Gap Analysis of E-Service Quality in Kerala's Online Fish Buying Platforms

Jamshi J[1], Joshy C.G[2], Afsal E.M[3], Raghunandanan C[4]

[1,3]Kerala University of Fisheries and Ocean Studies

[1,4]Sacred Heart College (Autonomous) Thevara, Kochi, Kerala.

[2]Icar-Cift, Cochin -29

ABSTRACT

To effectively adopt technology intervention in online sales of fish, the marketers need to understand the determinants of consumer behaviour in buying fish online with a special focus on the major determinants of E-service quality (e-SQ) . Through GAP analysis, the study examines the importance of attributes of e-service quality such as efficiency, fulfilment, system availability, privacy, responsiveness, communication and food quality, in determining the customer satisfaction   levels on online platforms for buying fish. Data from 504 respondents were analysed to understand the perceived importance and satisfaction level of these attributes on a 5 -point scale. Factor analysis was used in the study to find the underlying dimensions of e-SQ, while gap analysis was used to compare the importance and satisfaction levels of these attributes. The result reveals that all the seven attributes were considered by the target market to be highly important. The GAP analysis results shows that fulfilment and food quality have the highest satisfaction, while efficiency and communication have the smallest gaps between perceived importance and actual satisfaction. The findings underscore the need for online fish retailers to focus on these dimensions to improve customer satisfaction and drive sales growth. The study identified the determinants of E-service quality in online fish purchasing, which remains an underexplored area. The findings are actioned satisfaction, contributing to the research in e-commerce within perishable food product markets.

Keywords: Online Fish Purchasing, Consumer Behaviour, E-Retail, E-service Quality, Gap Analysis

INTRODUCTION

For any business to succeed, consumer is considered at the centre of all processes forming a focal point around which the business revolves. The company should create services keeping the needs and wants of the consumer in mind, without a thorough understanding of which no business can service or compete in the real world. The rapid shift towards digital purchasing requires a deeper understanding of the factors influencing consumer behaviour in online purchase behaviour (Hermis & Rathiha, 2018) (Abidin & Triono, 2020). The quality of electronic services (e-service quality) is a significant factor in determining online consumer satisfaction and the propensity for future purchase (Santika et al., 2020). In the scenario of online food retail, particularly the online fish market, consumer preferences regarding freshness, reliability and service quality necessitate the need of understanding of e-SQ dimensions (Sheng & Liu,.2010). The study investigates the key dimensions of E-service quality, Efficiency, fulfilment, system availability, privacy, responsiveness, compensation was selected based on prior research on e-service quality (Blut et al., 2015). The nature and scope of problems are complex as rapid growth in online food retailing and the problems encountered in this segment are not as similar to other e-commerce segment. Fresh produce like fish require following standards of quality, timely delivery and trust with the consumer and this makes the role of e-SQ very critical in this regard (Kaur, 2018; Leo et.al., 2022). Although it is indicated that consumer satisfaction and loyalty in the online food buying is trailing that of traditional retailing, the perceived lags are largely due to e-SQ service quality shortcomings,

(Sheng& Liu, 2010). The gaps lie in identifying the specific dimensions of e-SQ that will influence consumer behaviour in the niche market.

The literature review reveals the evolution of e-SQ frameworks from traditional service quality models, such as SERVQUAL, to dimensions that are specifically designed for digital interactions (Kim et al.,2006). Efficiency, defined as the ease and speed of website navigation and transaction are completed, is identified as a key factor that influences consumer satisfaction (Ha& Stoel, 2008). Fulfilment, regarding the correctness and dependability of order processing and delivery, promotes trust and solidifies positive consumer experiences (Wong & Marikannan, 2020). System availability that includes both platform reliability and accessibility ensure smooth user interaction, while privacy that deals with data security and confidentiality plays a very important role in building consumer trust (Noori, 2019). The study hypothesizes that efficiency, fulfilment, system availability, privacy, responsiveness, compensation, food quality are the key determinants of e-SQ in online fish purchasing (Parasuraman et al.,2005). Factor analysis is used to identify the underlying dimensions of e-SQ and assess their impact on consumer satisfaction. Through this study aims to address the challenges of e-commerce in fresh food markets especially in fish. By focusing on a niche domain, the study contributes to the broader insight of e-SQ and its role in consumer decision making. Challenges in online fish retailing differ from other e-commerce sectors, where stringent quality control, timely delivery, and consumer trust are imperative (Kaur, 2018; Leo et al., 2022). Though demand is rising, consumer satisfaction with the online purchase of food lags far behind that in traditional retailing due to deficiencies in service quality (Sheng & Liu, 2010). For improving service delivery in this niche market, identifying key e-SQ dimensions influencing consumer behaviour is necessary. The findings aim to provide actionable insights to optimize the online fish selling platforms and enhance the customer value, and achieve a sustainable competitive advantage.

