Impact of E-service Quality Dimensions on Customer Satisfaction: A Case Study on Online Medicine Shoppers

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ABSTRACT

This paper attempts to study the impact of electronic service quality dimensions over the customer's satisfaction level. The digitalization has empowered businesses to transact speedily with the help of internet facility. It will remain debatable whether internet has "helped" people or "spoiled" people. The recent major changes including takeover and mergers in telecom industry has enabled people to access internet services at cheaper rates. In the present scenario, Internet is not only restricted to purchase of shopping items like clothes, stationery, cosmetics and kitchenware etc. but open to many new ideas of delivering perishable food items and medicines at the doorstep. The websites like netmeds.com, pharmeasy.in, practo.com and medlife.com etc. are popular in Delhi for medicines delivery. With the increase in numbers of online retailers, it is imperative to study whether the customers are really satisfied or not with the services provided by e-tailers. The paper attempt to understand the applicability of E-S-QUAL model given by Parasuraman et.al.(2005) in the area of online medicine shopping. The data has been collected through convenience sampling and from those customers who have ordered medicines online. The results show that there is significant impact of E-service quality dimensions on customer's satisfaction level. The respondents were from Delhi-NCR region and information was gathered

through tri-sectional questionnaire. Using SPSS software statistical tests (regression, correlation and Anova etc.) have been applied. However, there are many other factors that influences customer satisfaction and which may be studied along with E-S-QUAL model dimensions in future research.

Keywords: Customer satisfaction, E-service quality, Online Shopping

INTRODUCTION

Since 1991, the trade of India has flourished across various Nations. Now the trade is not only restricted to specific areas but even to those areas where it was not possible to transact earlier. The infrastructural developments have helped in exchange of goods and services at relatively cheaper cost. The physical presence was necessary in the previous times, but now the technology has provided a facility to get the products without even moving out of the house. *"Nothing is impossible"* quote is relevant in this context because one would have never thought that fresh fruits, grocery items and medicines could also be delivered through online trade facilities. There are pros and cons of every aspect, it is easier for both the retailers and customers to transact online but it is problematic for both (Kotler, P & Cunningham, 2001). The face to face interaction and opportunity to resolve issues on the spot is not possible when people sitting at two different places do business over internet. In order to sustain in the market and build long term relationships with customers, marketers form the strategies in order to accomplish their objectives (Timothy, 2007). Thus market segmentation strategy is followed by companies so that only those customers are targeted who are capable of becoming loyal customers. These companies are struggling due to stiff competition due to which creating loyal customers has become a challenge. Amaratunga et.al. (2002) has talked about three dimensions that needs to be taken care of in order to keep customers satisfied i.e. *Improvement in service quality; adding more value to the customers; higher satisfaction rate.*

NEED FOR STUDY

The company may not get a second chance in case if wrong medicines are being delivered. The basic purpose of medicine is to improve one's health and save one's

life, thus companies cannot take risk to deliver incorrect or expired products. Therefore, it increases the responsibility of e-tailers to keep a check on its whole process. The researchers have studied the impact of service quality on customer satisfaction in the retail segment of e-commerce industry but the medicinal segment has not been explored much. Thus this study will provide an edge over other researches already done in context of other products.

OBJECTIVES

1. To identify the E-service quality dimensions.
2. To study the impact of E-service quality dimensions on customer satisfaction.

LITERATURE REVIEW

SERVICE QUALITY

Service quality refers to the complete offerings of a company that customer compares with his/her expectations. The service quality dimensions can help marketers to fight intense competition to sustain in the market (Mensah,2018). In order to develop repurchase intentions among consumers it is important to focus on the concept of customer satisfaction (Zeithaml &Bitner, 2003). It is difficult to exactly define service quality because different consumers perceive services differently and have diverse expectations (Parasuraman, Zeithaml & Berry, 1991). Parasuraman et al., (1988) initially explained service quality through ten dimensions i.e. Tangibility, Reliability, Responsiveness, Competence, Courtesy, Credibility, Security, access, Communication and Understanding. Since many of the dimensions were overlapping, later on they were reduced to 5 dimensions. i.e. Tangibility, Reliability, Responsiveness, Assurance and Empathy. There were also other techniques provided by different researchers for measuring service quality like, Gronroos (1993) stated two dimension evaluation i.e. technical dimension (What) and Functional dimension (How, why, who, and when).

