

A Conceptual Model to Measure the Impact of Consumer Behaviour on E-Retailing in India

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ABSTRACT

21st century is the era of information technology. Be it social networking, banking, ticket booking or e-retailing, the presence of information technology is ubiquitous in our day-to-day affairs. IT has transcended the physical distance between the service providers and the service receivers. It has also provided the consumers the much needed convenience and offered them competitive price for various products and services. In this context, e-retailing has become a major shopping medium for customers specially the younger generations. The tech savvy young generation has taken to e-retailing like a fish takes to water. Even the older generations are becoming comfortable with the use of information technology for shopping purpose. India despite being a late starter, has become a major force in e-retailing and managed to achieve the tag of the fastest growing market in this category within a very short period. Apart from the home grown Flipkart, Snapdeal, Paytm, Shopclues, the largest e-tailer in the world Amazon has also made it into the country. Top retailers like Walmart and Alibaba have picked up major stakes in various e-tailers. The competition has become intense with large discounts and large assortment of products the order of the day. In this context, it has become essential for e-tailers to gauge the consumer behaviour to effectively target them. The present study is an effort to find out the various essential factors impacting e-retail purchase in India and develop a conceptual model for the same.

Keywords : E-retail, Information technology, Factor Analysis, Constructs, Conceptual model

I. INTRODUCTION

Online shopping is on a high growth trajectory due to the massive response of people. The forecast doesn't indicate towards any change in this trend in the foreseeable future and is expected to grow at an even faster pace. Customers are enjoying the convenience of shopping from home and with the easy availability of devices capable of accessing internet and plunging data tariffs, more and more number of people will be encouraged to adopt this medium of shopping in near future. With the advancement in the field of networking, multimedia

and data processing, e-retailing has brought in new business opportunities for companies. They are spending billions to find the perfect business model to attract customers and bring in revenues. Apart from convenience, e-retailing offers customers additional benefits like larger choice of products, ability to interact and exchange ideas using online communities so on. Both companies and customers have recognized these benefits and gradually, shopping using e-retailing sites is becoming an integral part of people's daily life. The revolution in the field of internet has dramatically changed the way customers search and use information. Internet,

which was conceptualized as a medium to gather information has become a vital place to conduct business.

The literature review has been carried out related to the area of e-retailing consumer behaviour. There have been very few studies carried out related to consumer behaviour in e-retailing in the Indian context. Detailed search of literature didn't reveal too many research works in this area in the Indian context. As a result, the researcher was forced to review literatures related to foreign countries in this area. Under the circumstances, it is well understood that there is a need for an extensive and detailed study analyzing various behavioural aspects impacting e-retailing consumer behaviour in the Indian context. Through this research work, the researcher expects to understand the various behavioural aspects of online shoppers impacting the adoption of shopping using e-retailing sites.

Objectives:

- i) To develop constructs to measure the impact of consumer behaviour on e-retailing in Indian context
- ii) To test the reliability and validity of the constructs
- iii) To develop a conceptual model for further study

Review of literature:

Karayanni (2003) carried out a comparative study to find out the factors differentiating online shoppers from non shoppers. The major factors found to be the key were web-shopping motives related to time efficiency, availability of 24 hour shopping and avoidance of queues during shopping. The study also found lack of trust on e-retailing to be a negative factor of e-retailing behaviour.

Kim & Eom (2002) did a study to find out the significant factors impacting the intention towards e-retailing. They found convenience, dependable shopping, reliability of retailers, additional information and product perception as the important factors impacting e-retailing intention.

Hirst & Omar (2007) carried out a study to assess the apparel shopping behaviour of women on the internet where they found convenience, usefulness, ease of use and efficiency to have positive impact on e-retailing.

Vijayasathy (2001) carried out a study to find out the factors impacting attitude and intention to use e-retailing. The study revealed that integrated factors related to web or e-retailing aids could explain consumer e-retailing behaviour better.

i) Perceived Usefulness

Chu & Lu (2007) carried out a study to understand the factors impacting online music purchase intention in Taiwan. They found that perceived usefulness had a significant impact on online music purchase intention. **Mangin et al. (2011)** used the Technology acceptance model to understand the impact of perceived usefulness on adoption of online banking services in Canadian banking environment. They found perceived usefulness to be an important factor of adoption of online banking. According to an empirical research carried out by **Liao & Shi (2009)**, perceived usefulness had a positive influence on consumer attitude towards online shopping adoption.

ii) Perceived Ease of Use

Ramayah & Ignatius (2005) found evidence to suggest that perceived ease of use had a positive impact on behavioural intention of e-retailing. **Jisoo (2015)** carried out a study on improving user interaction in interactive TV based on ethnographic insights from real life problems where perceived ease of use was found to have a significant impact on perceived

usefulness. **Davis et al. (1989)** in their study on comparison of two theoretical models regarding user acceptance of computer technology found perceived ease of use to have a significant impact on perceived usefulness and attitude.

iii) Perceived Enjoyment

Sun & Zhang (2006) tested two alternative models to find out the relationship between perceived ease of use and perceived enjoyment where the impact of perceived enjoyment on perceived ease of use was found to be stronger than the other way round. **Davis et al. (1992)** found intrinsic enjoyment to be a direct determinant of user acceptance online. **Jarvenpaa & Todd (1997)** found perceived enjoyment to have a significant impact on attitude and intention to shop online.