MATERIALS AND METHODS

Research Organization

A structured questionnaire survey was conducted to assess the factors influence on E-service quality of online fish buying. Data was collected from 520 respondents using a self-developed questionnaire, out of which valid 504 responses were retained for analysis. The survey was segmented into two distinct parts: one addressing the different factors of E-service quality and the other capturing socio-demographic details. The questionnaire was designed based on established scales for e-service quality, incorporating items measuring efficiency, fulfilment, system availability, privacy, responsiveness, compensation and food quality and is grounded in the research framework proposed using meta-analytic techniques. A 5-point Likert scale was employed, where respondents rated their agreement level from 1 (Strongly Disagree) to 5 (Strongly Agree), with 3 serving as a neutral midpoint. Snowball sampling was employed, and the survey design incorporated elements adapted from established frameworks, including (Parasuraman et al., 2005), (Blut et al., 2015). Data collection was conducted via Google Forms between January and June 2023, and subsequent analysis utilized robust statistical tools. The constructs were then subjected to descriptive analysis of the various dimensions of e-service quality. Data were analysed using a robust statistical technique to determine the factors influencing e-service quality. Factor analysis was used in the study to find the underlying dimensions of e-SQ, while gap analysis was used to compare the importance and satisfaction levels of these attributes. It compares what customer needs and to what extent these needs are satisfied. The mean levels of the attributes were obtained across 504 observations. The entire sample of 504 respondents were considered under the assumption that the customers who purchase fish online would have similar needs and preferences

t=(sample mean-3)/(standard error)

The t-value was associated with the null hypothesis

H0: Mean <=3

H1: Mean >3

The cut off level was taken 3 because it was the median of the scale. The level of significance was taken as 5% so the critical region was > 1.645(one tail test). Thus, whichever attribute has a t-value >1.645, was considered significantly important by the target market. Out of seven attributes all the seven were found to be significantly important as considered by the online fish buying platforms.

Reliability and Data Suitability

The Cronbach's alpha was employed to assess the reliability of the data set ensuring the consistency with accuracy, yielding a value of 0.923, which surpasses the recommended threshold of 0.7 , indicating high internal consistency (Table 1)

Table 1: Reliability statistics

S.No	Reliability Method	Calculated Value
1	Cronbach's Alpha	0.923

To ensure the dataset's suitability for factor analysis, the Kaiser-Meyer (KMO) measure was applied, resulting in satisfactory value of 0.918. Additionally, Bartlett's significant test result (p<0.01) yielded a significant result validating the factor analysis and rejecting the null hypothesis that the correlation matrix is an identity matrix (Table 2)

Table 2 : KMO and Barlett's Test

Kaiser -Meyer-Olkin Measure of Sampling Adequacy		.918
Bartlett's Test of Sphericity	Approx.Chi-Square	11452.404
	df	171
	Sig.	.000

With reliability and adequacy established, the dataset was deemed appropriate for factor analysis to explore underlying patterns in scales of E-service quality.

RESULTS AND DISCUSSION

The present study aims to identify and analyse the determinants of E-service quality for online fish buying platforms. The results in Table 3 suggest that factors in E-service quality can be effectively categorized into four key benefits: Efficiency, Fulfilment, Privacy, System Availability

Table 3: Average importance ratings on the attributes associated with the E-service quality and e-responsive service quality

	t	MEAN	Sig. (2-tailed)
Efficiency	178.171	3.187	0.000
Fulfilment	278.526	4.125	0.000
Privacy	347.281	3.882	0.000

