

A Configuration-Based Approach to Shopping Mall Service Quality: Integrating Shopper Segmentation with Structural Analysis

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Abstract

This study attempts to identify distinct segments of Indian shopping mall visitors based on how they evaluate service quality, determine the structural interrelationships among the mall service quality dimensions and finally develop a strategic typology for developing segment-specific mall strategies. The research adopts a quantitative design based on primary data gathered from 525 frequent shopping mall visitors from Kolkata, Delhi NCR, Mumbai and Chennai. Advanced descriptive and statistical analyses are conducted using SPSS and R software. The findings indicate that three major mall visitor categories are available that have unique service quality priorities. Also, the results identify three major configurations of service quality dimensions, highlighting the interconnections among the dimensions. The identified service quality configurations are efficiency of operations, human interaction and accessibility related factors. This study underscores the need for developing service-related strategies based on the requirements of the specific segments, since a universal strategy is not suitable for all segments of shoppers. This study makes a novel contribution by integrating mall visitor segmentation with structural analysis of mall service quality dimensions. This provides valuable insight for the Indian shopping mall management for improving mall visitors' satisfaction.

Keywords: Service quality configurations, service quality perceptions, shopping mall, strategic typology

1. Introduction

The rapid evolution of organized retail has positioned shopping mall as a critical component of the urban landscape. In the last two decades, shopping malls have emerged from simple retail spaces to experiential hubs, offering shopping, entertainment and social interactions. Prior literature suggests that service quality is the key determinant of mall visitors' satisfaction and ensures long-term sustainability. However, the increase in diversity in the mall visitors' expectations poses a serious challenge for mall management to develop service offerings tailored to the specific needs of the shoppers. Existing literature on mall service quality adopts individual attributes for evaluating the service quality of the mall. Such approaches provide valuable insights, but also overlook the interconnected and configuration-driven nature of shopping mall service quality perceptions. Also, the prior studies assume homogeneity among the mall visitors, thereby limiting the understanding of customer segment-specific evaluation of service quality. In the practical scenario, the consumers vary in their preferences, shopping motivations and expectations, thus a deeper approach for integrating customer segmentation with structural analysis is necessary.

To address this challenge, the present study adopts a configuration-based analytical framework for evaluating the mall visitors' service quality perceptions. It integrates the mall visitor segmentation with detailed structural interrelationships among the service quality dimensions, thus enabling a comprehensive and realistic understanding of shopping mall visitors' evaluation of service quality. This methodology helps to overcome the limitations of traditional models, which examine the shopping mall attributes in isolation and largely undermine the multidimensional nature of the attributes. It challenges the one-size-fits-all approach by introducing a segment-specific approach to shopping mall service quality perception. It highlights the structural interdependencies among service quality dimensions, suggesting that mall visitors' perceptions are shaped by a combination of factors, rather than isolated attributes. This study makes a major contribution by developing a strategic typology framework and providing mall managers with deep insights to develop targeted service strategies. It may be said that this study provides a theoretical enrichment and practical relevance by addressing the necessity for data-driven and shopper-specific decision-making in the Indian shopping mall context.

2. Literature Review

2.1. *Evolution of Shopping Malls from Transactional Spaces to Experience Social Hubs*

Shopping is considered a contemporary social activity and mostly takes place in organized retail setups such as shopping centres (Goss J., 1993). Farrag DA (2008) found that safety, bargain hunting, ease of shopping, entertainment activities, freedom of selecting goods and services, modern infrastructure and services, and self-identity were the main reasons why shoppers preferred visiting the malls. In due course of time, Makgopa S. (2016) suggested that shoppers visit malls to enjoy the vibrant environment, sometimes to watch movies, celebrate special occasions, and dine out. Dahari Z. (2020) found that mall ambience, exploration of new products and services, socialization, competitive pricing and a wide variety of goods and services are the main factors which attract the shoppers. The findings were further confirmed by Calvo-Porrall C. et. al. (2018), who claimed that tenant mix, pleasant and attractive environment are the main factors which attract shoppers to the malls.