iv) Perceived Risk

Clemes et al. (2014) found perceived risk to be an important factor determining e-retailing adoption. According to **Zhao & Li (2012)**, perception of higher risk towards e-retailing among customers results in significant negative impact on attitude and intention to shop online. **Alreck & Settle (2002)** found that due to limited access to product and sales people, perceived risk in e-retailing was far higher which was adversely impacting purchase via internet.

v) Web Aesthetics

An empirical study carried out by **Huang (2003)** found that perceived complexity of a website had a negative influence on pleasure. **Lindguard et al. (2003)** in their study on user satisfaction found that highly appealing websites had an impact on satisfaction of online users. **Van der Heijden (2003)** carried out a study to find out factors impacting usage of websites which showed that online visual attractiveness which was the degree to which someone believed that a website was appealing

aesthetically to the eyes, had a favourable impact on the intention to use a website.

vi) Attitude and Intention

Laroche (2002) carried out a study on consumer brand choice where it was found that consumers' intention to buy a particular brand not only was impacted by the attitude towards that particular brand, but also by the attitude towards other considered brands. According to **Chen (2007)**, attitude of consumers to purchase organic food has a positive impact on the intention to purchase organic food. **Thøgersen & Ölander (2006)** did a panel study on the dynamic interaction of personal norms and environment-friendly buying behavior where they found attitude to be a vital predictor of intention to consume organic food in case of vegetables and fruits.

vii) Impact of Demographic variables on Attitude and Intention

a) Gender

Sebastianelli et al. (2008) in their study on perceived quality of e-retailing, categorized products into three categories- search, experience and credence. They found that males tend to purchase search products more whereas female affinity is higher towards purchasing experience products. **Hasan (2010)** segregated attitude into three types- cognitive, affective and behavioral. According to him, in case of cognitive attitude, males found e-retailing to be more useful as a shopping platform than their female counterparts. As a result, females also displayed less positive affective attitude towards e-retailing. A study conducted by **Flavian et al. (2011)** showed that quality images had the ability to increase female satisfaction which resulted in improved purchase intention whereas in case of males despite of increased satisfaction, it didn't result in improved purchase intention.

b) Age

Goldsmith & Goldsmith (2002) carried out a study to understand the factors impacting online apparel buying behaviour of consumers where they found that age didn't have any impact on buying apparels online. According to a study on attitude and age differences conducted by **Sorce et al. (2005)**, older online shoppers managed to find far lesser number of useful products online compared to the younger shoppers. They also found differences in attitude based on age. **Dholakia & Uusitalo (2002)** carried out a study on consumer characteristics of electronic stores where they found that perception of hedonic benefit was higher among older individuals for offline shopping compared to younger people.

c) Income

Lohse et al. (2000) commented that income didn't have any impact on if someone purchases online or not. But they also added that income had an impact on online spending. The more one's household income, the more they spend online. **Iyer & Eastman (2004)** in their study on attitude towards the internet found significant influence of income on e-retailing. According to them, people with higher income tend to be users of internet and online shoppers. **Sim & Koi (2002)** carried out a study on Singapore's internet shoppers and their impact on shopping patterns where they found that people with higher income shopped online more often.

d) Educational Qualification

Fram & Grandy (1997) carried out a study on internet shoppers where education was frequently found to be impacting e-retailing purchase. **Sultan & Henrichs (2000)** in their study on consumer preferences for internet services reported that education had a significant influence on e-retailing. According to **Burke (2002)**, consumers with better education were more comfortable using non store shopping channels

like internet and catalogues to search for products, gather product information and make purchases.

e) Internet Experience

Shim et al. (2001) conducted a study where they found direct and indirect relationships between previous internet purchase experience and online purchase intention. According to **Koyunchu & Lien (2003)**, prior internet experience reduced the time needed to navigate websites and search for information resulting in higher possibility of online purchase. **Verplanken et al. (1998)** said that prior experience enhances the affective component of one's attitude.

Research Methodology:

i) Research Method

The present study is a quantitative research in nature. Since this study was carried out to develop a conceptual model for further study, the inductive approach was used for the same.

ii) Research Design

The present research work is exploratory in nature in the initial part. Once the insights of the problem were gained, it was verified and conclusive research was used to quantify it. Descriptive study was carried out subsequently to meet the conclusive research requirements. Expert opinion was used to frame the research instrument.

iii) Sampling Design

Purposive sampling has been used to collect data in this study. Keeping in mind that majority of online shoppers are younger, more representation was given to them during selection of samples.

iv) Data Collection Method

Primary data has been used in the study. For investigation and data collection purpose, survey method has been used which is quite common in behavioural and marketing researches. Data was

collected using structured questionnaire as an instrument, which was created using the Google Forms programme. All the questions in the questionnaire were strictly answerable and hence there were no receipt of incomplete questionnaire. The questionnaires were distributed using strictly online method via e-mail and Facebook. Basic demographic data was collected using nominal scale and behavioural aspects were recorded using likert scale. The collected data was quantitative in nature.

v) Sample Size

According to **Gorsuch (1983)** and **Kline (1994)**, minimum 100 subjects are required for sampling purpose to carry out an exploratory factor analysis. Hence, for the present study, data from total 108 respondents were collected. Samples were collected from Bhubaneswar and Kolkata, which are the capital cities of the states of Odisha and West Bengal respectively.

