

Impact of Servicescape on the Perceived Service Quality in the Hotel Industry: An Empirical Analysis By PLS-SEM Algorithm

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ABSTRACT

Services, which play a vital role in the global and Sri Lankan economies, face many challenges in maintaining a consistent service quality compared to manufacturing firms. Even though the SERVQUAL model is widely used to measure service quality, its generalised structure has limited its applicability to specific industry contexts. This has led to the development of industry-specific service quality models such as HOLSERV. However, the role of the servicescape and its impact on perceived service quality are inadequately explored, as are the interdependencies among HOLSERV service quality dimensions. The current study is expected to address this gap by examining the direct impact of the servicescape on perceived service quality and the mediating role of intangible factors in the hotel industry in Galle, Sri Lanka. The study adopts a positivist philosophy and a deductive, quantitative approach, collecting data from 110 hotel visitors using a structured survey questionnaire with a 7-point Likert scale, and analysing the data using PLS-SEM and SPSS. The findings of the study showcase that servicescape has a significant positive effect on service quality and strongly influences intangible factors, which in turn significantly affect service quality, confirming a partial mediation effect, with the model demonstrating substantial explanatory power. This study contributes to the existing body of knowledge by clarifying the role of servicescape in an industry-specific service quality model. Further, the mediating role of intangible factors is highlighted, suggesting that high investments in both the servicescape and employee performance are needed to enhance overall service quality.

Keywords: Service Quality, HOLSERV, Servicescape

INTRODUCTION

The service industry faces a higher risk of failure than the manufacturing industry because services are characterised by intangibility, simultaneity, heterogeneity, and perishability. Services are not completely intangible [15]. If the service and manufacturing businesses are placed on a continuum, service businesses have a higher percentage of intangibles and a lower percentage of tangibles than manufacturing businesses. The intangibility of services enhances customer uncertainty about service outcomes. To overcome this uncertainty, consumers are seeking information, but doing so has become difficult due to the high experience and credence qualities of the services. Therefore, consumers are more focused on quality signals, emphasising the vitality of service quality [19]. Service quality is a catalyst in shaping the industry's competitive edge, directly impacting customer satisfaction and loyalty [16].

The SERVQUAL model is a widely used framework for studying service quality across many industries as the principal service quality model. The model was applied across almost all industries to assess the gap between customer perceptions and actual service, without regard to each industry's specific characteristics. Later, the adequacy of this generic model in addressing industry specifications is argued, particularly in the hospitality industry, which is highly experimental and thus leads to customised models such as HOLSERV, LODGESERV, and LODGEQUAL ([6], [15], [22]). Basically, these models identify five key dimensions: reliability,

responsiveness, assurance, and empathy, which can be categorised as “intangibles” and “tangibles” as the final dimension.

The concept of servicescape refers to the physical surroundings of a service provider, including ambient conditions, which are absent from the “tangible” dimension of service quality models developed based on the principal service quality model [23]. The principal model covers only technical equipment, the physical appearance of resources, and the fit between physical resources and the type of service within the tangible dimension [19]. Further, existing literature indicates that the service quality dimensions have independent effects on consumer perceptions. However, the servicescape creates consumers' first impression of service quality before they consume the service, implying an interrelationship among service quality dimensions [19]. The integration of the servicescape and the HOLSERV service quality model, as well as the interrelationships among HOLSERV service quality dimensions, remains inconclusive in the existing literature.

In Sri Lanka, the hotel and tourism industry has experienced substantial growth, contributing substantially to the economy in terms of GDP, foreign exchange earnings, and employment generation [12]. Globalisation has opened local industries to the entire world, creating diverse customer bases. At the same time, technological advancements have eased hotel reservations and information-seeking, making the Sri Lankan hotel and tourism industry more competitive [10]. With heightened competition and evolving market and consumer dynamics, it is vital to understand the role of the servicescape in service quality in attracting consumers ahead of competitors. Therefore, this study aims to examine the interrelationship between the HOLSERV service quality dimensions and the solitary role of servicescape on service quality in the Sri Lankan hotel industry.

RQ1: How does servicescape influence perceived service quality in the Sri Lankan hotel industry?

RQ2: Do intangible service quality dimensions mediate the relationship between servicescape and perceived service quality?