Electronic Service Quality means quality related to the services provided online. When the transactions and exchange take place through internet medium it is complicated to measure the overall service quality. Everyone is not comfortable in using mobile or computer for placing orders. Some may not have complete

information and thus collecting their feedback becomes more critical (Mick and Fournier 1998). People are still not convinced to purchase the medicines online as there are concerns of expiry date, delays in delivery, availability of medicines (all the medicines may not be available online). Therefore it becomes essential to understand the interactions between customer and marketers website (Zeithaml and Bitner ,2003).

Customer Satisfaction

Customer satisfaction can be explained as the variation between perceived benefit and actual benefit i.e. if the consumer's actual experience with the services provided by company meets his expectations then customer satisfaction is attained (Zeithaml and Bitner ,2003). The overall satisfaction is the summation of all the transactions that consumer had with the marketer. Cronin & Taylor(1992) differentiate between the overall and transaction specific satisfaction i.e it is difficult to attain complete customer satisfaction even if consumer is satisfied with a specific transaction.

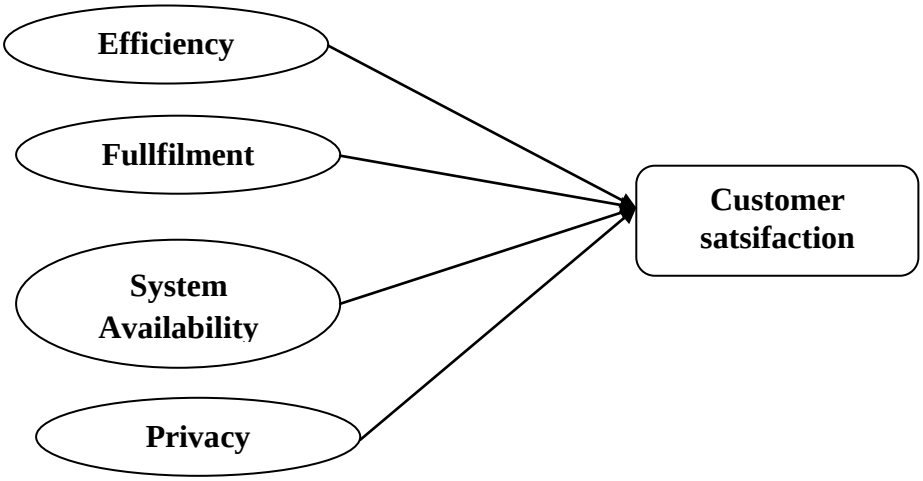
Relationship between Service Quality and Customer Satisfaction

There is significant relationship between customer satisfaction and service quality (Sivadas,2000). There are many other factors responsible for customer satisfaction and service quality is one of those factors (Crosby,1991). The service quality and customer satisfaction are interlinked such that customer satisfaction is dependent variable and service quality is independent variable (Gronroos, 2001) (Jain.S. et.al.,2004). The repurchase intention can be considered as a sign of customer loyalty but some studies reveal that customer satisfaction does not moderate the relationship between service quality and repurchase intention (Mensah,2018).

E-S-QUAL Model

E-S-QUAL model developed by Parasuraman et al (2005) has been employed to measure electronic service quality. The four dimensions considered for measuring service quality were **Efficiency** *(ease and speed of using the site*; **Fulfillment** *(promises about order delivery);* **System availability** *(technical functioning of the site)*; **Privacy** *(protection of customer's).* The other dimensions have been ignored as they are valid for measuring post satisfaction and dissatisfaction activity.