Table-1: Original items adapted for the study and their sources

Factors	Items	Sources
Perceived Usefulness	Using CHART-MASTER in my job would enable me to accomplish tasks more quickly	Davis (1989)
	Using CHART-MASTER would improve my job performance	
	Using CHART-MASTER in my job would increase my productivity	
	Using CHART-MASTER would enhance my effectiveness on the job	
	Using CHART-MASTER would make it easier to do my job	
	I would find CHART-MASTER useful in my job	
Perceived Ease of Use	Learning to operate CHART-MASTER would be easy for me	Davis (1989)
	I would find it easy to get CHART-MASTER to do what I want it to do	
	My interaction with CHART-MASTER would be clear and understandable	
	I would find CHART-MASTER to be flexible to interact with	
	It would be easy for me to become skillful at using CHART-MASTER	
	I would find CHART-MASTER easy to use	
Perceived Enjoyment	Enjoyable-disgusting	Van der Heijden (2004)
	Exciting-dull	
	Pleasant-unpleasant	
	Interesting-boring	
Perceived Risk	Financial risk	Peter & Tarpey (1975); Cheng et al.
	Performance risk	
	Social risk	
	Time risk	

	Privacy risk	(2013)
Visual Appeal*	The Web site is pleasing to look at	Cai et al. (2008)
	I like the look and feel of the web site	
	The Web site is visually appealing	
	The visual design of the Web site is attractive	
Organization*	The design of Web site is harmonious	Cai et al. (2008)
	The layout of the Web site is intuitive	
	The Web site has logically organized elements	
	The layout of the Web site was designed in a manner I am accustomed to	
Attitude	All things considered, my using spreadsheets in accomplishing various tasks in industry was good	Al-Gahtani & King (1999)
	All things considered, my using spreadsheets in accomplishing various tasks in industry was wise	
	All things considered, my using spreadsheets in accomplishing various tasks in industry was favourable	
	All things considered, my using spreadsheets in accomplishing various tasks in industry was beneficial	
	All things considered, my using spreadsheets in accomplishing various tasks in industry was positive	
Intention	I will do most of my future purchase for [product] with this Web site	Cai et al. (2008)
	I will recommend this Web site to friends, neighbors, and relatives	
	I will use this Web site the very next time I need to shop	

* Cai et al. (2008) proposed a two dimensional structure of Web site Aesthetics by taking Visual Appeal and Organization as two of its components

Table-2 :Demographic Characteristics of the sample

Variables	Category	Frequency	Percent (%)
Gender	Male	69	63.9
	Female	39	36.1
	Total	108	100.0
	Less than 25	28	25.9

Age	Between 25 and 35	57	52.8
	Between 35 and 50	16	14.8
	More than 50	7	6.5
	Total	108	100.0
Educational Qualification	Class 12	6	5.6
	Diploma	19	17.6
	Graduation	50	46.3
	Post graduation or higher	33	30.5
	Total	108	100.0
Monthly Income	Less than Rs.10000	36	33.3
	Between Rs.10000 and Rs.30000	33	30.6
	Between Rs.30000 and Rs.50000	22	20.4
	More than Rs.50000	17	15.7
	Total	108	100.0
Internet Experience	Less than 1 year	4	3.7
	Between 1-3 years	8	7.4
	Between 3-5 years	16	14.8
	More than 5 years	80	74.1
	Total	108	100.0

Content validity:

The items considered for the study are adapted versions of various established and validated scales. After making necessary modifications within the items to suit the present study, they were shown to

some subject experts for their opinions regarding the suitability, wordings and completeness of the same. According to their suggestions, further modifications were carried out within the items to achieve the final set of items.

Final items for the study:

The following 37 adapted items were used in the study:

Item-1: Using e-retailing as a shopping medium enables me to accomplish my shopping tasks more quickly

Item-2: Using e-retailing as a shopping medium improves my shopping performance

Item-3: Using e-retailing sites for shopping increases my productivity

Item-4: Using e-retailing sites for shopping enhances my shopping effectiveness

Item-5: Using e-retailing sites makes it easier for me to shop

Item-6: I find e-retailing sites useful for shopping

Item-7: Learning to operate e-retailing sites was easy for me

Item-8: I find it easy to get the e-retailing sites to do what I want it to do

Item-9: My interaction with e-retailing sites is clear and understandable

Item-10: I find the e-retailing sites flexible to interact with

Item-11: It is easy for me to become skilful at using the e-retailing sites

Item-12: I find e-retailing sites easy to use

Item-13: E-retailing sites are enjoyable

Item-14: E-retailing sites are exciting

Item-15: E-retailing sites are pleasant

Item-16: E-retailing sites are interesting

Item-17: Using e-retailing sites could lead to financial loss for me

Item-18: Products purchased using e-retailing sites might not perform as expected

Item-19: Society might not approve my purchases from e-retailing sites

Item-20: Using e-retailing sites could lead to waste of time due to time required for product exchanges and delivery of products

