ROLE OF E-CONVENIENCE IN DIFFUSION OF E-SHOPPING: A STUDY IN HARYANA

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Abstract

The e-commerce market is growing very speedy & it is expected to reach $56 billion by 2023. That's why the sector becomes very important for study. India has more than 100 million internet users out of which one half opts for online purchases and the number is raising sharply every year. There is a tremendous increase in e-shoppers in last few decades. They are growing very fast as compared to Internet users, indicating that more Internet users are becoming comfortable to shop online. Online retail is the fastest growing channel globally. Online retail is growing very fast in India also. The Indian e-commerce industry has been on an upward growth trajectory and is expected to become the second largest e-commerce market in the world by 2034. Limited studies have been done on the role of e-convenience in the diffusion of e-shopping.

In this study, we will access the relationship of e-convenience with the diffusion of e-shopping i.e what e-convenience play role in the diffusion of e-shopping. Analysis revealed that there is a significant effect of e-convenience on the diffusion of e-shopping. All e-convenience factors are positively correlated with e-shopping diffusion factors except for complexity.

Key Words: E-Shopping, E-Convenience, Online-Retail, Diffusion, E-Commerce.

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1. Introduction

The lifestyle of the urban population is changing very fast which has resulted in many people for their shopping needs relying on the internet. The key reason for making use of e-shopping is convenience. The convenience of shopping from the comfort of one's home while having a broader selection of merchandise to choose from, competitive prices and more access to information has brought about an increased reliance on the online medium. Online retail is the fastest growing channel globally. Online retail is growing very fast in India also. The rise in the consumers' discretionary income and rapid urbanization associated with the growth of populations in the developing and low-income countries have caused a significant shift in lifestyle which is principally characterized by increased consumption of processed products. This rising concentration of time and effort saving consumption culture is the illustration of consumers' preference for convenience. It is an important factor which plays an important role in the growth of online shopping.

2. Research Objective

To measure the relationship between e-shopping convenience and diffusion of e-shopping

3. Research Hypothesis

H03: There is no significant relationship between e-convenience (access, search, evaluation, transaction, possession, and benefit) and diffusion (relative advantage, compatibility, trialability, observability, and complexity) of e-shopping.

H03.1 There is no significant relationship between access convenience and diffusion of e-shopping

H03.2 There is no significant relationship between search convenience and diffusion of e-shopping

H03.3 There is no significant relationship between evaluation convenience and diffusion of e-shopping

H03.4 There is no significant relationship between transaction convenience and diffusion of e-shopping

H03.5 There is no significant relationship between possession convenience and diffusion of e-shopping.

H03.6 There is no significant relationship between benefit convenience and diffusion of e-shopping.

4. Research Methodology

The data is collected in the form of questionnaires. The study has been conducted in 6 districts of Haryana; a sample of respondents was selected from the Yamunanagar, Karnal, Kurukshetra, Ambala, Kaithal, and Panchkula. As per census 2011, these six adjoining districts together consist of 6447707 (approx 26%) of the population of Haryana. The data were analyzed on the bases of responses by 508 respondents. The data is collected from students, businessman, housewife, employed & unemployed respondents belong to different age group and income groups. The data is collected from those individuals using internet for shopping.

5. Data Analysis & Interpretation

5.1 Paired Sample t-Test

This test is used to observe the mean difference between the respondent's responses based on e-shopping convenience and diffusion factors. This test is used to find the statistical mean difference between pairs of e-shopping convenience and diffusion factors.

Table 1: Paired Sample t-Test

e-shopping convenience and diffusion factors	Paired Differences			95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
	M.D.	Std. Dev.	Std. Error Mean	Lower	Upper			
Pair 1 Access – Convenience Relative Advantage	-3.465	2.929	.130	-3.720	-3.209	-26.658	507	.000
Pair 2 Access – Convenience Compatibility	-13.311	4.016	.178	-13.661	-12.961	-74.697	507	.000
Pair 3 Access – Convenience Trialability	5.616	2.356	.105	5.411	5.822	53.728	507	.000
Pair 4 Access – Convenience Observability	6.882	3.421	.152	6.584	7.180	45.335	507	.000