The following model is proposed for the study:-



Source: Author's Own

HYPOTHESIS

Main Hypothesis

H_0 (Null hypothesis): There is no significant relationship between satisfaction of online medicine shoppers *(customer satisfaction)* and E-service quality dimensions *(efficiency, system availability, fulfillment and privacy).**

H_1 (Alternative Hypothesis): There is significant relationship between satisfaction of online medicine shoppers *(customer satisfaction)* and E-service quality dimensions *(efficiency, system availability, fulfillment and privacy).*

*Where *p* value is less than 0.5, we would reject the null hypothesis and accept the alternative hypothesis.

Sub Hypothesis

H_{01}- There is no significant relationship between customer satisfaction and efficiency dimension.

H_{02}- There is no significant relationship between customer satisfaction and system availability dimension.

H_{03}- There is no significant relationship between customer satisfaction and fulfillment dimension.

H_{04}- There is no significant relationship between customer satisfaction and privacy dimension.

H_{A1}- There is significant relationship between customer satisfaction and efficiency dimension.

H_{A2}- There is significant relationship between customer satisfaction and system availability dimension.

H_{A3}- There is significant relationship between customer satisfaction and fulfillment dimension.

H_{A4}- There is significant relationship between customer satisfaction and privacy dimension.

RESEARCH METHODOLOGY

The deductive approach is employed in the research and with the help of Parasuraman et al (2005) E-S-QUAL model Questionnaire was formed.

Questionnaire: A questionnaire was deployed for capturing the perceptions of customers about their online medicine purchase behaviour. The questionnaire consisted of three sections where first section was meant to collect Demographical data (Age, gender, Qualification, Occupation and Income). Second section measured E-service quality dimensions through 22 statements. Third section measured overall satisfaction of customers related to his/her online medicine purchase through various websites. A Seven point likert scale was constructed where "1" denoted" strongly agree" and "7" denoted "strongly disagree" (*7– Strongly disagree, 6– Disagree, 5– Somewhat disagree, 4 – Neither agree or disagree, 3 – Somewhat agree, 2 – Agree, 1– Strongly agree).*

Sample Size:- Through convenience sampling data of 221 respondents was collected from Delhi-NCR region. The multi sectioned questionnaire containing three sections was distributed to consumers who had purchased medicines online. The age group categories were four (*18-21 years; 22- 25 years; 26- 35 years; 36 years & above).* The educational qualification categories were three:- Graduate, Post graduate and Ph.D degree holder. The occupation categories were four i.e Service, Business, Student, Homemaker and Unemployed. Monthly family income was categorized into three:- Rs.10,000- Rs.50,000; Rs. 50,001- Rs. 1,00,000; Rs. 1,00,001 & above.

Statistical tools:- With the help of SPSS software data has been analyzed and tests of Correlation, Regression and ANOVA etc. has been applied. For Descriptive Statistics, Frequencies, Percentages and Crosstabs etc. have been analysed. Also, the essential test like reliability, multi-collinearity was also tested.