2.2. *Service Quality as a Catalyst: Unpacking the Shoppers' Experience*

Kushwaha T. et. al. (2017) conducted a study to determine the factors which shoppers consider while selecting malls. The main factors found to be significantly important are service experience, mall ambience, shopping convenience, utilitarian factors, acoustic factors, proximity, and demonstration. Prior research suggested that service quality is the yardstick for ensuring the satisfaction of mall visitors. In this regard, it is found that mall service quality plays a crucial role in ensuring customer loyalty (Diallo M.F. et. al., 2018; Junaid M. et. al., 2024). He also identified many physical aspects, reliability, problem solving and personal attention to significantly impact the loyalty. Pakdil F. et. al. (2018) further suggested that fast response to shoppers' queries, crowd management, services for disabled customers, security, staff attributes, parking area, reliability of the services offered, time taken to find the correct product, size of the shopping centre and ease of movement inside the mall significantly impact the shoppers. Ong A.K.S. et. al. (2022) opined that tangibles, empathy and assurance significantly impacted mall visitors' satisfaction. Jabeen, S. et. al. (2024) found that entertainment activities, quality of services, range of products and services, and ambience of the mall significantly impact the customer loyalty of the mall.

2.3. *Research Gap*

Existing literature on service quality of shopping malls focuses on the evolution of shopping malls from transactional spaces into experiential spaces and emphasizes the role of service quality in ensuring

customer satisfaction. However, prior studies largely examine the service quality factors in isolation, thereby limiting the understanding of interrelationships among the service quality factors. Also, the majority of the studies assume a homogeneous base of shoppers. This restricts segment-specific variations in shoppers' service quality perceptions. Also, there is a lack of studies integrating mall visitors' segmentation with structural analysis of mall service quality dimensions to develop actionable insights. The present study focuses on these gaps by adopting a configuration-based approach and integrating shopper segmentation with structural analysis of mall service quality dimensions and subsequently developing actionable strategic insights.

3. Objectives of the study

- To identify the distinct profiles of Indian shopping mall visitors based on their service quality perceptions
- To determine the association among Indian shopping mall service quality dimensions
- To develop a strategic typology of mall service quality configurations and thereby propose segment-specific managerial interventions

4. Research Methodology

This study adopts a quantitative research design for examining the service quality perception of shopping mall visitors and developing a strategic typology based on the specific requirements of customer segments. Primary data is gathered from the popular shopping malls of Kolkata, Delhi NCR, Chennai and Mumbai. This enables geographic diversity and represents the varied consumption patterns. A total of 525 responses are obtained from shopping mall visitors selected by convenience sampling. For primary data collection, a structured questionnaire is developed on the basis of the Retail Service Quality Scale, adapted to the Indian shopping mall scenario. The descriptive and statistical analyses are conducted using SPSS and R software. Reliability and validity checks are conducted, which confirm the suitability of the dataset for further analysis. In the first stage, Exploratory Factor Analysis and Regression Analysis are conducted to determine the main factors impacting the perception of mall visitors. It is observed that Mall Client Care (MCC), Ease of Purchase (EP), Accessibility (ACC), Merchandising (ME), Reachability (RE), Confidence of Employees (CE) and On Time Service (OTS) significantly impact the visitors' perceptions about mall service quality. In the next stage, k-means Clustering is conducted to segment the shoppers on the basis of their perception about mall service quality. To examine the structural interrelationships among mall service quality dimensions, Correlation Analysis and Hierarchical Clustering are conducted. In the final stage, the study develops a strategic typology of service quality configurations on the basis of the insights gathered from the results of k-means Clustering, Correlation Analysis and Hierarchical Clustering. A Heatmap is developed to provide visual clarity on the matter. This study improves the robustness of the findings and develops a comprehensive understanding of mall visitors' perceptions.