Item-21: Using e-retailing sites could lead to loss of privacy

Item-22: E-retailing sites are pleasing to look at

Item-23: I like the look and feel of e-retailing sites

Item-24: E-retailing sites are visually appealing

Item-25: The visual designs of e-retailing sites are attractive

Item-26: The designs of e-retailing sites are harmonious

Item-27: The layouts of e-retailing sites are intuitive

Item-28: The e-retailing sites have logically organized elements

Item-29: The layout of e-retailing sites are designed in a manner I am accustomed to

Item-30: All things considered, using e-retailing sites for shopping is good

Item-31: All things considered, my using e-retailing sites for shopping is wise

Item-32: All things considered, my using e-retailing sites for shopping is favourable

Item-33: All things considered, my using e-retailing sites for shopping is beneficial

Item-34: All things considered, my using e-retailing sites for shopping is positive

Item-35: I will do most of my future shopping from e-retailing sites

Item-36: I will recommend e-retailing sites to friends, neighbours, and relatives

Item-37: I will use e-retailing sites the very next time I need to shop

Exploratory factor analysis:

To understand the various factors influencing customer's attitude towards e-retailing, the responses of respondents were examined with the help of factor analysis using principal component analysis method with Promax rotation. According to McDonald (1999), in case of actual application, rarely factors underlying tests can be truly uncorrelated. Hence it was suggested that the most appropriate rotation

method would be oblique rotation. Promax raises the loadings to a power of four which ultimately offers better correlations among the factors and develops a simple structure. (Gorsuch, 1983)

There are three objectives of carrying out factor analysis; (i) to unravel the factors underlying the data, (ii) to test the validity (unidimensionality, convergent and discriminant validity) of the factors, and (iii) to calculate the factor scores through subsequent analyses.

Upon factor analysis, two of the items namely Item 29 and Item 31 were found to have cross loadings on two factors each since both the items had loaded higher than 0.32 on both those factors (Costello & Osborne, 2005) and the difference being less than 0.2 between the loadings in each case and thus insignificant (Cudeck & O'Dell, 1994). Hence, these two items were dropped from further analysis and the exploratory factor analysis was repeated in the absence of the two above mentioned items.

According to Lai et al. (2004), we need to repeat EFA until we manage to drop all the deletable items. Hence, EFA was repeated with the remaining 35 items. The various results obtained from the second exploratory factor analysis are given below:

Table-2 :KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.846
Approx. Chi-Square		1999.839
Bartlett's Test of Sphericity	df	595
	Sig.	.000

The Kaiser-Meyer-Olkin (KMO) measures the sampling adequacy, which determines if the responses received using the sample is adequate, or not. The above table shows the value of KMO measure of sampling adequacy statistics to be 0.846 which is above the stipulated lower limit of 0.7 and hence acceptable. (Kaiser, 1974). Apart from that Bartlett's test of Sphericity value was found to be 1999.839 which is also significant ($p < 0.05$). Hence, the sample is amenable to factor analysis.

Table-3 :Communalities

	Initial	Extraction
Item1	1.000	.693
Item2	1.000	.596
Item3	1.000	.740
Item4	1.000	.598
Item5	1.000	.735
Item6	1.000	.671
Item7	1.000	.559
Item8	1.000	.861
Item9	1.000	.751
Item10	1.000	.568
Item11	1.000	.729
Item12	1.000	.857
Item13	1.000	.853
Item14	1.000	.694
Item15	1.000	.603
Item16	1.000	.852
Item17	1.000	.805
Item18	1.000	.599
Item19	1.000	.641
Item20	1.000	.526
Item21	1.000	.547
Item22	1.000	.522
Item23	1.000	.573
Item24	1.000	.429
Item25	1.000	.567
Item26	1.000	.628
Item27	1.000	.562
Item28	1.000	.592
Item30	1.000	.658
Item32	1.000	.588
Item33	1.000	.521
Item34	1.000	.737
Item35	1.000	.756
Item36	1.000	.591
Item37	1.000	.633

Extraction Method: Principal Component Analysis.

Table-4: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.263	20.751	20.751	7.263	20.751	20.751	4.398
2	3.868	11.051	31.803	3.868	11.051	31.803	3.986
3	3.659	10.454	42.257	3.659	10.454	42.257	3.761
4	3.012	8.606	50.863	3.012	8.606	50.863	3.164
5	2.637	7.534	58.397	2.637	7.534	58.397	2.934
6	1.811	5.174	63.571	1.811	5.174	63.571	2.834
7	1.435	4.100	67.671	1.435	4.100	67.671	2.608
8	.908	2.594	70.266				
9	.835	2.386	72.651				
10	.802	2.291	74.943				
11	.768	2.194	77.137				
12	.712	2.034	79.171				
13	.653	1.866	81.037				
14	.612	1.749	82.786				
15	.584	1.669	84.454				
16	.533	1.523	85.977				
17	.512	1.463	87.440				
18	.491	1.403	88.843				
19	.453	1.294	90.137				
20	.412	1.177	91.314				
21	.384	1.097	92.411				
22	.359	1.026	93.437				
23	.312	.891	94.329				
24	.293	.837	95.166				
25	.264	.754	95.920				
26	.236	.674	96.594				
27	.213	.609	97.203				
28	.192	.549	97.751				
29	.171	.489	98.240				
30	.146	.417	98.657				
31	.128	.366	99.023				
32	.103	.294	99.317				
33	.099	.283	99.600				

34	.087	.249	99.849				
35	.053	.151	100.000				
Extraction Method: Principal Component Analysis.							