LITERATURE REVIEW

Service Quality

Traditionally, hospitality organisations used service and product efficiency, productivity levels, and financial performance as measures of business results. But it shows a transformation in customer needs and wishes since the 1980s [18]. Although there is no universal definition of service quality, prior literature has used the concept of perceived service quality and has employed disconfirmation theory [9]. According to Zeithaml et al., the perceived service quality refers to the “extent to which a firm successfully serves the purpose of services” [24]. Gronroos takes the view that service quality is “the outcome of an evaluation process where the consumer compares his expectations with the service he perceived he has received” [7]. Scholars define service quality as the difference between perceptions and expectations. When it comes to services, not only are the outcomes visible to customers, but they also take part in the delivery process, emphasising the importance of what is visible to the consumer, i.e., the servicescape, during delivery.

HOLSERV Model

In response to the need for an industry-customised service quality model for the hospitality industry, Wong Ooi Mei et al. developed the HOLSERV model, which is shorter and user-friendly than the SERVQUAL model [23]. The basic SERVQUAL model was modified by adding new items and eliminating some existing ones. There were 27 elements in the final scale after eight items from the initial SERVQUAL scale were altered, added, or eliminated during the development of the HOLSERV model. This model identifies three dimensions of service quality: employees, tangibles, and reliability. Almost all the literature on HOLSERV shows the independent and significant impact of employees, tangibles, and reliability on service quality ([11], [21]). Most studies reveal that the employee element has a greater impact on service quality than other elements in the model, confirming a minor impact of tangibles in the HOLSERV model, which is consistent with the SERVQUAL model. This may be due to inadequate explanation of tangibles rather than to the use of the servicescape concept. The Tangible

element is highlighted in a study that focuses on service quality for MICE (Meetings, Incentives, Conferences, Exhibitions/Events) customers in hotels, using the HOLSERV model [11]. In conducting MICE, the availability of sophisticated resources, infrastructure, and hotel facilities is important for successful arrangements and for maintaining the image of the organisers.

Servicescape

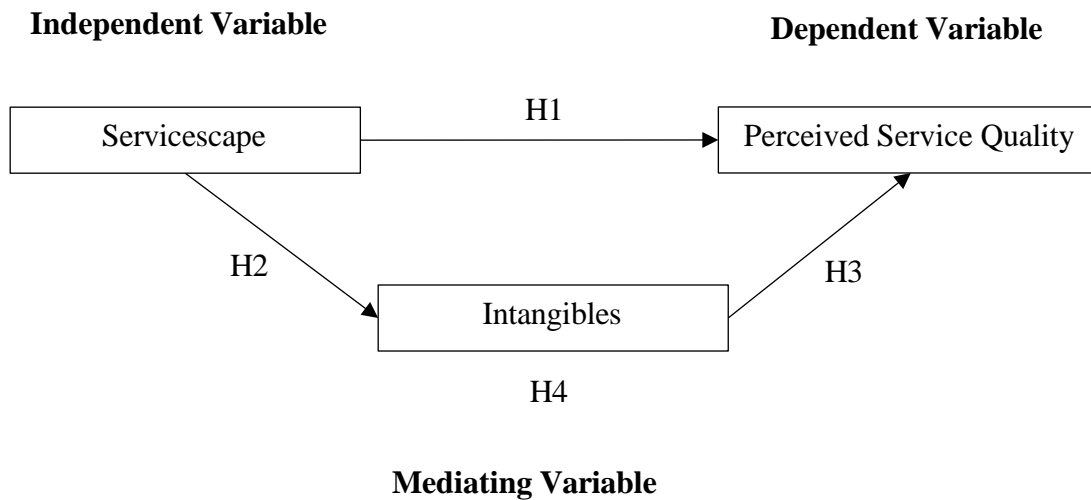
Servicescape refers to the physical environment in which services are delivered to consumers. It is considered a key element in shaping consumer perceptions of the service and consumer behaviour [2]. Because services are intangible, consumers cannot evaluate them before consuming them. They tend to make perceptions about the service based on the physical surroundings. Servicescape performs two functions in a service organisation. Initially, the servicescape provides visual stimuli that help position the service in consumers' minds and can contribute to its differentiation. Initially, servicescape elements such as design, lighting, and decoration immediately impact consumers, and based on these stimuli, they make inferences about other HOLSERV service quality elements. It implies an indirect impact of servicescape on intangibles. Secondly, the servicescape will deliver the service expeditiously [3]. Most studies on the servicescape highlight three elements: ambient conditions, design & special layout, and signs, symbols, & artefacts.