5. Results and Discussions

5.1. Identification of distinct profiles of Indian shopping mall visitors based on their service quality perceptions

This objective attempts to determine the various categories of clusters of shoppers based on how they perceive service quality. In this regard, Cluster Analysis is conducted for identifying the customer segments. The results of cluster analysis are depicted in Table 1.

Table 1: Cluster-wise Profiles of Indian Shopping Mall Visitors Based on Service Quality Perception

Cluster	MCC	ACC	CE	EP	RE	ME	OTS
1	3.529	3.619	4.297	4.290	3.867	4.221	4.285
2	4.554	4.42	4.779	4.783	4.476	4.210	4.452
3	3.871	4.476	4.592	4.788	3.684	4.059	4.654

It is observed that Cluster Analysis has yielded a three-segment solution. Cluster 1 consists of 142 shoppers, Cluster 2 consists of 126 shoppers, and 3 consists of 257 shoppers. The clusters have been named as Accessibility Constrained Evaluators (27%), Service Enthusiasts (24%), and Function-Oriented Shoppers (49%). It is observed from Table 1 that Service Enthusiasts report a high level of satisfaction across all the service quality dimensions. On the other hand, Accessibility Constrained Evaluators report a lower level of perception for physical convenience factors. The largest segment of shoppers, named as Function-Oriented Shoppers, focus on service efficiency-related factors such as ease of purchase and competence of employees; however, showing lower satisfaction with reachability. It is to be noted that Accessibility (ACC) and Reachability (RE) emerge as key differentiating factors, and the clusters exhibited distinct evaluation patterns, particularly with respect to these two factors.

5.2. Determination of the association among Indian shopping mall service quality dimensions

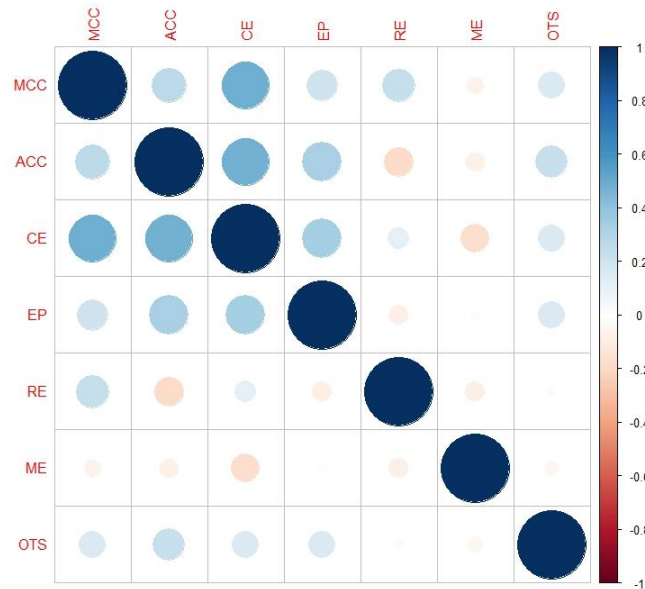
This objective aims to examine the relationships among the service quality dimensions using correlation analysis and hierarchical clustering techniques. The correlation analysis shows distinct co-occurrence patterns among mall service quality dimensions and reveals the meaningful inter-relationships. The results are presented in Table 2. A moderate positive correlation ($r = 0.486$) exists between Mall Client Care (MCC) and Confidence of Employees (CE). This suggests that the interpersonal service elements are jointly perceived by the mall visitors, and underscores the importance of human interaction factors. Conversely, Accessibility (ACC) and Confidence of Employees (CE) have a moderate average relationship. This indicates that service assurance and accessibility of layout work hand-in-hand. Furthermore, Ease of Purchase (EP) shows moderate associations with Accessibility and Confidence of Employees, suggesting that operational convenience is linked with physical as well as interpersonal aspects. However, Reachability and Merchandising show weak or negative relationships with several other variables, underlining their independent roles in shaping mall visitors' perceptions. Overall, the findings identify three underlying configurations, namely human interactions, operational efficiency and accessibility related factors.