Communalities for each factor are presented in Table-3. Communalities show how much of the variance in the variables have been accounted for by the extracted factors. The above table shows that the extracted values for all the items are more than 0.4 which is the minimum acceptable score for the same (**Fabrigar et al., 1999**). Hence, all the items were retained for subsequent steps of factor analysis.

The Total Variance explained is presented in Table-4. Eigen value reflects the number of extracted factors whose sum should be equal to number of items which are subjected to factor analysis. The final decision to arrive at the number of factors to be retained was taken on the basis of latent root criterion which is variables depicting Eigen Values greater than 1 (**Kaiser, 1960**). Keeping this criteria in mind, seven rotated factors were extracted which together explains 67.671% of the total variance which is higher than the acceptable variance limit of 60 per cent (**Zikmund et al., 2010**). Eigen values for factors F1 to F7 are 7.263, 3.868, 3.659, 3.012, 2.637, 1.811, and 1.435 respectively. Subsequently, appropriate names were assigned to all the seven dimensions extracted based on the various items representing each one of them.

Table-5:Pattern Matrix^a

	Component						
	1	2	3	4	5	6	7
Item35	.844						
Item37	.770						
Item36	.743						
Item26		.845					
Item23		.821					
Item22		.785					
Item25		.749					
Item24		.710					
Item28		.695					
Item27		.661					
Item3			.827				
Item5			.812				
Item1			.802				
Item6			.799				
Item4			.692				

Item2		.581				
Item34			.841			
Item30			.768			
Item33			.686			
Item32			.593			
Item17				.879		
Item19				.788		
Item18				.751		
Item20				.674		
Item21				.556		
Item16					.876	
Item13					.873	
Item14					.796	
Item15					.667	
Item12						.900
Item8						.878
Item9						.823
Item11						.804
Item7						.643
Item10						.636

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

The objective of rotation is to reduce the number of factors on which the variables under investigation have high loadings. It only makes the interpretation of analysis easier without changing anything (Osborne & Costello, 2009).

The lower limit for item loadings was set at .30 since according to several researchers, anything less than that should not be considered (Armor, 1974).

Table-6:Component Correlation Matrix

Component	1	2	3	4	5	6	7
1	1.000	.160	.112	.160	-.135	.205	.415
2	.160	1.000	.103	.246	-.236	.378	.117
3	.112	.103	1.000	.154	-.151	.128	.118
4	.160	.246	.154	1.000	-.277	.276	.132
5	-.135	-.236	-.151	-.277	1.000	-.209	-.197
6	.205	.378	.128	.276	-.209	1.000	.169
7	.415	.117	.118	.132	-.197	.169	1.000

Extraction Method: Principal Component Analysis
 Rotation Method: Promax with Kaiser Normalization

Factors extracted:

The 7 factors extracted are given below

Factor-1: Intention to purchase Online

This factor contains three items- Item 35, Item 37, Item 36 explaining 20.751% of variance in the data, with the Eigen value of 7.263. The items associated with this factor are given below:

INT1: I will do most of my future shopping from e-retailing sites

INT2: I will use e-retailing sites the very next time I need to shop

INT3: I will recommend e-retailing sites to friends, neighbours, and relatives

Factor-2: Web Aesthetics

This factor contains eight items- Item 26, Item 23, Item 22, Item 25, Item 24, Item 29, Item 28, Item 27 explaining 11.051% of variance in the data, with the Eigen value of 3.868. The items associated with this factor are given below:

WA1: The designs of e-retailing sites are harmonious

WA2: I like the look and feel of e-retailing sites

WA3: E-retailing sites are pleasing to look at

WA4: The visual designs of e-retailing sites are attractive

WA5: E-retailing sites are visually appealing

WA6: The e-retailing sites have logically organized elements

WA7: The layouts of e-retailing sites are intuitive

Factor-3: Perceived Usefulness

This factor contains six items- Item 3, Item 5, Item 6, and Item 1, Item 4, Item 2 explaining 10.454% variance in the data, with the Eigen value of 3.659. The items associated with this factor are given below:

PU1: Using e-retailing sites for shopping increases my productivity

PU2: Using e-retailing sites makes it easier for me to shop

PU3: Using e-retailing as a shopping medium enables me to accomplish my shopping tasks more quickly

PU4: I find e-retailing sites useful for shopping

PU5: Using e-retailing sites for shopping enhances my shopping effectiveness

PU6: Using e-retailing as a shopping medium improves my shopping performance

Factor-4: Attitude towards E-retailing

This factor contains five items- Item 31, Item 34, Item 30, Item 33, Item 32 explaining 8.606% of variance in the data, with the Eigen value of 3.012. The items associated with this factor are given below:

ATT1: All things considered, my using e-retailing sites for shopping is positive

ATT2: All things considered, using e-retailing sites for shopping is good

ATT3: All things considered, my using e-retailing sites for shopping is beneficial

ATT4: All things considered, my using e-retailing sites for shopping is favourable