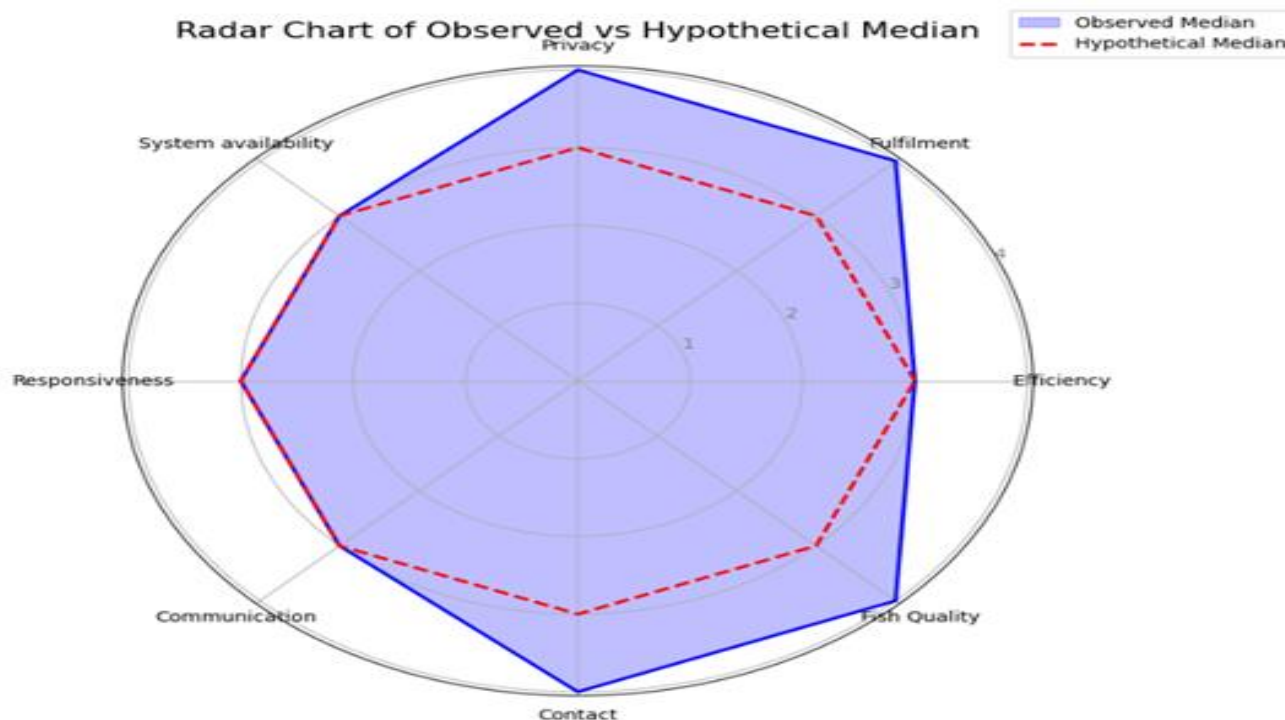| System Availability	170.169	3.287	0.000
Responsiveness	159.496	3.492	0.000
Communication	163.642	3.212	0.000
Food Quality	260.885	4.027	0.000

Fig 1: Shows the Radar Chart of observed median

Fig1, The Gap analysis is represented by the radar chart which displays the values of the mean difference for Efficiency, Fulfilment, Privacy, System Availability, Responsiveness, Communication by considering the expected satisfaction level is 5. Each axis represents a different metric such as Efficiency, Fulfilment, Privacy, System Availability, Responsiveness, Communication. The shape formed by connecting the points shows the distribution or balance of these scores. The radar chart shows that the metric for Fulfilment (4.125) is the highest on the chart followed by Food Quality (4.02) which shows that these areas might be performing better compared to others. Metrics like Efficiency (3.19) and Communication (3.21) are lower, which indicate that these aspects have the smallest mean differences in the test context. The spread of the values shows the variance across the metrics. The irregular shape indicates variability among the different dimensions.

CONCLUSION

The rise in the growing market segment of online fish retail sector where e-service quality plays a crucial role in consumer perceptions and purchasing decision. This study examined Gap in the key dimensions influencing E-service quality in online fish buying in Kerala, India, an area known for large consumption of fish and growing internet access rate. The radar chart indicates a mixed performance across the various e-service dimensions in the online buying of fish. Fulfilment and Food quality were the most positive area, indicating that customers are satisfied with the delivery and product standards. In contrast, lower scores in Efficiency and Communication indicate potential areas for improvement, especially in streamlining processes and enhancing customer interactions. The findings underscore the need for online fish retailers to prioritize these dimensions to enhance customer satisfaction and drive sales growth. The irregular shape of the radar chart further reflects noticeable variability across the dimensions, emphasizing the need for a more balanced service approach to ensure a consistently positive customer experience.