Table 2: Correlation Matrix of Mall Service Quality Dimensions

Factor	MCC	ACC	CE	EP	RE	ME	OTS
MCC	1.000	0.265	0.486	0.208	0.233	-0.061	0.154
ACC	0.265	1.000	0.473	0.328	-0.188	-0.072	0.224
CE	0.486	0.472	1.000	0.330	0.101	-0.179	0.154
EP	0.208	0.328	0.330	1.000	-0.084	-0.019	0.152
RE	0.233	-0.188	0.101	-0.084	1.000	-0.084	-0.019
ME	-0.061	-0.072	-0.179	-0.019	-0.084	1.000	-0.047
OTS	0.154	0.224	0.154	0.152	-0.019	-0.048	1.000

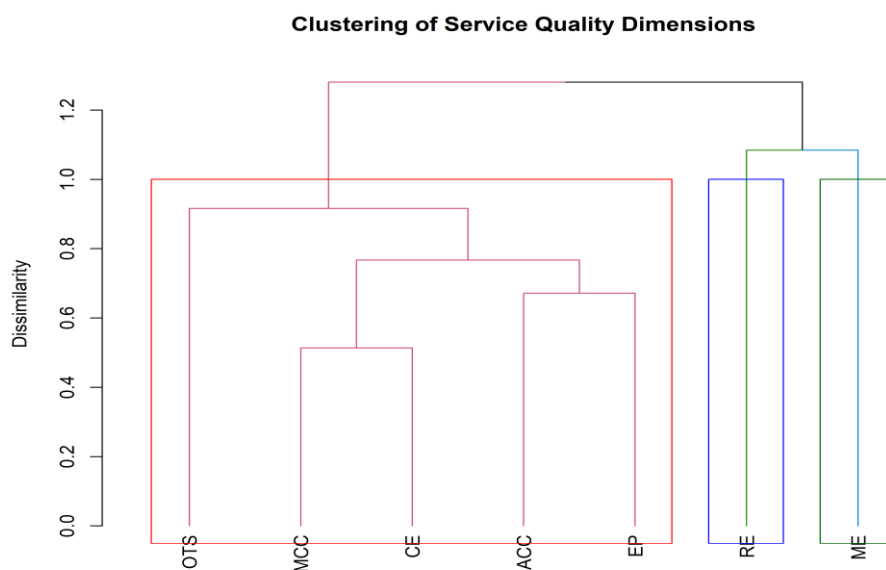
The diagrammatic representation of the correlation matrix is presented in Figure 1, depicting the strength of relationships among the factors.

Figure 1: Correlation Plot Depicting the Strength of Relationships among Mall Service Quality Dimensions



The hierarchical clustering results further support the presence of distinct groupings among the mall service quality dimensions, as shown in Figure 2. The Dendrogram further corroborates the findings of correlation analysis by grouping mall service quality dimensions into human interaction, operational efficiency and accessibility related factors.