Factor-5: Perceived Risk

This factor contains five items- Item 17, Item 19, Item 18, Item 20, and Item 21 explaining 7.534% of variance in the data, with the Eigen value of 2.637. The items associated with this factor are given below:

PR1: Using e-retailing sites could lead to financial loss for me

PR2: Society might not approve my purchases from e-retailing sites

PR3: Products purchased using e-retailing sites might not perform as expected

PR4: Using e-retailing sites could lead to waste of time due to time required for product exchanges and delivery of products

PR5: Using e-retailing sites could lead to loss of privacy

Factor-6: Perceived Enjoyment

This factor contains four items- Item 16, Item 13, and Item 14, Item 15 explaining 5.174% variance in the data, with the Eigen value of 1.811. The items associated with this factor are given below:

PEN1: E-retailing sites are interesting

PEN2: E-retailing sites are enjoyable

PEN3: E-retailing sites are exciting

PEN4: E-retailing sites are pleasant

Factor-7: Perceived Ease of Use

This factor contains three statements- Item 12, Item 8, and Item 9, Item 11, Item 7, Item 10 explaining 4.100% variance in the data, with the Eigen value of 1.435. The items associated with this factor are given below:

PEU1: I find e-retailing sites easy to use

PEU2: I find it easy to get the e-retailing sites to do what I want it to do

PEU3: My interaction with e-retailing sites is clear and understandable

PEU4: It is easy for me to become skilful at using the e-retailing sites

PEU5: Learning to operate e-retailing sites was easy for me

PEU6: I find the e-retailing sites flexible to interact with

Table-7: Test for Item total correlation and Internal reliability

Factors	Items	Item total correlation	Cronbach's alpha
Intention to Purchase Online	INT1	0.70	0.79
	INT2	0.60	
	INT3	0.59	
Web Aesthetics	WA1	0.65	0.83
	WA2	0.64	
	WA3	0.59	
	WA4	0.56	
	WA5	0.53	
	WA6	0.52	
	WA7	0.47	
Perceived Usefulness	PU1	0.76	0.86
	PU2	0.76	
	PU3	0.71	
	PU4	0.72	
	PU5	0.57	
	PU6	0.47	
Attitude towards E-retailing	ATT1	0.71	0.84
	ATT2	0.69	
	ATT3	0.57	
	ATT4	0.49	
Perceived Risk	PR1	0.78	0.81
	PR2	0.63	
	PR3	0.61	
	PR4	0.55	

	PR5	0.42	
Perceived Enjoyment	PEN1	0.85	0.87
	PEN2	0.86	
	PEN3	0.70	
	PEN4	0.54	
Perceived Ease of Use	PEU1	0.69	0.86
	PEU2	0.68	
	PEU3	0.64	
	PEU4	0.64	
	PEU5	0.62	
	PEU6	0.65	

From Table-7 it can be seen that, all the items are having item total correlation in excess of 0.40 which is the minimum acceptable limit for the same (Loiacono et al., 2002). Also, internal reliability (Cronbach’s alpha) for all the factors are found to be in excess of 0.70 which is the minimum acceptable limit for the same (Nunnally, 1978). Hence, all the factors meet the conditions of item total correlation and internal reliability.

Table-8: Test for Composite Reliability

Factors	Items	Factor loadings (λ)	λ^2	Error variance $\epsilon = (1 - \lambda^2)$	Composite reliability
Intention to Purchase Online	INT1	0.844	0.712336	0.287664	0.83
	INT2	0.770	0.5929	0.4071	
	INT3	0.743	0.552049	0.447951	
Web Aesthetics	WA1	0.845	0.714025	0.285975	0.90
	WA2	0.821	0.674041	0.325959	
	WA3	0.785	0.616225	0.383775	
	WA4	0.749	0.561001	0.438999	
	WA5	0.710	0.5041	0.4959	
	WA6	0.695	0.483025	0.516975	
	WA7	0.661	0.436921	0.563079	
Perceived	PU1	0.827	0.683929	0.316071	
	PU2	0.812	0.659344	0.340656	
	PU3	0.802	0.643204	0.356796	

Usefulness	PU4	0.799	0.638401	0.361599	0.89
	PU5	0.692	0.478864	0.521136	
	PU6	0.581	0.337561	0.662439	
Attitude Towards E-retailing	ATT1	0.841	0.707281	0.292719	0.82
	ATT2	0.768	0.589824	0.410176	
	ATT3	0.686	0.470596	0.529404	
	ATT4	0.593	0.0351649	0.648351	
Perceived Risk	PR1	0.879	0.772641	0.227359	0.85
	PR2	0.788	0.620944	0.379056	
	PR3	0.751	0.564001	0.435999	
	PR4	0.674	0.454276	0.545724	
	PR5	0.556	0.309136	0.690864	
Perceived Enjoyment	PEN1	0.876	0.767376	0.232624	0.88
	PEN2	0.873	0.762129	0.237871	
	PEN3	0.796	0.633616	0.366384	
	PEN4	0.667	0.444889	0.555111	
Perceived Ease of Use	PEU1	0.900	0.81	0.19	0.91
	PEU2	0.878	0.770884	0.229116	
	PEU3	0.823	0.677329	0.322671	
	PEU4	0.804	0.646416	0.353584	
	PEU5	0.643	0.413449	0.586551	
	PEU6	0.636	0.404496	0.595504	

From Table-8 it can be seen that, all the factors are having composite reliability in excess of 0.70 which is the minimum acceptable limit for the same (Hair et al., 2014). Hence all the 7 factors meet the composite reliability condition.

