

An E-Customer Analysis on E-Store Information and Design Quality

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Abstract: Loyal e-customers don't just come back or simply recommend you, but insist their friends to do business with you. E-store impresses the e-customers in their first sight. A consumer has different expectations or goals when visiting different e-stores at different times. Indeed, e-consumers visit e-stores not only to search and purchase products/services, but also to have rich and entertaining experiences. The objective of this paper is to identify how the demographic factors and other variables influence e-shopping behaviour in India. And also this paper weighs the e-store information and design quality factors with respect to Indian e-shoppers. The data analysis is done by categorizing the e-customers into 4 categories ie. No Loyalty customers, Latent Loyalty customers, Inertia Loyalty customers and Premium Loyalty customers and how differently these categories perceived the e-store information and design factors. The results suggest the e-store service providers to know the strength, weaknesses, opportunity and threat of the e-store. The result reveals that there is a direct relationship between e-store information and design quality and e-store success. In order to strengthen competitiveness in e-store, the service provider should focus on the website usability, design and information quality.

Key words: E-store • E-customers • Information quality • Design quality • Online shopping

INTRODUCTION

In the modern internet world, e-store is not only considered as an extension of business, by just adding the channel or storefront or a simple information portal for the company, it is an entire business. Creating an effective web site information and design gives a positive overall experience to the customers and visitors. Measuring the quality of e-store information and design, will give a fast and early feedback to the firm and enables to take corrective actions and improve its operations. C. Liu, K.P. Arnett (2000) found that website success in the context of E-Commerce is related to four major factors: quality of information and service, system use, playfulness and system design quality. Organizations that launch web sites should be more aware of these factors. Chung and Jae-Ik Shin (2009) research reveals that site design is the second factor directly affecting customer satisfaction and indirectly affecting e-trust, e-commitment and word of

mouth. Visual appeal and good selection of site design are also important to customers because of the increase in access and choice, especially in regard to information on products and services.

Review of Literature: Süleyman Barutçu (2010) proposes that e-customers are satisfied with e-shopping cost, e-store design, e-customer service and cargo carriers. In other words, e-customers are not satisfied with shipping policy and information quality of e-tailers. Seethamraju and Ravi(2006) study results indicate that the four-factor model with – technical adequacy, content quality, specific content and appearance, are loading strongly on the second order factor, user perceived web quality. Mehrbakhsh Nilashi and *et al.* (2012) proposed research framework considers three key dimensions service quality, information quality and system quality for online shopping website. Hadrian Djajadikerta and Terri Trireksani (2006) study developed an instrument for

measuring university web site quality and validated by taking into account both the perspectives of the users and the importance of its informational content.

Roy, S.K. and Butaney, G. (2010) research results suggest an important role of the four e-store quality dimensions, viz. Interactivity encouragement, navigational quality, site organization and the overall website appearances, in influencing the site customers' e-satisfaction and/or affective attitudes towards the site. These results make logical sense. Aykut Hamit Turan (2012) says that numerous MIS researchers employed socio-psychology based theories to explain and predict consumers' online purchasing behavior and decision making processes. Bartuç, S. (2006b), e-store designers have to develop expert systems for easy product and service selection and a new e-store to compare price of products and service easily among different e-stores. Ki-Han Mohd Fazli Mohd Sam and Md Nor Hayati Tahir (2009) study suggests that usability, website design, information quality, trust and empathy are positively related online purchase intention. The findings reinforce the need to develop website quality, trust and empathy to increase online purchase intention.

Research Objectives: The research objectives are two-fold:

- To identify the demographic factors and other variables influencing e-shopping behaviour in India.
- To analyse the factors influencing Indian customers to weigh e-store information and design quality.

To attain these objectives, a structured questionnaire was designed and used for data collection among e-customers residing in India. As a web based survey, the questionnaire has been sent to online shoppers in India through a random mailing survey.

Data Analysis and Interpretation: E-consumers take greater care in what they buy, where they buy and how much they will pay. Although hardly a sufficient silver lining, the questionnaire has been collected to examine more thoroughly many of the issues discussed to bring a new light. The results of demographic factor analysis are given in the Table 1.