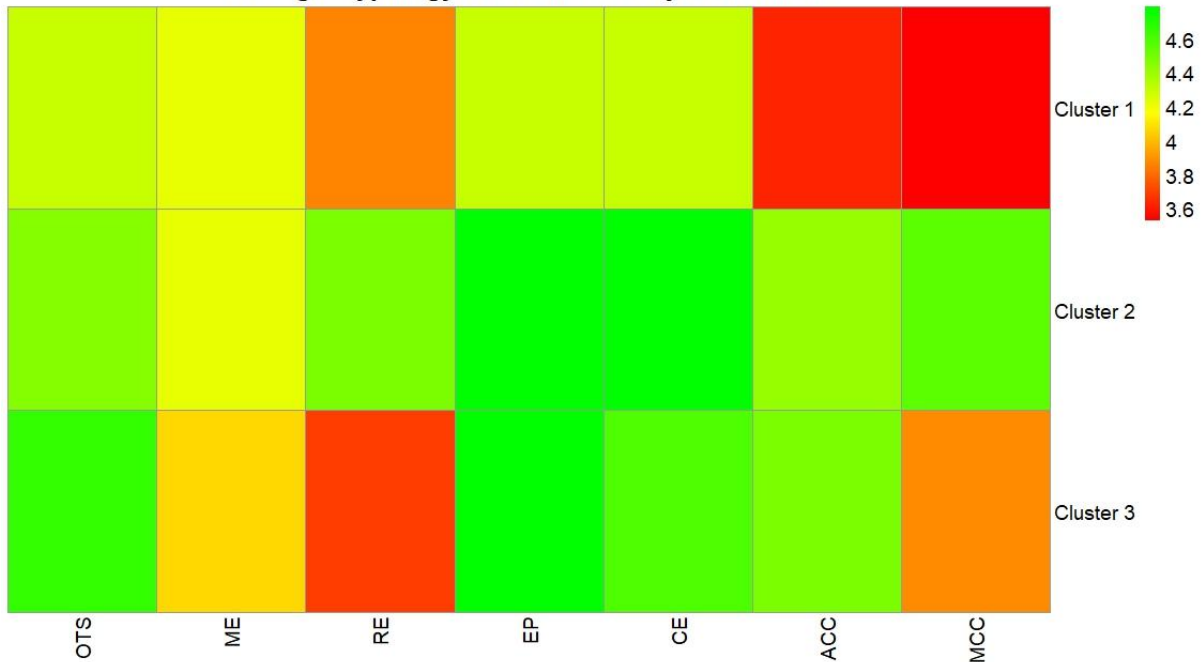
Figure 2: Hierarchical Clustering of Mall Service Quality Dimensions Based on Their Correlation Distance



5.3. Developing the strategic typology of mall service quality configurations and thereby proposing segment-specific managerial interventions

This objective focuses on developing the strategic typology based on identified mall shoppers’ segments and the underlying structure of mall service quality dimensions. The results are presented in Figure 3, suggesting that different shopper segments value different segments of mall service quality. The Service Enthusiasts show satisfactory perception across all service quality dimensions, and they require maintenance-oriented strategies. The Access-Constrained Evaluators are dissatisfied with the accessibility and reachability aspects of mall service quality. Therefore, they focus on improvements in physical accessibility and connecting with the mall support teams. The major segment consisting of the Function-Oriented Shoppers, demonstrates a strong preference for efficiency-related aspects, thus focusing on process optimization strategies. These findings underscore the importance of shopper segment-specific service designs rather than a generalized approach.

Figure 3: Strategic Typology of Service Quality Dimensions across Mall Shoppers’ Segments



6. Discussion

The present study focuses on understanding the shopping mall visitors’ service quality perceptions by adopting a configuration-based perspective. This approach integrates mall visitors’ segmentation with the structural inter-relationships among mall service quality dimensions. Prior research focuses on understanding the mall attributes in isolation; on the other hand, this study adopts a combined analytical approach to explore the segment-specific and structurally interconnected perceptions. This study makes a novel contribution by developing an integrative approach for understanding the mall visitors’ perceptions about service quality. The results identify three segments of Indian mall visitors, namely Accessibility Constrained Evaluators, Service Enthusiasts and Future Oriented Shoppers. The Service Enthusiasts demonstrate a satisfactory level of perception. This underscores the need for mall management to maintain high standards of service attributes for this segment. The Accessibility-Constrained Evaluators report

dissatisfactory perception about accessibility and reachability, indicating that the convenience of shopping and infrastructural ease are the primary determinants of their perceptions. This suggests that even when other service quality attributes are performing well, issues with availing the mall services and reaching out to the customer support diminish their overall perception. The Function-Oriented Shoppers are the largest segment and reflect a task-driven orientation and strong preference for efficiency-related attributes. The malls need to focus on ease of purchase and on-time service, where speed and convenience of shopping impact their experiences. Beyond segmentation, the study identifies the structural groupings among Indian mall service quality dimensions. The main clusters identified are Human Interaction (focusing on Mall Client Care and Confidence of Employees), Operational Efficiency (focusing on Ease of Purchase and On Time Service) and Accessibility Related Factors (concentrating on accessibility and reachability). This indicates that mall visitors focus on service quality attributes in an integrated manner, rather than in silos, underscoring the need to improve mall service quality attributes in a multidimensional manner.