Table-9: Test for Convergent Validity

Factors	Items	Factor loadings (λ)	λ^2	Error variance $\epsilon = (1 - \lambda^2)$	AVE*
Intention to Purchase Online	INT1	0.844	0.712336	0.287664	0.619
	INT2	0.770	0.5929	0.4071	
	INT3	0.743	0.552049	0.447951	
Web Aesthetics	WA1	0.845	0.714025	0.285975	0.570
	WA2	0.821	0.674041	0.325959	
	WA3	0.785	0.616225	0.383775	
	WA4	0.749	0.561001	0.438999	
	WA5	0.710	0.5041	0.4959	
	WA6	0.695	0.483025	0.516975	
	WA7	0.661	0.436921	0.563079	

Perceived Usefulness	PU1	0.827	0.683929	0.316071	0.574
	PU2	0.812	0.659344	0.340656	
	PU3	0.802	0.643204	0.356796	
	PU4	0.799	0.638401	0.361599	
	PU5	0.692	0.478864	0.521136	
	PU6	0.581	0.337561	0.662439	
Attitude Towards E-retailing	ATT1	0.841	0.707281	0.292719	0.530
	ATT2	0.768	0.589824	0.410176	
	ATT3	0.686	0.470596	0.529404	
	ATT4	0.593	0.351649	0.648351	
Perceived Risk	PR1	0.879	0.772641	0.227359	0.544
	PR2	0.788	0.620944	0.379056	
	PR3	0.751	0.564001	0.435999	
	PR4	0.674	0.454276	0.545724	
	PR5	0.556	0.309136	0.690864	
Perceived Enjoyment	PEN1	0.876	0.767376	0.232624	0.652
	PEN2	0.873	0.762129	0.237871	
	PEN3	0.796	0.633616	0.366384	
	PEN4	0.667	0.444889	0.555111	
Perceived Ease of Use	PEU1	0.900	0.81	0.19	0.620
	PEU2	0.878	0.770884	0.229116	
	PEU3	0.823	0.677329	0.322671	
	PEU4	0.804	0.646416	0.353584	
	PEU5	0.643	0.413449	0.586551	
	PEU6	0.636	0.404496	0.595504	

*** AVE- Average Variance Extracted**

From Table-9 it can be seen that, Average Variance Extracted for each of the 7 factors mentioned above are greater than the minimum acceptable 0.5 for the same. Hence, all the 7 factors meet the convergent validity condition (Fornell&Larcker, 1981).

Table-10: Test for Discriminant validity

Factors	Correlation with other Factors	Correlation coefficient	Square of the highest correlation coefficient (MSV**)	AVE*	Remarks
	PU < -- > PEU	0.118			

Perceived Usefulness	PU < -- > PEN	0.128	0.024	0.574	MSV < AVE
	PU < -- > PR	-0.151			
	PU < -- > WA	0.103			
	PU < -- > ATT	0.154			
	PU < -- > INT	0.112			
Perceived Ease of Use	PEU < -- > PU	0.118	0.172	0.620	MSV < AVE
	PEU < -- > PEN	0.169			
	PEU < -- > PR	-0.197			
	PEU < -- > WA	0.117			
	PEU < -- > ATT	0.132			
	PEU < -- > INT	0.415			
Perceived Enjoyment	PEN < -- > PU	0.128	0.143	0.652	MSV < AVE
	PEN < -- > PEU	0.169			
	PEN < -- > PR	-0.209			
	PEN < -- > WA	0.378			
	PEN < -- > ATT	0.276			
	PEN < -- > INT	0.205			
Perceived Risk	PR < -- > PU	-0.151	0.018	0.544	MSV < AVE
	PR < -- > PEU	-0.197			
	PR < -- > PEN	-0.209			
	PR < -- > WA	-0.236			
	PR < -- > ATT	-0.277			
	PR < -- > INT	-0.135			
Web Aesthetics	WA < -- > PU	0.103	0.143	0.570	MSV < AVE
	WA < -- > PEU	0.117			
	WA < -- > PEN	0.378			
	WA < -- > PR	-0.236			
	WA < -- > ATT	0.246			
	WA < -- > INT	0.160			
Attitude towards E-retailing	ATT < -- > PU	0.154	0.076	0.530	MSV < AVE
	ATT < -- > PEU	0.132			
	ATT < -- > PEN	0.276			
	ATT < -- > PR	-0.277			
	ATT < -- > WA	0.246			
	ATT < -- > INT	0.160			
Intention to Purchase	INT < -- > PU	0.112	0.172	0.619	MSV < AVE
	INT < -- > PEU	0.415			
	INT < -- > PEN	0.205			
	INT < -- > PR	-0.135			

