



## Futuristic Perspective Analysis of Online Buyers for Sustainability of E-commerce

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### Abstract

In the global competitive business world, utilization of modern and innovative technological practices in business transactions is inevitable. E-commerce is a paradigm shift to connect customers electronically in the present business system. E-commerce covers electronic transmission of information, monetary payments and physical delivery of products. It is a pertinent time to analyse the future potentiality of e-commerce and the perception of online buyers who use this platform. A study was conducted with the following objectives: to describe the perception of online buyers, to make *online buyers'* Futuristic Perspective Analysis (FPA) of e-commerce and to study factors influencing *sustainability* of e-commerce in the future. The data were collected from primary and secondary sources. A primary survey was conducted through structured questionnaire administered on select online buyers in Karaikal, Union Territory of Puducherry, India. The collected data were analysed with multivariate statistical tools like factor analysis and multiple regression analysis with SPSS. The findings were presented with suitable suggestions to know the *futuristic*

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*perspectives of online buyers and the sustainability of e-commerce.*

**Keywords:** E-commerce, Online buyers, Futuristic perspective analysis

## **Introduction**

In the global competitive business world, utilization of modern and innovative technological practices in business transactions is inevitable. e-commerce is a paradigm shift that connects customers electronically in the present business system. e-commerce covers electronic transmission of information, monetary payments and physical delivery of products. It is a pertinent time to analyse the future potentiality of e-commerce and the perception of online buyers who use this platform. e-commerce is the activity of trading with the help of technology that uses the internet protocol. Online trading is a modern implementation of the traditional process of selling and buying. e-commerce has been growing rapidly in the past decade as the development of web technology and internet helps further its reach and, thus, satisfy its stakeholders.

## **Literature Review**

During the last decade, the e-commerce market space has spread out its arms in several directions. In its first generation, internet saw the emergence of portals and search engines. However, in due course more and more organisations began to cater to the Business to Customer (B2C) market and there is significant growth in the Business to Business (B2B) segment (*Mahadevan B, 2000*). E-commerce is growing at an exponential rate. (*David Gefen, 2000*). Online markets have not only significantly increased the number of market participants; they have also changed the roles traditionally assigned to consumers and producers (*Clausen J; Mink-Blattel, B, Erdmann, L and Henseling, C 2010*). The Internet has created a new economic ecosystem, the e-commerce marketplace, and it has become the virtual main street of the world. Providing a quick and convenient way of exchanging goods and services both regionally and globally, where e-commerce has boomed. E-commerce is the

foundation of the economic development in several developing and developed nations (*Tiwari, S and Singh, P. 2011*).

### **Statement of the Problem**

E-commerce sales in India is expected to grow from \$14 billion in 2015 to \$55 billion in 2018, says a report by marketing research firm E-Marketer. Pure-play E-commerce companies such as Flipkart Ltd, Snapdeal and Amazon Seller Services Pvt. Ltd will see more competition, with brick-and-mortar entities such as the Tata group and the Aditya Birla Group announcing plans to enter India's growing e-commerce market. (*Chathuroedula, S. 2015*) The interest towards online shopping amongst the people of the country and the emergence of online marketing companies are important to this study as it helps to analyse the futuristic perspective of online buying and to know the sustainability of e-commerce in the future irrespective of its current growth and reach with the online buyers.

### **Objectives and Methodology**

A study was conducted with objectives to describe the perception of online buyers, to make Futuristic Perspective Analysis (FPA) of e-commerce of online buyers and to study factors influencing sustainability of e-commerce in the future. The data were collected from primary and secondary sources. A primary survey was conducted through structured questionnaire with select 100 online buyers in Karaikal, Union Territory of Puducherry. The collected data were analysed with multivariate statistical tools like factor analysis and multiple regression analysis with SPSS. The secondary sources of data were used to understand and identify e-commerce practices in India and to know the market volume of e-commerce from related journals, reports, research articles and news reports.

### **Analysis and Findings**

E-commerce is fast emerging as the most important platform for business today. The futuristic perception of online buying is analysed in this study. The data are collected through structured questionnaire administered on select online buyers. The findings are presented below, as, Experience of existing buyers using

e-commerce and Analysis of Perception on Futuristic E-commerce Sustainability by the existing online buyers.