Pair 5	Access Convenience – Complexity	6.004	4.799	.213	5.586	6.422	28.196	507	.000
Pair 6	Search Convenience – Relative Advantage	-4.291	2.986	.132	-4.552	-4.031	-32.390	507	.000
Pair 7	Search Convenience – Compatibility	-14.138	3.976	.176	-14.484	-13.791	-80.136	507	.000
Pair 8	Search Convenience – Trialability	4.789	2.219	.098	4.596	4.983	48.647	507	.000
Pair 9	Search Convenience – Observability	6.055	3.016	.134	5.792	6.318	45.257	507	.000
Pair 10	Search Convenience – Complexity	5.177	4.587	.204	4.777	5.577	25.438	507	.000
Pair 11	Evaluation Convenience – Relative Advantage	-4.622	2.946	.131	-4.879	-4.365	-35.357	507	.000
Pair 12	Evaluation Convenience – Compatibility	-14.469	4.264	.189	-14.840	-14.097	-76.485	507	.000
Pair 13	Evaluation Convenience – Trialability	4.459	2.400	.106	4.249	4.668	41.873	507	.000
Pair 14	Evaluation Convenience – Observability	5.724	3.121	.138	5.452	5.996	41.336	507	.000
Pair 15	Evaluation Convenience – Complexity	4.846	4.607	.204	4.445	5.248	23.709	507	.000
Pair 16	Transaction Convenience – Relative Advantage	-7.687	3.022	.134	-7.950	-7.424	-57.337	507	.000
Pair 17	Transaction Convenience – Compatibility	-17.533	4.033	.179	-17.885	-17.182	-97.987	507	.000
Pair 18	Transaction Convenience – Trialability	1.394	2.174	.096	1.204	1.583	14.452	507	.000

Pair 19 Transaction Convenience – Observability	2.659	3.086	.137	2.390	2.928	19.424	507	.000
Pair 20 Transaction Convenience – Complexity	1.781	4.539	.201	1.386	2.177	8.847	507	.000
Pair 21 Possession Convenience – Relative Advantage	-.384	2.895	.128	-.636	-.132	-2.989	507	.003
Pair 22 Possession Convenience – Compatibility	-10.230	4.394	.195	-10.613	-9.847	-52.473	507	.000
Pair 23 Possession Convenience – Trialability	8.697	2.939	.130	8.441	8.953	66.695	507	.000
Pair 24 Possession Convenience – Observability	9.963	3.708	.165	9.639	10.286	60.560	507	.000
Pair 25 Possession Convenience – Complexity	9.085	5.318	.236	8.621	9.548	38.502	507	.000
Pair 26 Benefit Convenience – Relative Advantage	12.335	3.430	.152	12.036	12.634	81.050	507	.000
Pair 27 Benefit Convenience – Compatibility	2.488	4.753	.211	2.074	2.902	11.799	507	.000
Pair 28 Benefit Convenience – Trialability	21.415	4.024	.179	21.065	21.766	119.952	507	.000
Pair 29 Benefit Convenience – Observability	22.681	4.506	.200	22.288	23.074	113.449	507	.000
Pair 30 Benefit Convenience – Complexity	21.803	6.731	.299	21.216	22.390	73.008	507	.000

Note: *Significant at p ≤ 0.05

Pair-1: Access Convenience & Relative Advantage: The mean difference between access convenience and relative advantage is statistically significant (t_{507} = -3.465) with significance value (0.000<0.005). On average, Access Convenience is 3 points lesser than the Relative Advantage (95% CI [-3.720 -3.209]). This shows that the mean of relative advantage is significantly greater than the mean of access convenience. Thus there is statistically significant

difference between the respondent's responses based on access convenience and relative advantage. This shows that the difference between the responses is not by chance but by choice. Thus, there is a significant effect of access convenience on relative advantage

Pair-2: Access Convenience & Compatibility: The mean difference between access convenience and compatibility is statistically significant ($t_{507} = -13.311$) with significance value (0.000<0.005). On average, access convenience is 13 points lesser than compatibility (95% CI [-13.661   -12.961]). This shows that the mean of compatibility is significantly greater than the mean of access convenience. Thus, there is a significant effect of access convenience on compatibility.