This integration of mall visitors' segmentation and structural analysis of attributes leads to the development of a strategic typology, which is the central contribution of this study. The typology suggests that different segments of customers align with different service quality configurations. This highlights the need for developing segment-specific service strategies and not a generalized strategy. This study provides the mall managers with practical insights and suggests that malls should focus on service excellence for the Service Enthusiasts, concentrate on process optimization for the Function-Oriented Shoppers, and invest in infrastructural improvements for Accessibility-Constrained Evaluators. The service strategies designed as per the specific requirements of customer segments may help to improve the image of the shopping mall, and thereby develop a competitive advantage. This study makes a major contribution to the mall service quality literature by challenging the traditional approaches and developing an integrative framework for evaluating the mall service quality. Identification of the structural relationships among the mall service quality dimensions provides a detailed understanding of mall visitors' perceptions. This necessitates the development of segment-specific data-driven strategies, since the mall visitors' perceptions are shaped by different priorities.

References

1. Calvo-Porrall, C., & Lévy-Mangín, J. P. (2018). Pull factors of the shopping malls: an empirical study. *International Journal of Retail & Distribution Management*, 46(2), 110-124.
2. Dahari, Z. (2020). Shopping mall motivation: Structural equation modelling (SEM) approach. *Asia pacific journal of business review*, 4(2), 1-21.
3. Diallo, M. F., Diop-Sall, F., Djelassi, S., & Godefroit-Winkel, D. (2018). How shopping mall service quality affects customer loyalty across developing countries: the moderation of the cultural context. *Journal of International Marketing*, 26(4), 69-84.
4. Farrag, D. A., El Sayed, I. M., & Belk, R. W. (2010). Mall shopping motives and activities: a multimethod approach. *Journal of International Consumer Marketing*, 22(2), 95-115.
5. Goss, J. (1993). The "magic of the mall": an analysis of form, function, and meaning in the contemporary retail built environment. *Annals of the association of American geographers*, 83(1), 18-47.
6. Jabeen, S., Suleman, S., Jahan, S., Haider, S. A., & Tehseen, S. (2024). SHOPPING MALL ATTRIBUTES, SHOPPERS'SATISFACTION, AND SHOPPERS'LOYALTY: EMPIRICAL

EVIDENCE FROM ASIAN COUNTRIES. *International Journal of eBusiness and eGovernment Studies*, 16(4), 171-191.

7. Junaid, M., Rasheed, M. F., Goudarzi, K., & Tariq, A. (2024). Advancing customer experience through service design in mega shopping malls. *International Journal of Retail & Distribution Management*, 52(1), 89-106.
8. Kushwaha, T., Ubeja, S., & Chatterjee, A. S. (2017). Factors influencing selection of shopping malls: an exploratory study of consumer perception. *Vision*, 21(3), 274-283.
9. Makgopa, S. (2016). Determining consumers' reasons for visiting shopping malls. *Innovative Marketing*, 12(2), 22-27.
10. Ong, A. K. S., Prasetyo, Y. T., Vallespin, B. E., Persada, S. F., & Nadlifatin, R. (2022). Evaluating the influence of service quality, hedonic, and utilitarian value on shopper's behavioral intentions in urban shopping malls during the COVID-19 pandemic. *Heliyon*, 8(12).
11. Pakdil, F., & Kurtulmuşoğlu, F. B. (2018). Quality improvement initiatives based on customer and service provider perspectives in shopping malls. *International Journal of Quality and Service Sciences*, 10(2), 176-195.