### **E-commerce Experience**

A primary survey was conducted with select online buyers in the area. The profile of the respondents reveals that, 5% are below 20 years and 95% are between 20 to 40 years of age; 76% respondents are male and 24% are female. Their educational qualification is as follows: 9% are undergraduates, 86% are postgraduates and remaining 5% are classified under other category; Also, 86% are unmarried and 14% are married and the annual income of the respondents of 61% is Below Rs.1,00,000, 15% is Between Rs.1,00,000 to Rs.2,00,000 and 24% were between Rs.2,00,000 to Rs.3,00,000. When their involvement in the past and present experience of purchases made through e-commerce portals were analysed, 6% of total respondents claimed that they are using it only for a period below 1 Year, 65% of total respondents are using it for the past 1 to 3 years, 23% of respondents are using e-commerce for 3 to 5 years and remaining 6% are involved in online buying for more than 5 years; 12% of respondents are buying below 5 products, 55% of respondents are buying 5 to 15 products, 28% were buying 15 to 25 products and remaining 5% of respondents were buying more than 25 products. The respondents also revealed that their percentage purchase of goods online using e-commerce portals out of total purchase of goods as 37% (Up to 25%), 55% (26% to 50%), 5% (51% to 75%), and 3% (76% to 100%) of their total purchases.

### **Analysis on the Futuristic Perspective of Online Buyers for Sustainability of E-commerce**

The perception of Futuristic Perspectives of Online Buyers for Sustainability of e-commerce is analysed with 5 point Likert's scale as strongly agree, agree, neutral, disagree and strongly disagree.

Table 1 Perception on the Futuristic Perspective of Online Buyers for Sustainability of e-commerce.

	<b>Particulars</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>DA</b>	<b>SD</b>	<b>M</b>	<b>R</b>
1	I prefer to buy products regularly	4	57	0	6	23	3.13	18
2	I am interested in buying durable goods through e-commerce portals	25	60	6	6	3	3.98	4
3	I am interested in buying day to day goods in e-commerce portals	23	12	11	29	25	2.79	20
4	I want to choose goods to be purchased on e-commerce portal	2	62	32	4	0	3.62	9
5	I am interested in using e-commerce portals for buying services	5	36	53	5	1	3.39	13
6	I prefer to make online payment while ordering products online	25	37	7	29	2	3.54	11
7	I have opportunity to return unsatisfactory goods	26	35	37	2	0	3.85	7
8	E-commerce portals are better than traditional stores or shops	4	30	60	4	2	3.3	16
9	More varieties are available in e-commerce portals	28	64	6	2	0	4.18	1
10	More products are available in e-commerce portals	25	63	9	3	0	4.10	2
11	Electronic personal interaction are higher in e-commerce portals	24	11	40	25	0	3.34	15

	<b>Particulars</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>DA</b>	<b>SD</b>	<b>M</b>	<b>R</b>
12	Electronic bargaining will enhance the volume of online purchase	24	28	12	33	3	3.37	14
13	Credit facilities are available in e-commerce portals	25	13	52	4	6	3.47	12
14	Delivery of goods is faster than before	26	36	35	3	0	3.85	6
15	E-commerce portals are access friendly	25	37	11	27	0	3.60	10
16	E-commerce portals give confidence on buying	1	13	58	28	0	2.87	19
17	E-commerce portals have cheaper price	23	36	37	4	0	3.78	8
18	E-commerce portals provide quality products	6	8	82	4	0	3.16	17
19	E-commerce purchases are relatively less time consuming	26	43	30	1	0	3.94	5
20	I am convenient to go for online buying	27	55	15	3	0	4.06	3

SA: Strongly Agree; A: Agree; N: Neutral; D: Disagree; SD: Strongly Disagree

Source: Primary Data, R: Ranks

From *Table 1*, the perception on the futuristic perspective of online buyers for sustainability of e-commerce, is analysed. More varieties are available in e-Commerce portals is ranked on the top followed by ‘More products are available in e-commerce portals’ and ‘convenient to go for online buying, but ‘interested to buy day-to-day goods in e-commerce portals’ is ranked least among the variables. This shows that the online buyers are using e-commerce portals majorly due to the availability of various products and the convenience that the sites offer. Online buyers are not interested in buying day to day products online as it is ranked least in the statement.

