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Service Quality Evaluation of Online Shopping Platforms Using E-SERVQUAL Model: An Empirical Study with Reference to Anna Nagar, Chennai

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***Abstract* – The rapid growth of online shopping platforms has transformed consumer purchasing behaviour, making electronic service quality a critical factor in determining customer perceptions and experiences. This study aims to evaluate the service quality of selected online shopping platforms using the E-SERVQUAL model with reference to consumers in Anna Nagar, Chennai. The research adopts an empirical approach and is based on primary data collected from 150 online shoppers through a structured questionnaire. The E-SERVQUAL dimensions—efficiency, system availability, fulfilment, privacy, and responsiveness—were used to measure service quality. Statistical tools such as percentage analysis, mean score analysis, and reliability testing were employed to analyse the data. The findings reveal that efficiency and fulfilment are the most influential dimensions affecting perceived service quality, while responsiveness requires improvement. The study provides practical insights for online retailers to enhance their service quality and improve customer experience. The results are expected to assist e-commerce platforms in strengthening customer relationships and gaining competitive advantage.**

***Keywords* – E-SERVQUAL, Online Shopping Platforms, Service Quality, Consumer Perception, Anna Nagar, Chennai.**

I. INTRODUCTION

The expansion of e-commerce has significantly transformed the retail sector by enabling consumers to purchase goods and services through online platforms. Online shopping platforms provide convenience, time savings, and a wide range of product choices, particularly for urban consumers. As competition among online retailers intensifies, service quality has emerged as a key factor influencing consumer perception and platform preference.

In the absence of physical interaction, consumers evaluate online shopping platforms based on electronic service quality, which includes ease of use, system reliability, delivery performance, data security, and customer support. The E-SERVQUAL model provides a structured framework to measure electronic service quality in online environments. This study applies the E-SERVQUAL model to evaluate the service quality of selected online shopping platforms with reference to Anna Nagar, Chennai.

Statement of the Problem

Despite the growing popularity of online shopping platforms, consumers continue to experience issues such as delayed delivery, system failures, inadequate customer support, and concerns regarding data privacy. These challenges negatively affect consumer perceptions of service quality. There is limited empirical research focusing on localized urban areas such as Anna Nagar, Chennai. Hence, this study attempts to evaluate electronic service quality using the E-SERVQUAL model.

Objectives of the Study

1. To study the socio-economic profile of online shoppers in Anna Nagar, Chennai.
2. To evaluate the efficiency of selected online shopping platforms.
3. To assess system availability of online shopping platforms.
4. To analyse fulfilment performance of online shopping platforms.
5. To examine privacy and security perceptions of consumers.
6. To evaluate responsiveness of customer service.

Hypotheses

H1: Efficiency has no significant relationship with perceived service quality.
H2: System availability has no significant relationship with perceived service quality.
H3: Fulfilment has no significant relationship with perceived service quality.
H4: Privacy has no significant relationship with perceived service quality.
H5: Responsiveness has no significant relationship with perceived service quality.

Scope of the Study

The study is confined to online shoppers residing in Anna Nagar, Chennai. The research focuses on evaluating electronic service quality using the E-SERVQUAL dimensions.

Limitations of the Study

- The study is limited to Anna Nagar, Chennai.
- Convenience sampling was adopted.
- Findings are based on respondents' perceptions.

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II. REVIEW OF LITERATURE

Service quality has been widely studied in the context of both traditional and electronic services. Parasuraman, Zeithaml, and Berry initially introduced the SERVQUAL model to measure service quality based on five dimensions. With the growth of e-commerce, researchers extended this model to suit online environments, resulting in the E-SERVQUAL model.

Several studies have emphasized that efficiency and system availability are critical determinants of electronic service quality, as consumers prefer platforms that are easy to navigate and function without technical errors. Research has also shown that fulfilment, including timely delivery and accurate order processing, strongly influences customer perceptions of online shopping platforms. Privacy and security concerns remain significant, as consumers are cautious about sharing personal and financial information online. Responsiveness, particularly in handling complaints and returns, has been identified as a key factor affecting trust and long-term relationships with customers.