Online	INT < -- > WA	0.160			
	INT < -- > ATT	0.160			

* AVE- Average Variance Extracted

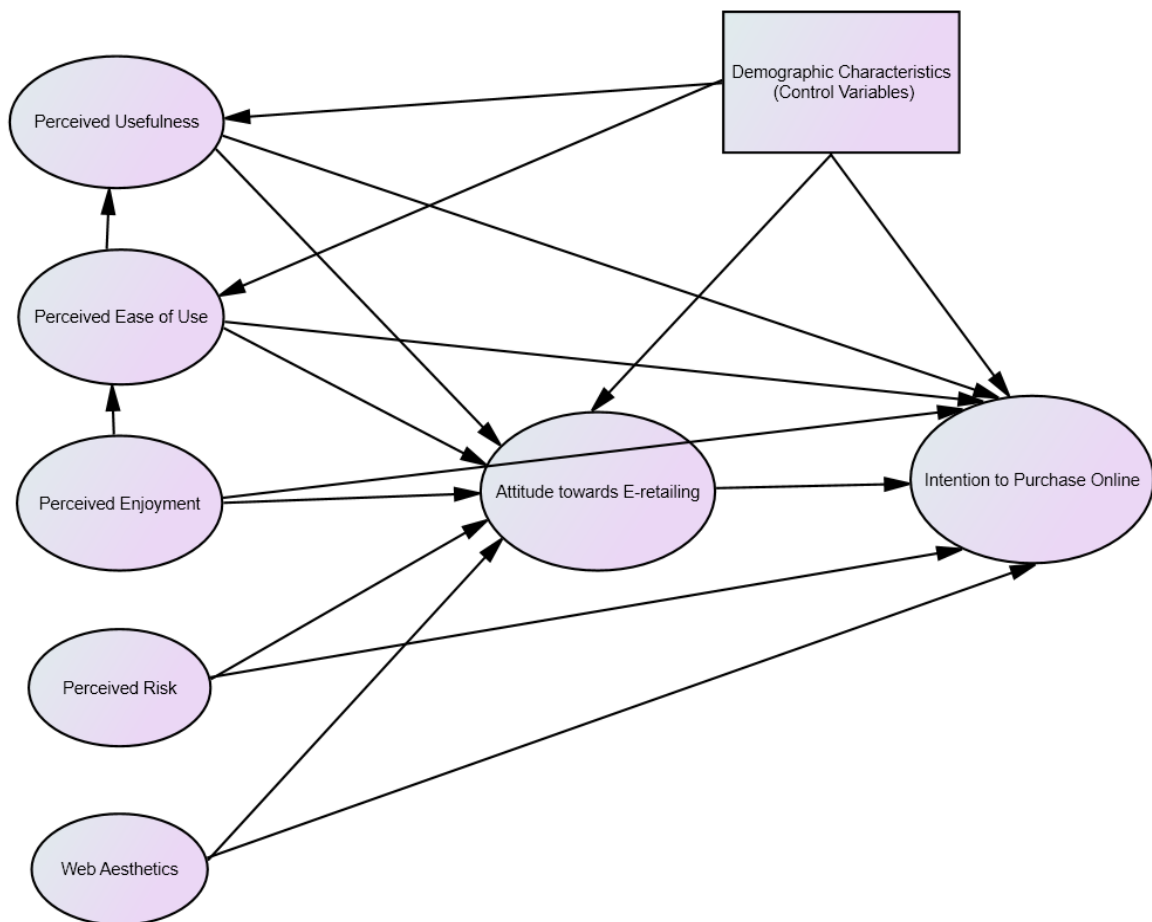
** MSV- Maximum Shared Variance

From Table-10 it can be seen that, Average variance extracted of each of the factors is greater than the corresponding Maximum Shared Variance. Hence, all the 7 factors meet the divergent validity condition (Fornell&Larcker, 1981).

Findings:

The 7 factors extracted using exploratory factor analysis, which include total 35 items, were tested for reliability and validity and all of them were found to have met the criteria. Hence, the constructs along with the items can be adopted for further study.

Based on the literature reviews and various tests, a conceptual model has been developed which is given below:



Conceptual model

II. Limitations of the study

The study was limited to the cities of Bhubaneswar and Kolkata in the eastern part of the country due to financial and time constraints. The vast and diverse culture of India which has a significant impact in shaping the behaviour of the citizens, makes it almost impossible to extrapolate the results to the entire country. Along with that, the relatively small number of samples can also pose a risk in implementing the conceptual model in the entire country. Despite of an elaborate literature review, all the possible factors couldn't be included in the conceptual model due to the fear of making the study excessively complex. Despite of all these limitations, this study is an honest attempt by the researchers to get some picture of various behavioural aspects of online shoppers.

III. DISCUSSION AND CONCLUSION

Consumer behaviour remains the single biggest riddle for the marketers. Every organization wants to accurately map consumer behaviour to maximize gains from their products and services. In that context, it is not only important for companies to produce quality products and services, but analysing the various behavioural aspects of consumers also become vital to effectively target them. Shopping using e-retailing websites take place in the virtual world where sellers and buyers never come face to face and hence analysing online consumer behaviour is a far bigger challenge than analyzing customers in a physical setup for sellers. This research work attempts to provide an online consumer behaviour model which sellers can effectively utilize to tap maximum gain from their customers. As already mentioned, a detailed study on online consumer behaviour in the Indian context is a rarity and hence can be of immense help for those millions of sellers who want to sell their commodities using the online medium.

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