The Table 1 shows the gender-wise report, ie. the female shoppers buy more frequently than the male shoppers. In the education-wise analysis, the master

Table 1: Demographic factor analysis of Indian e-customers

Variables	(%)	Variables (Contd.)	(%) (Contd.)
Gender		Income Per Annum	
Male	55	Not Applicable	31
Female	45	<\$9999	18
Education		\$10000-\$19999	9
High School	12	\$20000-\$29999	9
Diploma	8	\$30000-\$39999	11
Under graduate	19	\$40000-\$49999	11
Masters	44	\$50000-\$59999	8
Doctorate	17	\$60000-\$69999	0
Age		>\$70000	3
Below 20	3	Occupation	
20-29	26	Business owner	2
30-39	41	Manager/Administrator	24
40-49	20	Teacher/Lecturer	15
Above 50	10	Self-employed	14
Marital Status		Government employees	16
Single	21	Trade worker, Sales, Clerical or Service worker	10
Married	78	Student	11
Others (Divorced, Seperate)	1	Homemaker	8

Table 2: Internet usage analysis of Indian e-customers

Variable	(%)	Variable (Contd.)	(%) (Contd.)
Active usage of internet		Frequency of online purchase	
<1 Year	6	Never shopped online	6
1-3 Years	7	Once Yearly	21
3-5 Years	19	2-4 times yearly	42
5-7 Years	17	5-10 times yearly	13
>7 Years	51	More than 10 times yearly	18
No. of years shopping online		Have you shopped on internet?	
<1 Year	28	Yes	93
1-3 Years	27	No	7
3-5 Years	23	Is internet shopping safe?	
5-7 Years	15	Yes	83
>7 Years	7	No	17
Is internet shopping enjoyable?			
Yes	82		
No	18		

graduates tend to buy often than others. The age group between 30 and 39 are doing most of their shopping through online. Also the married people are spending most of their purchase through online. According to income wise analysis, the “not applicable” category tend to buy online more ie. students or house wives or the category of customers who doesn't wish to disclose their annual income. According to occupation, the manager or administrator is in the top position who buys online.

This Table 2 describes about the internet usage statistics among the sample Indian e-shoppers. 51% of the people actively uses internet for more than 7 years, but most of them never done shopping for the whole usage period. Only 7% were doing online shopping for more than 7 years. It shows that the interest and awareness about online shopping occurs in the recent period. 28% of the people have done within a year time. But most of them

Categories Shopping Online

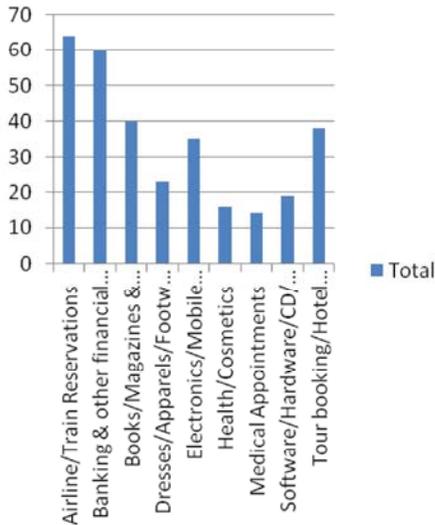


Fig. 1: List of Categories shopped online

Table 3: Mean and S.D. of E-Store Information and Design Quality Factors

E-Store Information & Design Quality	Mean	Standard Deviation
E-STORE INFORMATION QUALITY		
E-store has accuracy of the information	3.87	1.22
It has updated information.	3.92	1.11
It has information about the order status.	3.92	1.06
The format of given information is clear.	3.76	1.11
The language used in the website is easy to understand.	3.79	1.15
Mean of E-Store Information Quality	3.852	1.13
E-STORE DESIGN QUALITY		
It is quick and easy to complete a transaction at the e-store.	4.29	1.09
E-Store has a good selection.	3.81	0.96
I feel comfortable in surfing the e-store.	3.8	1
The e-store doesn't waste my time.	3.36	1.42
It is easy to search product/service in the e-store	3.93	1.16
Mean of E-Store Design Quality	3.838	1.126
Overall mean of all these factors	3.845	1.128

enjoy doing e-shopping. Here, the report says 82% of the e-shoppers revealed the e-shopping is enjoyable. The maximum frequency of online purchase is 2-4 times yearly. 93% internet users experienced the e-shopping ie. they have purchased at least once through online. Also, 83% internet users felt the internet shopping is safe.