Pair-3: Access Convenience & Trialability: The mean difference between access convenience and trialability is statistically significant ($t_{507} = 53.728$) with significance value (0.000<0.005). Thus, there is a significant effect of access convenience on trialability.

Pair-4: Access Convenience & Observability: The mean difference between access convenience and observability is statistically significant ($t_{507} = 45.335$) with significance value (0.000<0.005). Thus, there is a significant effect of access convenience on observability.

Pair-5: Access Convenience & Complexity: The mean difference between access convenience and complexity is statistically significant ($t_{507} = 28.196$) with significance value (0.000<0.005). Thus, there is a significant effect of access convenience on complexity.

Pair-6: Search Convenience & Relative Advantage: The mean difference between search convenience and relative advantage is statistically significant ($t_{507} = -4.291$) with significance value (0.000<0.005). On average, search convenience is 4 points lesser than the relative advantage (95% CI [-4.552   -4.031]). This shows that the mean of relative advantage is significantly greater than the mean of search convenience.

Pair-7: Search Convenience & Compatibility: The mean difference between search convenience and compatibility is statistically significant ($t_{507} = -14.138$) with significance value (0.000<0.005). On average, search convenience is 14 points lesser than compatibility (95% CI [-

14.484   -13.791]). This shows that the mean of compatibility is significantly greater than the mean of search convenience.

Pair-8: Search Convenience & Trialability: The mean difference between search convenience and trialability is statistically significant ($t_{507} = 48.647$) with significance value (0.000<0.005).

Pair-9: Search Convenience & Observability: The mean difference between search convenience and observability is statistically significant ($t_{507} = 45.257$) with significance value (0.000<0.005).

Pair-10: Search Convenience & Complexity: The mean difference between search convenience and complexity is statistically significant ($t_{507} = 25.438$) with significance value (0.000<0.005).

Pair-11: Evaluation Convenience & Relative advantage: The mean difference between evaluation convenience and relative advantage is statistically significant ($t_{507} = -4.622$) with significance value (0.000<0.005). On average, evaluation convenience is 4 points lesser than the relative advantage (95% CI [-4.879   -4.365]). This shows that the mean of relative advantage is significantly greater than the mean of evaluation convenience.

Pair-12: Evaluation Convenience & Compatibility: The mean difference between evaluation convenience and compatibility is statistically significant ($t_{507} = -14.469$) with significance value (0.000<0.005). On average, evaluation convenience is 14 points lesser than compatibility (95% CI [-14.840   -14.097]). This shows that the mean of compatibility is significantly greater than the mean of evaluation convenience.

Pair-13: Evaluation Convenience & Trialability: The mean difference between evaluation convenience and trialability is statistically significant ($t_{507} = 41.873$) with significance value (0.000<0.005).

Pair-14: Evaluation Convenience & Observability: The mean difference between evaluation convenience and observability is statistically significant ($t_{507} = 41.336$) with significance value (0.000<0.005).

Pair-15: Evaluation Convenience & Complexity: The mean difference association between evaluation convenience and complexity is statistically significant ($t_{507} = 23.709$) with significance value (0.000<0.005).

Pair-16: Transaction Convenience & Relative Advantage: The mean difference between transaction convenience and relative advantage is statistically significant ($t_{507} = -7.867$) with significance value (0.000<0.005). On average, transaction convenience is 7 points lesser than the relative advantage (95% CI [-7.950   -7.424]). This shows that the mean of relative advantage is significantly greater than the mean of transaction convenience.

Pair-17: Transaction Convenience & Compatibility: The mean difference between transaction convenience and compatibility is statistically significant ($t_{507} = -17.533$) with significance value (0.000<0.005). On average, transaction convenience is 17 points lesser than compatibility (95% CI [-17.885   -17.182]). This shows that the mean of compatibility is significantly greater than the mean of transaction convenience.

Pair-18: Transaction Convenience & Trialability: The mean difference between transaction convenience and trialability is statistically significant ($t_{507} = 14.452$) with significance value (0.000<0.005).

Pair-19: Transaction Convenience & Observability: The mean difference between transaction convenience and observability is statistically significant ($t_{507} = 19.424$) with significance value (0.000<0.005).

