor explains the first component and is designated as ***"Security"*** **(S).**

Factor 2: This factor explains the second component and is designated as ***"Customer accessibility"*** **(CA).**

Factor 3: This factor explains the third component and is designated as ***"Website Contents"*** **(WC).**

Factor 4: This factor explains the fourth component and is designated as ***"Cost to Customer"*** **(CC).**

Factor 5: This factor explains the Fifth component and is designated as ***"Quality of Service"*** **(QS).**

Factor 6: This factor explains the Sixth component and is designated as ***"Customer Resources"*** **(CR).**

Factor 7: This factor explains the Seventh component and is designated as ***"Guarantee and Warranty"*** **(GW).**

Factor 8: This factor explains the Eighth component and is designated as ***"Product Variety".*** **(PV)**

KARL PEARSON COEFFICIENT OF CORRELATION

		S	CA	WC	CC	QS	CR	GW	PV
Pearson Correlation Coefficient	S	1	-0.583	0.831	-0.628	0.481	0.028	0.726	-0.318
N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		---	0.293	**0.021***	0.419	0.217	0.618	**0.031***	0.529
Pearson Correlation Coefficient	CA	-0.583	1	0.529	0.419	0.281	0.619	0.518	0.416
N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		0.293	---	**0.000***	**0.033***	**0.000***	**0.000***	**0.027***	**0.032***
Pearson Correlation Coefficient	WC	-0.583	0.529	1	0.539	0.618	0.738	0.428	0.315
N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		0.293	**0.000***	---	**0.027***	**0.000***	**0.000***	**0.0317***	**0.0381***
Pearson Correlation Coefficient	CC	-0.628	0.419	0.539	1	0.428	0.517	0.481	0.729
N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		0.419	**0.033***	**0.027***	---	**0.041***	**0.032***	**0.000***	**0.000***
Pearson Correlation	QS	0.481	0.281	0.618	0.428	1	0.824	0.726	0.530

N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		0.217	**0.000***	**0.000***	**0.041***	---	**0.000***	**0.031***	**0.000***
Pearson Correlation Coefficient	CR	0.028	0.619	0.738	0.517	0.824	1	0.523	0.284
N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		0.618	**0.000***	**0.000***	**0.032***	**0.000***	---	**0.027***	**0.000***
Pearson Correlation Coefficient	GW	0.726	0.518	0.428	0.481	0.726	0.523	1	0.848
N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		**0.031***	**0.027***	**0.0317***	**0.000***	**0.031***	**0.027***	---	**0.000***
Pearson Correlation Coefficient	PV	-0.318	0.416	0.315	0.729	0.530	0.284	0.848	1
N		150	150	150	150	150	150	150	150
Sig. (2 – tailed)		0.529	**0.032***	**0.0381***	**0.000***	**0.000***	**0.000***	**0.000***	---

Table 5: Karl Pearson Coefficient of correlation

HYPOTHESES TESTING (Hypothesis No. 1 to No. 8)
In order to test the hypotheses 1 to 8, logistic regression analysis was used. Since the value of Chi square is 428.99621 and p value is 0.0001 having degree of freedom 19 so the model fitted the data very well. Since the value of pseudo R square is 0.8635 which means the model explains 86.35% variance in the choice of online shopping. The logistic regression results are given in Table 6. On the basis of the Table 5 of logistic regression analysis, the summary of hypothesis testing is given below:

Table 6: Logistic Regression Analysis

Factors	B	S. E.	Sig.
Security	-3.4392	0.3824	**0.000***
Customer Accessibility	0.72982	0.2403	**0.014***
Website Contents	0.68917	0.2947	**0.028***
Cost to Customer	5.62912	2.5032	3.295
Quality of Service	-1.3902	0.2893	**0.000***
Customer Resources	1.6723	0.2408	**0.000***
Guarantee and Warranty	4.7470	3.8838	2.390
Product Variety	0.3093	0.2401	**0.023***

SUMMARY OF HYPOTHESIS TESTING

Table 7: Summary of Hypotheses testing

HYPOTHESES	NULL HYPOTHESIS	ALTERNATIVE HYPOTHESIS
Hypothesis 1	REJECTED	**ACCEPTED**
Hypothesis 2	REJECTED	**ACCEPTED**
Hypothesis 3	REJECTED	**ACCEPTED**
Hypothesis 4	**ACCEPTED**	REJECTED
Hypothesis 5	REJECTED	**ACCEPTED**
Hypothesis 6	REJECTED	**ACCEPTED**
Hypothesis 7	**ACCEPTED**	REJECTED
Hypothesis 8	REJECTED	**ACCEPTED**