The following Figure 1 describes the list of categories shopped online. 64% of the people book airline/train tickets online, 60% deals with banking and other financial services, 38% customers book tours online and do hotel reservations, 14% book medical appointments, 40% of

Category of E-Customers

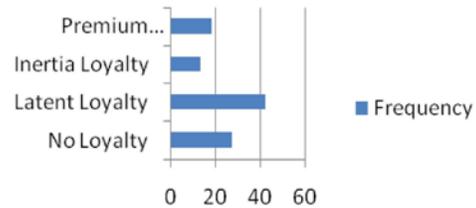


Fig. 2: Category of E-Customers

them purchase books and magazines online, 19% of the e-shoppers buy CDs / DVDs online, 23% of them buy dresses, apparels, footwear and jewellery online, 16% buy health and cosmetic products and 35% of them buy electronics, mobile phones and home appliances online. Here this report clearly describes, the e-customers mostly prefer to opt for services rather than purchasing products online.

In Table 3, the mean of E-Store information quality has slightly highest mean score of 3.852 than the overall mean score of 3.845. It means that the e-customers were highly satisfied with the E-Store information quality. But the e-customers are less satisfied with the two factors in E-store information quality which has the lower mean value ie. “The format of given information is clear” and “The language used in the website is easy to understand”. The e-customers are quite satisfied with the remaining three factors which have highest mean score than the overall mean factor.

The mean of E-Store design quality has slightly lower mean score of 3.838 than the overall mean score of 3.845. It means that the e-customers were less satisfied with the E-Store design quality. But the e-customers are highly satisfied with the two factors in E-store design quality which has the higher mean value ie. “It is quick and easy to complete a transaction at the e-store” and “It is easy to search product / service in the e-store”.

In Figure 2, based on their frequency of online purchase, the e-customers are categorized. *The category of “never shopped online” and “once yearly” is named as “No loyalty customers”.* These customers have weak behavioral and attitude habits pertaining to specific vendors. They may base their purchasing decisions on wide-ranging factors, including spur-of-the-moment purchasing, strategic product placement, convenience and on-the-spot discounts. *The category of shopping*

Table 4: Mean of E-Store Information and Design Quality Factors

E-Store Information & Design Quality	No Loyalty	Latent Loyalty	Inertia Loyalty	Premium Loyalty
E-store has accuracy of the information	15	16	38	31
It has updated information.	19	16	37	28
It has information about the order status.	20	4	38	38
The format of given information is clear.	19	10	42	29
The language used in the website is easy to understand.	21	11	30	38
It is quick and easy to complete a transaction at the e-store.	21	6	32	41
E-Store has a good selection.	23	15	45	17
I feel comfortable in surfing the e-store.	19	22	36	23
The e-store doesn't waste my time.	31	17	26	26
It is easy to search product/service in the e-store	15	16	44	25

Table 5: Analysis of E-Store Information and Design Quality Factors

E-Store Information & Design Quality	No Loyalty	Latent Loyalty	Inertia Loyalty	Premium Loyalty	Sum of Ranks (R _j)	(R _j) ² / Average of R _j ²
E-store has accuracy of the information	6	5	6	5	22	0.16
It has updated information.	3	4	2	2	11	112.36
It has information about the order status.	4	2	3	4	13	73.96
The format of given information is clear.	8	9	9	9	36	179.56
The language used in the website is easy to understand.	7	8	7	8	30	70.56
It is quick and easy to complete a transaction at the e-store.	1	1	1	1	4	309.76
E-Store has a good selection.	9	6	5	6	26	19.36
I feel comfortable in surfing the e-store.	4	7	8	7	26	19.36
The e-store doesn't waste my time.	10	10	10	10	40	338.56
It is easy to search product/service in the e-store.	2	2	3	2	9	158.76
				Sum	216	1282.4

“2-4 times yearly” is named as “Latent loyalty customers”. These customers have a very positive attitude towards a specific vendor, yet they have a weak repeat purchase behavior. These customers are difficult for marketers to influence because there are factors out of the marketer's control that cause this latent loyalty, such as reduced disposable income or unemployment. The category of shopping “5-10 times yearly” is categorized as “Inertia loyalty customers”. A low level of attachment coupled with high repeat purchase produces inertia loyalty. This customer buys out of habit. It's the “because we've always used it” or “because it's convenient” type of purchase. In other words, non-attitudinal, situational factors are the primary reason for buying. The category of shopping “More than 10 times yearly” is named as “Premium loyalty customers”. Here, a high level of attachment and repeat patronage coexist.