## Futuristic Perspective Analysis of Online Buyers for Sustainability of e-commerce (FPA)

The Futuristic Perspective Analysis of Online Buyers for Sustainability of E-commerce is analysed with 5 point Likert's Scale ranging from Strongly Agree to Strongly Disagree with twenty variables identified through review of literature. Factor Analysis was administrated to find out Factors Influencing Futuristic Perspective Analysis of Online Buyers for Sustainability of E-commerce. The results were presented;

### a) Significance and Sampling Adequacy:

KMO measure of sampling adequacy is 0.709 which is more than 0.7 and the P Value (0.005) is less than 0.05 (5% level of significance). Thus, the result shows that the sample size is adequate and it is significant for further analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.709
Bartlett's Test of Sphericity	Approx. Chi-Square	2175.865
	Df	190
	Sig.	.000

### b) Total Variance of the Factors:

The total variance explained of the two factors is 75.305% and initial Eigen values is 1.529 which results in variance between the factors of homogeneous variables.

**Table 3 Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.829	44.143	44.143	8.829	44.143	44.143	6.910	34.548	34.548
2	3.019	15.094	59.237	3.019	15.094	59.237	4.355	21.775	56.323
3	1.684	8.422	67.659	1.684	8.422	67.659	1.930	9.648	65.972
4	1.529	7.646	75.305	1.529	7.646	75.305	1.867	9.333	75.305
5	.966	4.829	80.134						
6	.906	4.531	84.665						
7	.627	3.137	87.802						
8	.537	2.684	90.486						
9	.385	1.925	92.411						
10	.347	1.733	94.144						
11	.284	1.421	95.565						
12	.196	.979	96.544						
13	.178	.888	97.432						
14	.150	.748	98.180						
15	.122	.609	98.789						
16	.096	.482	99.271						
17	.060	.301	99.571						
18	.046	.230	99.801						
19	.026	.128	99.929						
20	.014	.071	100.000						

Extraction Method: Principal Component Analysis



**c) Grouping of variables into Factors:**

The highest factor loading of each variable is grouped under a factor. And able to form four factors from twenty selected variables through Varimax rotation of Principle component analysis.

<b>Table 4 Rotated Component Matrix<sup>a</sup></b>				
	Component			
	1	2	3	4
I prefer to buy products regularly	-.713	-.337	-.162	<b>.401</b>
I am interested in buying durable goods through e-commerce portals	.102	<b>.841</b>	-.091	.061
I am interested in buying day to day goods in e-commerce portals	-.914	-.124	<b>.265</b>	-.073
I wanted to choose goods to be purchased on e-commerce portal	-.218	<b>.550</b>	.467	-.102
I am interested in using e-commerce portals for buying services	.042	-.131	-.194	<b>.851</b>
I prefer to make online payment while ordering products online	-.863	-.073	-.234	<b>.221</b>
I have opportunity to return the unsatisfactory goods	-.839	.062	-.190	<b>.113</b>
E-commerce portals are better than Traditional stores or shops	.299	<b>.589</b>	.319	.025
More varieties are available in e-commerce portals	.463	<b>.482</b>	.050	-.340
More products are available in e-commerce portals	.380	<b>.659</b>	-.077	-.177
Electronic personal interaction are higher in e-commerce portals	-.924	-.138	<b>.108</b>	-.104
Electronic bargaining will enhance the volume of online purchase	.070	<b>.672</b>	.386	-.432
Credit facilities are available in e-commerce portals	.495	<b>.590</b>	.230	.012
Delivery of goods is faster than before	<b>.722</b>	.472	-.067	.188
E-commerce portals are access friendly	<b>.873</b>	.268	-.090	.087
E-commerce portals give confidence on buying	.001	.016	<b>.897</b>	-.079
E-commerce portals have cheaper price	<b>.670</b>	.498	-.163	-.113
E-commerce portals provide quality products	.013	-.030	.553	<b>.684</b>
E-commerce purchase relatively less time consuming	<b>.847</b>	.311	-.001	.071
I am convenient to go for online buying	.230	<b>.847</b>	-.081	-.145
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 6 iterations.				