Pair 20: Transaction Convenience & Complexity: The mean difference between transaction convenience and complexity is statistically significant ($t_{507} = 8.847$) with significance value (0.000<0.005).

Pair-21: Possession Convenience & Relative advantage: The mean difference between possession convenience and relative advantage is statistically significant ($t_{507} = -.384$) with significance value (0.000<0.005). On average, possession convenience is 3 points lesser than the

relative advantage (95% CI [-.636   -.132]). This shows that the mean of relative advantage is significantly greater than the mean of possession convenience.

Pair-22: Possession Convenience & Compatibility: The mean difference between possession convenience and compatibility is statistically significant (t_{507} = -10.230) with significance value (0.000<0.005). On average, possession convenience is 10 points lesser than compatibility (95% CI [-10.613   -9.847]). This shows that the mean of compatibility is significantly greater than the mean of possession convenience.

Pair-23: Possession Convenience & Trialability: The mean difference between possession convenience and trialability is statistically significant (t_{507} = 66.695) with significance value (0.000<0.005).

Pair-24: Possession Convenience & Observability: The mean difference between possession convenience and observability is statistically significant (t_{507} = 60.560) with significance value (0.000<0.005).

Pair 25: Possession Convenience & Complexity: The mean difference between possession convenience and complexity is statistically significant (t_{507} = 38.502) with significance value (0.000<0.005).

Pair-26: Benefit Convenience & Relative advantage: The mean difference between benefit convenience and relative advantage is statistically significant (t_{507} = 81.050) with significance value (0.000<0.005).

Pair-27: Benefit Convenience & Compatibility: The mean difference between benefit convenience and compatibility is statistically significant (t_{507} = 119.952) with significance value (0.000<0.005).

Pair-28: Benefit Convenience & Trialability: The mean difference between benefit convenience and trialability is statistically significant (t_{507} = 11.799) with significance value (0.000<0.005).

Pair-29: Benefit Convenience & Observability: The mean difference between benefit convenience and observability is statistically significant ($t_{507} = 113.449$) with significance value (0.000<0.005).

Pair 30: Benefit Convenience & Complexity: The mean difference between benefit convenience and complexity is statistically significant ($t_{507} = 73.008$) with significance value (0.000<0.005).

As p-value is less than 0.05 for all pairs. This shows that there is a significant effect of e-convenience factors on the diffusion of e-shopping.

5.2 CORRELATION ANALYSES

To find the relationship between the dependent variable (diffusion of e-shopping) and the independent variable (e-convenience) correlation analysis is performed.

5.2.1 Correlation between E-Shopping Convenience and E-Shopping Diffusion

Karl Pearson's Correlation is calculated between the responses of e-convenience and e-shopping diffusion.

Table 2: Relationship between E-Shopping Convenience and E-Shopping Diffusion

	E-Shopping Convenience	E-Shopping Diffusion
E-Shopping Convenience	1	0.826338
E-Shopping Diffusion	0.826338	1

This shows that there is highly degree positive correlation between e-shopping convenience & e-shopping diffusion. Thus, Null hypothesis is rejected.

5.2.2 Pearson Pair wise Correlation between E-Shopping Convenience and E-Shopping Diffusion factors

Table 3: Pair wise Correlation between E-Shopping Convenience and E-Shopping Diffusion

E-Convenience/E-Shopping Diffusion		Relative Advantage	Compatibility	Trialability	Observability	Complexity
Access Convenience	Pearson Correlation	.566	.298	.380	.014	-.450
	Sig. (2-tailed)	.000	.000	.000	.756	.000
	N	508	508	508	508	508
Search Convenience	Pearson Correlation	.548	.321	.469	.251	-.295
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	508	508	508	508	508
Evaluation Convenience	Pearson Correlation	.571	.226	.441	.251	-.231
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	508	508	508	508	508
Transaction Convenience	Pearson Correlation	.522	.256	.380	.106	-.429
	Sig. (2-tailed)	.000	.000	.000	.017	.000
	N	508	508	508	508	508
Possession Convenience	Pearson Correlation	.637	.289	.442	.201	-.318
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	508	508	508	508	508
Benefit Convenience	Pearson Correlation	.673	.402	.488	.316	-.430
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	508	508	508	508	508

I.   The correlation between access convenience and factors of diffusion of e-shopping are relative advantage (0.566), trialability (0.380), compatibility (0.298) and observability (0.014) showing a positive correlation. But complexity (-0.450) is showing a negative correlation. The value of p is less than 0.05 for all e-shopping diffusion factors except observability (p>0.05). Thus, access convenience has a significant correlation with e-shopping diffusion factors except for observability. Thus the correlation between access convenience and observability is by chance not by choice.