ANALYSIS AND RESULTS

Table 1: Descriptive Analysis

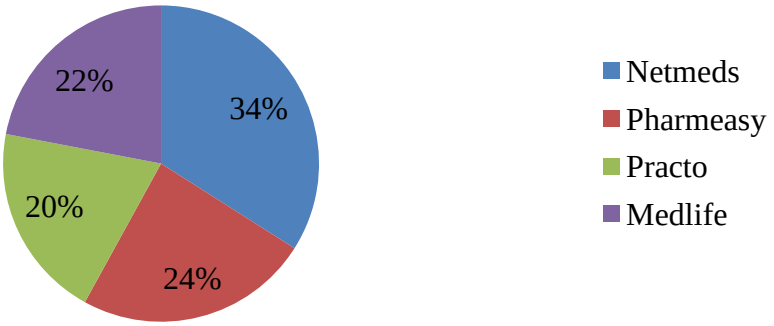
Demographic category	Statistics
Age	
(*18-21 years)*	16%
(22- 25 years)	21%
(26- 35 years)	31%
(36 years & above)	32%
Gender	
Male	55%
Female	45%
Education	
Graduation	54%
Post Graduation	35%
Ph.D degree holder	9%
others	2%
Occupation	
Service	36%
Business	27%
Student	12%
Homemaker	23.5%
Unemployed	1.5%
Family Monthly Income	
(Rs.10,000- Rs.50,000)	24%
(Rs. 50,001- Rs. 1,00,000)	42%
(Rs. 1,00,001 & above)	34%

Source: Primary Data

Table-1 gives the demographical view of consumers who have purchased medicines online. 32% of the total respondents belonging to age category *(36 years & above)* have ordered medicines online, which means that with the increasing age the need for medicine and wellness products increases as the responsibilities towards family also

increases. There is no drastic difference between the two genders i.e. male and females are equally using /trying online modes for buying medicines.

Figure:1 Online Medicine purchasing Websites



Source: Primary Data

The figure-1 shows that consumers prefer purchasing from Netmeds website *(34% respondent uses Netmeds)*, whereas some of the consumers are also buying from websites like Pharmeasy (24%), practo (20%) and Medlife (22%). Since the data is collected through convenience sampling, it is difficult to say which company consumers' prefer the most.

Table-2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.822
Bartlett's Test of Sphericity	Approx. Chi-Square	3803.641
	df	210
	Sig.	.000

Source: Primary Data

The *Kaiser-Meyer-Olkin* test reveals that the sample has required adequacy i.e. 0.822 (above 0.70) in order to conduct factor analysis. The *Bartlett's* test is also significant at 0.00 (Table-2). For extraction of factors, factor analysis test was applied using SPSS software after successfully conducting sample adequacy test (Pallent, Julie. 2007). The four factors/dimensions were extracted using principal component analysis i.e. Efficiency, System availability, Fulfillment and Privacy. Also, internal consistency was verified using cronbach alpha test and the results were above 0.70 (Table-3)(Saunders,2007). The total variance explained by four dimensions is 69.12%

where individual variance for Efficiency, System availability , Fulfillment and Privacy is 22.54%, 20.38%, 14.95% and 11.24% respectively.

TABLE-3: E-service quality Dimensions	
Dimension 1: Efficiency (Alpha Coefficient)	**0.894**
It is easy to find medicines on website	.645
It is easy to get anywhere on the site	.772
The transactions are completed quickly over website	.729
The information provided on the website is in well-organized form	.840
Website can be searched and reached quickly	.671
Pages of the website and images are loaded quickly	.573
Overall website is well organized	.593
Dimension 2:System Availability (Alpha Coefficient)	**0.893**
Website is always up and available	.795
Website launches quickly	.841
Website does not crash	.560
After entering the information pertaining to orders, pages of the site do not freeze	.643
Dimension 3:Fulfillment (Alpha Coefficient)	**.803**
Orders are delivered as per the time committed (i.e. as per the time promised)	.622
Medicines are delivered quickly (i.e. delivery times are not too long)	.705
Correct medicines are delivered	.729
Website shows the correct information about the stock of medicines	.701
Website is truthful about its offerings	.830
Accurate information is shown regarding delivery process(i.e. tracking, delivery time, delivery date)	.824

Dimension 4: Privacy (Alpha Coefficient)	**0.853**
Information regarding shopping behaviour and Personal information is kept confidential & is protected	.817
Information regarding credit/debit cards is kept safe	.726

Source: Primary Data

(Table-3) The first dimension "Efficiency" was loaded on 7 statements ranging from 0.573-0.840. The second dimension "System availability" loaded on 4 statements ranges from 0.560-0.841. Third dimension "Fulfilment" was loaded on 6 statement (0.622-0.830) and fourth dimension "Privacy" was loaded on 2 statements (0.726-0.817). The "Efficiency" statements were constructed to know efficiency of company's website to sell medicines to customers in lesser time. The "System availability" statements were related to the performance and speed of website. "Fulfilment" dimension statements depict the customers experience with the actual delivery of medicines. Finally "Privacy" related statements were targeted to understand usage and non usage of personal information by the marketer.