This is the preferred type of loyalty for all customers of any business. At the highest level of preference, people are proud of discovering and using the product and take pleasure in sharing their knowledge with peers and family. These customers become vocal advocates for the product or service and constantly refer others to it.

In the above Table 4, the mean of e-store information and design quality factors are categorized based on No loyalty customers, Latent Loyalty customers, Inertia Loyalty customers and Premium Loyalty customers.

The Table 5 is designed to calculate the Kendall's coefficient of concordance. It is a non-parametric statistic can be used for assessing agreement among e-shoppers. The ranks are assigned to the mean of 4 categories. The given N = 10, K = 4, S = 1282.4, Average of R_j = 21.60.

$$\text{Kendall's Coefficient of Concordance } W = \frac{S}{\frac{1}{12}K^2(N^3 - N)}$$

$$W = 1282.4/1320$$

$$W = 0.9715$$

As N>7, we can use the chi-square to calculate its value, *Chi Square* = K(N-1)W, the value of Chi square is 34.974.

$$\text{Degrees of freedom} = (r-1)(c-1) = (4-1)(10-1) = 27.$$

The Table value of Chi square for 27 degrees of freedom at 5 per cent level of significance is 40.113. The calculated value of Chi square is lower than the table value. Hence the null hypothesis is accepted and infer that the e-customers are applying essentially the different standards in weighing the N objects ie. there is no significant agreement in ranking at 5% level. The lowest value observed amongst R_j is 4 and as such the best estimated factor of true rankings is for “It is quick and easy to complete a transaction at the e-store” and the remaining estimated factor are listed in the Table 6.

All the category of e-customers prioritizes and ranks the factor “It is quick and easy to complete a transaction at the e-store”. The E-store service providers have to concentrate on how to make the transaction complete in e-store, it attracts large segment of audience. Then, the next rank goes states that the search of product or service should be easy. The e-store service providers have to update the website information. This result clearly describes that there is direct relationship between information and design quality and the success of e-store.

Table 6: Prioritization of E-Store Information and Design Quality Factors

E-Store Information & Design Quality	Sum of Ranks (Rj)
It is quick and easy to complete a transaction at the e-store.	4
It is easy to search product/service in the e-store.	9
It has updated information.	11
It has information about the order status.	13
E-store has accuracy of the information	22
E-Store has a good selection.	26
I feel comfortable in surfing the e-store.	26
The language used in the website is easy to understand.	30
The format of given information is clear.	35
The e-store doesn't waste my time.	40

Table 7: SWOT Analysis of E-Stores

<p>STRENGTH</p> <ul style="list-style-type: none"> ✓ Quick and easy to complete a transaction ✓ Information about the order status is present 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> ✗ Lack of information accuracy ✗ Language used in the e-store is not easy to understand ✗ Information format is unclear
<p>OPPORTUNITY</p> <ul style="list-style-type: none"> + Easy to search product/service + Information up-to-date. 	<p>THREAT</p> <ul style="list-style-type: none"> ⊗ Absence of wide range of selection ⊗ Surfing the site is not comfortable ⊗ Time consuming e-stores

Based on the results derived, the framework of SWOT Analysis in Table 7 is designed. This table suggests the e-store service providers to analyse their e-store SWOT Analysis. The Indian e-shoppers say the e-stores are quick and easy to complete the transaction and the order status are clearly present in the website. The opportunity is that the e-shoppers feel that it is easy to search the products and services and the information is up-to-date. The weaknesses, where the e-store service providers have to strengthen is to accurate information need to be given, the language has to be simple to understand, not using complex words and the information format need to be clear, not to be vague. The threat which need to convert as opportunity is, wide range of selection choices should be given, make the customers to feel comfortable surfing the site and should not be time consuming to do online shopping. Here is where the success of e-stores lies.

CONCLUSION AND FUTURE RESEARCH

E-marketing researches have to concern about the factors which cause e-consumer satisfaction in online purchasing experiences. This paper analyses how the E-store information and design quality factors influencing e-customers to do e-shopping, on which it highlights few key areas where the e-store service providers have to concentrate for the success of e-business. The results say that there is a direct relationship between the e-store information and design quality and the success of e-store. This research has been done with the relatively small samples from India. A large sample should be used to carry out the future research in this area. A random sample covering the whole of Indian internet users should be employed to examine the results to be accurate. But the limitation is that the World Bank report says only 12.58% internet users in India. This sample targeted only the internet users. There are still more than 87% of the population doesn't aware of the internet. They do their purchase on retail outlets.

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