II.   The correlation between search convenience and factors of diffusion of e-shopping are relative advantage (0.548), trialability (0.441), observability (0.251) and compatibility (0.226) showing a positive correlation. But complexity (-0.231) is showing a negative correlation. As P-value <0.05 for all e-shopping diffusion factors. Thus, search convenience has a significant correlation with e-shopping diffusion factors.

III.   The correlation between evaluation convenience and factors of diffusion of e-shopping are relative advantage (0.571), trialability (0.469), compatibility (0.321) and observability (0.251) showing a positive correlation. But complexity (-0.295) is showing a negative correlation. As P-value<0.05 for all e-shopping diffusion factors. Thus, evaluation convenience has a significant correlation with e-shopping diffusion factors.

IV.   The correlation between transaction convenience and factors of diffusion of e-shopping are relative advantage (0.522), trialability (0.380), compatibility (0.256) and observability (0.106). But complexity (-0.429) is showing a negative correlation. As P-value <0.05 for all e-shopping diffusion factors. Thus, evaluation convenience has a significant correlation with e-shopping diffusion factors.

V.   The correlation between possession convenience and factors of diffusion of e-shopping are relative advantage (0.637), trialability (0.442), compatibility (0.289) and observability (0.201). But complexity (-0.318) is showing a negative correlation. As P-value <0.05 for all e-shopping diffusion factors. Thus, possession convenience has a significant correlation with e-shopping diffusion factors.

VI.   The correlation between benefit convenience and factors of diffusion of e-shopping are relative advantage (0.673), trialability (0.488), compatibility (0.402) and observability (0.316). But complexity (-0.430) is showing a negative correlation. As P-value <0.05 for all e-shopping diffusion factors. Thus, benefit convenience has a significant correlation with e-shopping diffusion factors.

VII.   All the e-shopping convenience factors have significant positive correlation with e-shopping diffusion factors (relative advantage, trialability, compatibility, observability) except there is no significant correlation between access convenience and observability. All e-shopping diffusion factors have a significant negative correlation with the complexity factor of diffusion. Thus, e-convenience leads to diffusion of e-shopping.

6. Findings

All e-convenience factors (Access Convenience, Search Convenience, Evaluation Convenience, Transaction Convenience, Possession Convenience and Benefit Convenience) have a significant effect over the e-shopping diffusion factors (Relative Advantage, Compatibility, Observability, Trialability and Complexity). The results of Karl Pearson's correlation show that there is highly degree positive correlation between e-shopping convenience & e-shopping diffusion factors. Access convenience has a significant positive correlation with e-shopping diffusion factors except for Complexity. The correlation between access convenience and observability is not statistically significant. Search convenience, Evaluation Convenience, Transaction Convenience, Poession Convenience and Benefit Convenience have a significant positive correlation with e-shopping diffusion factors except for Complexity. Complexity has negative correlation with all e-convenience factors. Thus, e-convenience leads to diffusion of e-shopping.

7. Conclusion

The demand for online shopping is increasing day by day. E-Convenience is an important factor play a big role in the diffusion of e-shopping. All e-convenience factors have a positive relationship with e-shopping diffusion factors except complexity. Access convenience does not have a significantly relationship with observability. Access, Search, Evaluation, Transaction, Possession, and Benefit Convenience have a positive relationship with e-shopping diffusion factors except for Complexity. This shows that as the level of e-convenience will enhance, online shopping will be more compatible with people. When people observe others in getting the benefits (advantage) of online shopping then they will try it more. A number of times, people will make use of online shopping; the level of complexity will reduce which will lead to diffusion of e-shopping.

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