REFERENCES

1. Abidin, Z., & Triono, L. D. (2020). Fresh frozen fish consumer behaviour: effect of the mix and trust marketing on buying interest, purchase decision and customer satisfaction in E-commerce, silly fish Indonesia. In IOP Conference Series Earth and Environmental Science (Vol. 493, Issue 1, p. 12041). IOP Publishing. https://doi.org/10.1088/1755-1315/493/1/012041

2. Blut, M., Chowdhry, N., Mittal, V., & Brock, C. (2015). E-Service Quality: A Meta-Analytic Review [Review of E-Service Quality: A Meta-Analytic Review]. Journal of Retailing, 91(4), 679. Elsevier BV. https://doi.org/10.1016/j.jretai.2015.05.004

3. Ha, S., & Stoel, L. (2008). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. In Journal of Business Research (Vol. 62, Issue 5, p. 565). Elsevier BV. https://doi.org/10.1016/j.jbusres.2008.06.016

4. Hermis, P. S., & Rathiha, R. (2018). Online Purchase Behaviour of Indian Consumers – An Analysis. In International Journal of Management Studies (p. 127). https://doi.org/10.18843/ijms/v5is4/15

5. Kaewpu, N., Benjasak, C., & Aujirapongpan, S. (2023). Factors influencing the decision to buy fresh seafood online among Generation X consumers in Nakhon Si Thammarat Province, Thailand. In Zenodo (CERN European Organization for Nuclear Research). European Organization for Nuclear Research. https://doi.org/10.5281/zenodo.8269058

6. Kaur, M. (2018). Exploring the Determinants of E-Service Quality in E-Retailing. In Researchers World – Journal of Arts Science & Commerce (Vol. 9, Issue 1, p. 9). https://doi.org/10.18843/rwjasc/v9i1/02

7. Kim, M., Kim, J., & Lennon, S. J. (2006). Online service attributes available on apparel retail web sites: an E-S-QUAL approach. In Managing Service Quality (Vol. 16, Issue 1, p. 51). Emerald Publishing Limited. https://doi.org/10.1108/09604520610639964

8. Kusdibyo, L., & Februadi, A. (2019). The Effect of Electronic Service Quality on Customers Satisfaction and Loyalty in Online Shopping. In IOP Conference Series Materials Science and Engineering (Vol. 662, Issue 2, p. 22036). IOP Publishing. https://doi.org/10.1088/1757-899x/662/2/022036

9. Leo, G., Hurriyati, R., & Hendrayati, H. (2022). Online Food Delivery Service: The Role of e-Service Quality and Food Quality on Customer Loyalty. In Advances in economics, business and management research/Advances in Economics, Business and Management Research. Atlantis Press. https://doi.org/10.2991/aebmr.k.220701.049

10. Leo, G., Hurriyati, R., & Hendrayati, H. (2022). Online Food Delivery Service: The Role of e-Service Quality and Food Quality on Customer Loyalty. In Advances in economics, business and management research/Advances in Economics, Business and Management Research. Atlantis Press. https://doi.org/10.2991/aebmr.k.220701.049

11. Ning, W. (2022). The Influential Factors the E-commerce on Customer Loyalty. In BCP Business & Management (Vol. 20, p. 852). https://doi.org/10.54691/bcpbm.v20i.1072

12. Noori, A. N. A. (2019). Evaluating the Impact of the Determinants of E-Commerce Customer Trust and Satisfaction. In International journal of business management and research (Vol. 9, Issue 4, p. 21). https://doi.org/10.24247/ijbmraug20193

13. Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality. Journal of Service Research, 7(3), 213-233. https://doi.org/10.1177/1094670504271156

14. Peng, J. (2012). Design and Promotion Strategy of Marketing Platform of Aquatic Auction based on Internet. In Physics Procedia (Vol. 33, p. 1269). Elsevier BV. https://doi.org/10.1016/j.phpro.2012.05.209

15. Ramanathan, K. (2016). Digital Marketing Trends: The Cues that Every Indian Online Marketer Should Retrospect. In SSRN Electronic Journal. RELX Group (Netherlands). https://doi.org/10.2139/ssrn.2836321