Source: Primary Data

TABLE-4 :Regression Results: Impact of E-S-QUAL dimensions over customer satisfaction

Factors	R	R Square	Adjusted R Square	Std. Error of the Estimate	Mean Square (Regression)	F	Sig.
Efficiency	0.560	0.314	0.311	1.017	103.74	100.287	0.00
System Availability	0.377	0.142	0.138	1.137	46.96	36.30	0.00
Fulfillment	0.338	0.114	0.110	1.155	37.660	28.184	0.00
Privacy	0.446	0.199	0.195	1.099	65.62	54.30	0.00

(Table-4) The regression test results shows that four service quality dimensions influences the customer satisfaction as significant value for all is less than 0.05**.** $\mathbf{H_{A1}}$,

$\mathbf{H_{A2}}$, $\mathbf{H_{A3}}$, $\mathbf{H_{A4}}$ i.e. all the alternate hypothesis are accepted and null hypothesis are rejected.

TABLE-5: Overall Regression Results (Model Fit)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.877[a]	.769	.765	.59433

Source: Primary Data

TABLE6: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	254.002	4	63.501	179.774	.000
	Residual	76.297	216	.353		
	Total	330.299	220			

Source: Primary Data

The results in table-5 and table-6 shows that the relationship between four service quality dimensions and customer satisfaction is significant at 0.00. Therefore we accept the alternate hypothesis i.e**.** $\mathbf{H_1}$. "Efficiency" and "privacy" dimensions have greater influence on customer satisfaction as compared to other two dimensions.

FINDINGS & CONCLUSION

The main objective of the study was to validate the applicability of E-S-QUAL model given by Parasuraman et. al.(2005) on online medicine shoppers. Medicine is a new area which the marketers are trying to capture and have been successful in doing so. 32% of the total respondents belonging to age category *(36 years & above)* have ordered medicines online, which means that with the increasing age the need for medicine and wellness products increases as the responsibilities towards family also increases. There is no drastic difference between the two genders i.e. male and females are equally using /trying online modes for buying medicines. Alos, it was

found that consumers prefer purchasing from Netmeds website *(34% respondent uses Netmeds)*, whereas some of the consumers are also buying from websites like Pharmeasy (24%), practo (20%) and Medlife (22%). Since the data is collected through convenience sampling, it is difficult to say which company consumers prefer the most. From the statistical analysis, it is observed that there is significant relationship between customer satisfaction and service dimensions (efficiency, fulfillment, system availability and privacy factors) in case of online medicine shopping. The Efficiency factor is found to have the greatest influence on satisfaction followed by Privacy. System Availability and Fulfillment service factors have a small influence on satisfaction.

Companies should invest adequately in infrastructure so as to give delightful experience when one visits the website like fast loading of pages, easy navigation throughout the site (Reibstein, D, 2002). It is very important that consumer's trust is built through secure payment systems and transactions security (Edvardsson, B 1998) (Sureshchandar, et.al., 2002). From website visits to final delivery company needs to be careful

LIMITATIONS

- Every research starts sowing the seeds of next possible research and thus have certain limitations. Firstly, in this busy life most of the respondents were hesitant and not enthusiastic in completing the questionnaire.
- Secondly, convenience sampling method was used for collecting the data and thus few important segments may have been left out.
- More rigorous statistical tools could have been applied for good understanding of collected data.

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