HYPOTHESIS TESTING (Hypothesis – 9) – Demographic Factors

Table 8: T – test: Online Shopping Adoption and Gender (Sample Size – 150)

Factors	Mean	T	Sig.
Security	5.845	0.204	0.863
Customer Accessibility	5.923	0.339	0.359
Website Contents	4.991	-1.673	0.259
Cost to Customer	5.728	0.672	0.337
Quality of Service	5.589	0.002	0.481
Customer Resources	4.446	0.836	0.338
Guarantee and Warranty	5.518	0.921	0.401
Product Variety	5.047	0.834	0.550

ANOVA – F test: Online Shopping Adoption and Age (Sample Size – 150)

Table 9: F - Test

Factors	Mean	F	Sig.
Security	4.548	14.724	**0.000***
Customer Accessibility	5.552	3.782	**0.023***
Website Contents	5.578	4.226	**0.047***
Cost to Customer	4.441	3.901	**0.000***
Quality of Service	5.559	2.440	**0.012***
Customer Resources	5.824	3.891	**0.000***
Guarantee and Warranty	5.551	4.229	**0.028***
Product Variety	4.672	5.168	**0.000***

ANOVA – F test: Online Shopping Adoption and Marital Status (Sample Size – 150)

Table 10: F - Test

Factors	Mean	F	Sig.
Security	5.438	4.243	**0.000***
Customer Accessibility	4.523	5.722	0.392
Website Contents	5.598	5.262	**0.038***
Cost to Customer	5.417	4.015	**0.000***
Quality of Service	4.559	3.407	0.931
Customer Resources	4.824	4.816	0.450
Guarantee and Warranty	4.551	5.296	**0.031***
Product Variety	5.623	4.188	**0.000***

ANOVA – F test: Online Shopping Adoption and Education Level (Sample Size – 150)

Table 11: F - Test

Factors	Mean	F	Sig.
Security	5.835	15.243	**0.000***
Customer Accessibility	5.623	15.722	**0.000***
Website Contents	4.980	4.623	**0.033***
Cost to Customer	5.173	5.150	**0.000***
Quality of Service	5.554	4.076	**0.037***
Customer Resources	5.240	5.169	**0.025***
Guarantee and Warranty	4.341	4.299	**0.000***
Product Variety	5.236	5.883	**0.000***

On the basis of the Table 8, 9, 10 and 11 of ANOVA, the summary of hypothesis 9 testing is given below: (Here A is Accepted and R is Rejected

Table 12: Summary of hypothesis 9 Testing

Factors	GENDER		AGE		MARITAL STATUS		EDUCATION LEVEL	
	NULL	ALT.	NULL	ALT.	NULL	ALT.	NULL	ALT.
S	**A**	R	R	**A**	R	**A**	R	**A**
CA	**A**	R	R	**A**	**A**	R	R	**A**
WC	**A**	R	R	**A**	R	**A**	R	**A**
CC	**A**	R	R	**A**	R	**A**	R	**A**
SQ	**A**	R	R	**A**	**A**	R	R	**A**
CR	**A**	R	R	**A**	**A**	R	R	**A**
GW	**A**	R	R	**A**	R	**A**	R	**A**
PV	**A**	R	R	**A**	**A**	R	R	**A**

CONCLUSION

This research offers insights into the linkage between e-shopping and customers' decisions to shop or not shop online. This information can help online marketers and retailers develop appropriate market strategies, design and implement technological initiatives and take the right decisions to retain current customers and attract new customers. If online marketers and retailers can better understand their customers, they can improve their product and service offerings and strengthen their competitive advantage.

There is a positive correlation between factors considered for study and the adoption of online shopping. There is significant relationship between security, content of website and Guarantee of product. Customer Accessibility is significantly related to Website Content, Cost to Customer, Quality of Service, Customer Resources, Guarantee and Warrantee and Product Variety. Website content is related to all other factors. It is clear from correlation matrix that most of the factors are significantly related to other factors. There is significant relationship between Security, Customer Accessibility, Website Content, Quality of Service, Accessibility and Product Variety and Adoption of Online Shopping. While there is no significant relationship between Cost to Customer, Guarantee and Warrantee and the Adoption of Online Shopping. As far as the Gender is concerned there is no significant relationship between the Gender and adoption of online shopping while there is significant relationship between other demographic factors like Age, Marital Status and Education level and adoption of online shopping.An E-M Online Shopping Adoption Model is tested and validated by significantly relating the factors affecting online shopping adoption.

RESEARCH LIMITATIONS

The study focuses on general problems faced by online marketers compared to traditional marketers. There might be certain more variables as one person is satisfied on particular aspect but another may not on the same aspect.

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