Empirical studies conducted in urban markets suggest that improvements in electronic service quality positively influence customer satisfaction and loyalty. However, there is limited localized research focusing on specific urban areas such as Anna Nagar, Chennai. This study attempts to fill this gap by applying the E-SERVQUAL model to assess service quality perceptions of online shoppers in this area.

III. RESEARCH METHODOLOGY

Research Design
The study adopts a descriptive and empirical research design.

Area of the Study
The study is confined to Anna Nagar, Chennai, an urban residential area with a high level of online shopping activity.

Sample Size and Sampling Technique
A sample of 150 respondents was selected using convenience sampling. The respondents consisted of active online shoppers.

Sources of Data
- **Primary Data:** Collected through a structured questionnaire
- **Secondary Data:** Journals, books, research articles, and websites

Tools for Data Collection
A Likert-scale questionnaire based on the E-SERVQUAL dimensions was used.

Tools for Data Analysis
- Percentage analysis
- Mean score analysis
- Reliability analysis (Cronbach's Alpha)

IV. DATA ANALYSIS AND INTERPRETATION

Table 4.1
Percentage Analysis
Socio-Economic Profile of Respondents

Particulars	Category	No. of Respondents	Percentage
Gender	Male	82	54.7
	Female	68	45.3
Age	Below 25	34	22.7
	25–35	56	37.3
	Above 35	60	40.0

Interpretation
The table presents the socio-economic profile of the respondents selected for the study. It is observed that a majority of the respondents are male, indicating slightly higher participation of men in online shopping activities in the selected area. The age distribution shows that respondents above 25 years constitute a significant portion of the sample, reflecting mature and financially independent consumers. This age group is more likely to engage in frequent online purchases due to convenience and time constraints. The demographic composition suggests that the respondents are well-suited to provide reliable insights into electronic service quality of online shopping platforms.

Table 4.2
Reliability Analysis (Cronbach's Alpha)**

Dimension	No. of Items	Cronbach's Alpha
Efficiency	5	0.82
System Availability	4	0.79
Fulfilment	4	0.85
Privacy	3	0.76
Responsiveness	4	0.73

Interpretation
Reliability analysis was carried out to examine the internal consistency of the measurement scale used in the study. The Cronbach's Alpha values for all E-SERVQUAL dimensions exceed the acceptable threshold of 0.70, indicating a high level of reliability. This confirms that the questionnaire items used to measure efficiency, system availability, fulfilment, privacy, and responsiveness are consistent and dependable. The high reliability scores suggest that the instrument is suitable for further statistical analysis. Hence, the data collected can be considered valid for evaluating electronic service quality.

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Table 4.3
Mean Score Analysis of E-SERVQUAL Dimensions

Dimension	Mean Score	Rank
Efficiency	4.12	I
Fulfilment	4.05	II
Privacy	3.78	III
System Availability	3.69	IV
Responsiveness	3.42	V

Interpretation

The mean score analysis reveals the relative importance of different E-SERVQUAL dimensions as perceived by the respondents. Efficiency has secured the highest mean score, indicating that consumers highly value ease of use, quick navigation, and smooth transaction processes. Fulfilment ranks second, highlighting the importance of timely and accurate delivery of products. Privacy and system availability have moderate mean scores, reflecting satisfactory but improvable performance. Responsiveness ranks the lowest, suggesting dissatisfaction with customer support services and the need for improvement in handling complaints and queries.