**d) Naming of Factors:**

The four factors identified were named based on the variables grouped under each factor.

**Factor 1 = Convenience**

**Factor 2 = Optimism**

**Factor 3 = Responsiveness**

**Factor 4 = Comfortability**

Thus, Factor 1 may be named as Convenience, Factor 2 as Optimism, and Factor 3 as Responsiveness and Factor 4 as Comfortability.

**Analysis on Most Influencing Factors on the Level of Futuristic Perspective Analysis of Online Buyers for Sustainability of E-commerce**

**a) Proposed Model:**

The identified factors are used as independent variables to find out the influence on the Futuristic Perspective Analysis as dependent variable in the proposed multiple regression model.

Multiple Regression Model

$$DV = \alpha + \beta_1 (IV_1) + \beta_2 (IV_2) + \beta_3 (IV_3) + \beta_4 (IV_4)$$

$$FPA = \text{Constant} + \beta_1 (\text{Convenience}) + \beta_2 (\text{Optimism}) + \beta_3 (\text{Responsiveness}) + \beta_4 (\text{Comfortability})$$

**b) Model Fitness:**

The regression model developed is fit because the R Square (0.928) is closer to 1 and the model may be generalized because the Adjusted R Square (0.925) is closer to R square.

Table 5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.964 <sup>a</sup>	.928	.925	1.45774
a. Predictors: (Constant), REGR factor score 4 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 2 for analysis 1, REGR factor score 1 for analysis 1				

**c) Model Reliability and Significance:**

The regression model may be built with the dependent and independent variables. The multiple regression model developed is found to be reliable and significant (P value 0.000 < 0.05) at 5 percent level of significance.

Table 6 ANOVA<sup>a</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2619.885	4	654.971	308.222	.000 <sup>b</sup>
	Residual	201.875	95	2.125		
	Total	2821.760	99			
a. Dependent Variable: FPA						
b. Predictors: (Constant), REGR factor score 4 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 2 for analysis 1, REGR factor score 1 for analysis 1						

**d) Significance of Variables in Regression Model:**

Table 7 Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	71.320	.146		489.251	.000
	Convenience	-.699	.147	-.131	-4.772	.000
	Optimism	4.815	.147	.902	32.863	.000
	Responsiveness	1.426	.147	.267	9.730	.000
	Comfortability	.872	.147	.163	5.955	.000

a. Dependent Variable: FPA

**Multiple Regression Model**

$$DV = \alpha + \beta_1 (IV_1) + \beta_2 (IV_2) + \beta_3 (IV_3) + \beta_4 (IV_4)$$

$$FPA = \text{Constant} + \beta_1 (\text{Convenience}) + \beta_2 (\text{Optimism}) + \beta_3 (\text{Responsiveness}) + \beta_4 (\text{Comfortability})$$

$$FPA = 71.920 - .699 (\text{Convenience}) + 4.815 (\text{Optimism}) + 1.426 (\text{Responsiveness}) + .872 (\text{Comfortability})$$

Thus, the model reveals that, the Futuristic Perspective of Online Buyers for Sustainability of E-commerce is highly influenced by Optimism than Convenience, Responsiveness and Comfortability.

**Suggestions and Conclusion**

E-commerce includes all electronic transmission of information, monetary payments and physical delivery of products. The study shows that online buyers are interested to use e-commerce portals as the portals have a variety of goods and as the availability of goods in E-commerce portals is high. They are not interested to buy day-to-day goods through e-commerce portals. Factor Analysis was administrated to find out factors influencing futuristic Perspective Analysis of Online Buyers for Sustainability of E-commerce. The four factors, Convenience, Optimism, Responsiveness and Comfortability are found in the result. Among those four factors, the Futuristic Perspective of Online Buyers for Sustainability of e-

commerce is highly influenced by Optimism than Convenience, Responsiveness and Comfortability. Thus, the optimism of online buyers to use e-commerce portals will only increase in the future based on the results of the Futuristic Perspective Analysis of the study.

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