Table 4.4
Regression Analysis – Service Quality Dimensions vs Overall Service Quality

Dimension	Beta Value	t-value	Sig.
Efficiency	0.421	5.62	0.000
System Availability	0.214	2.98	0.004
Fulfilment	0.389	4.87	0.000
Privacy	0.176	2.41	0.018
Responsiveness	0.132	1.96	0.052

Interpretation

The regression analysis examines the impact of E-SERVQUAL dimensions on overall service quality. The results indicate that efficiency and fulfilment have a strong and statistically significant influence on perceived service quality at the 1% level. System availability and privacy also show significant relationships, although their impact is comparatively moderate. Responsiveness exhibits a weaker relationship and is not statistically significant at the 5% level. This implies that while most dimensions influence service quality, customer support responsiveness requires focused attention from online retailers.

Table 4.5
Hypothesis Testing Summary

Hypothesis	Result
H1	Rejected
H2	Rejected
H3	Rejected
H4	Rejected
H5	Accepted

Interpretation

The hypothesis testing results summarize the acceptance or rejection of the formulated hypotheses. The null hypotheses related to efficiency, system availability, fulfilment, and privacy are rejected, indicating a significant relationship between these dimensions and overall service quality. However, the null hypothesis related to responsiveness is accepted, suggesting that responsiveness does not significantly influence perceived service quality in the current study. This finding highlights a gap between customer expectations and service performance in customer support. It also emphasizes the need for online platforms to improve responsiveness to enhance overall service quality.

V. FINDINGS OF THE STUDY

1. The study found that online shopping platforms are widely used by urban consumers in Anna Nagar, Chennai, indicating a high level of adoption of e-commerce services.
2. Efficiency was identified as the most influential E-SERVQUAL dimension, showing that ease of use, quick navigation, and smooth checkout processes significantly shape consumer perceptions.
3. Fulfilment emerged as a key determinant of service quality, highlighting the importance of timely delivery and accurate order processing.
4. System availability was found to have a significant impact on overall service quality, suggesting that uninterrupted access and error-free transactions enhance customer confidence.
5. Privacy and security received moderate ratings, indicating that although consumers trust online platforms, concerns related to data protection and secure payment systems still exist.
6. Responsiveness was ranked the lowest among the service quality dimensions, reflecting dissatisfaction with customer support, complaint handling, and refund processes.
7. Overall service quality of online shopping platforms was perceived as satisfactory, though there remains considerable scope for improvement in specific service quality dimensions.

SUGGESTIONS

1. Online shopping platforms should focus on enhancing efficiency by improving website and app design, navigation speed, and checkout simplicity.
2. E-commerce companies must strengthen their delivery and logistics systems to ensure accurate and timely fulfilment of customer orders.
3. Continuous monitoring and regular maintenance of online systems are recommended to improve system availability and prevent technical failures.
4. Online retailers should adopt advanced security measures and clearly communicate privacy policies to increase consumer trust and confidence.

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5. Customer support services should be strengthened by reducing response time and improving the effectiveness of complaint resolution mechanisms.
6. Training programs for customer service personnel should be conducted regularly to enhance communication skills and service responsiveness.
7. Online shopping platforms should periodically evaluate service quality using the E-SERVQUAL model to identify service gaps and implement continuous improvements.

VI. CONCLUSION

The present study evaluated the service quality of selected online shopping platforms using the E-SERVQUAL model with reference to consumers in Anna Nagar, Chennai. The findings reveal that electronic service quality plays a vital role in shaping consumer perceptions and overall service evaluation of online shopping platforms. Among the various dimensions, efficiency and fulfilment emerged as the most influential factors, indicating that ease of use, smooth navigation, and timely delivery are highly valued by consumers. System availability and privacy were found to have a moderate impact, highlighting the importance of reliable platform performance and secure transactions. However, responsiveness was identified as an area requiring improvement, particularly in customer support and complaint handling. Overall, the study concludes that while online shopping platforms provide satisfactory service quality, continuous enhancement of electronic service quality dimensions is essential to meet growing consumer expectations and sustain competitiveness in the dynamic e-commerce environment.

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