Not only the physical element but also the interaction between employees and consumers, as well as uncontrollable factors such as the natural environment, are part of the servicescape, which shapes consumer perceptions. Existing literature identifies service as a social interaction between employees and customers in the servicescape [17]. Further, they argue that the servicescape can influence employee performance and consumers' perceptions, emphasising interdependence between the servicescape and employees. Consequently, employees and the servicescape enhance consumers' perceptions of quality. Employees spent more time in the servicescape than consumers; thus, it is apparent that the servicescape has an impact on employees [8]. The design of the servicescape has been examined from a safety perspective in existing literature. The safety dimensions differ across types of servicescapes [20]. Safety, as part of the reliability dimension of service quality, is influenced by the design of the service environment. Further, e-servicescape refers to the online environment [4]. Information presented on online platforms can affect the reliability of the service [5]. Further, clean, well-maintained rooms and a lobby, along with properly functioning facilities, create a good impression of the service's reliability. Effective hotel layouts, modern, safe equipment, and well-designed spaces will help employees perform tasks accurately and on time, ensuring reliable service.

METHODOLOGY

The researcher adopted the scientific method to propose and test theories using highly structured, measurable data, suggesting a positivist research philosophy and a deductive research approach within a cross-sectional time horizon. The study population comprises travellers in the Colombo district who stay at hotels in Galle, a city selected for its high hotel occupancy rate and its status as a major tourist destination in Sri Lanka. As the sampling technique, convenience sampling, a non-probability sampling method, was selected for its time- and cost-efficiency. To collect the data, an online survey was created and distributed through Google Forms, comprising two sections: one for demographic data and the other for responses to the construct items, including servicescape, intangibles dimensions (employees and reliability), and overall service quality. Measurement items for the constructs were taken from prior literature on the HOLSERV service quality model [23]. The questions were on a seven-point Likert scale ranging from 1 ("Completely failed to meet my expectations") to 7 ("Far exceeded my expectations"). To measure the overall service quality and reliability, a ten-point scale ranging from 1 ("very poor") to 10 ("excellent") is used. It is recorded that 115 responses were received, but only 110 were used in the data analysis. The sample size is acceptable for PLS-SEM, according to the 10-times rule, which requires a sample size of at least 10 times the maximum number of structural paths directed at any construct in the model [14]. Data analysis involves types such as descriptive analysis and hypothesis testing. The descriptive analysis was conducted using SPSS, while the hypothesis testing was conducted using the PLS-SEM algorithm in SmartPLS.

Figure 1: Conceptual Framework



H1: Servicescape has a significant positive impact on perceived service quality.

H2: Servicescape has a significant positive impact on intangible service quality dimensions (employees and reliability).

H3: Intangible service quality dimensions (employees and reliability) have a significant positive impact on perceived service quality.

H4: Intangible service quality dimensions (employees and reliability) mediate the relationship between servicescape and perceived service quality.

FINDINGS

Construct validity and reliability were checked before beginning the data analysis. Composite reliability (CR) and Cronbach’s alpha were calculated to check the internal consistency, while convergent validity was checked with the Average Variance Extracted (AVE) value. After validating the higher-order latent construct, the Cronbach’s alpha value ranges from 0.83 to 0.93, and the AVE ranges from 0.8 to 0.67 (Table 1). To test discriminant validity, the Fornell-Lacker matrix (Table 2) was calculated after validating the higher-order latent constructs. All validity and reliability measures meet the threshold levels.

Table 1. Internal Consistency and Convergent Validity

Variables	Cronbach’s Alpha	CR (rho_a)	CR (rho_c)	AVE
Servicescape/Tangibles	0.928	0.93	0.941	0.665
Intangibles	0.826	0.844	0.919	0.851
Service Quality	0.892	0.892	0.933	0.822

Table 2. Discriminant Validity: Fornell-Lacker Matrix

	Intangibles	Service Quality	Servicescape
Intangibles	0.922		

Service Quality	0.828	0.907	
Servicescape	0.821	0.793	0.816

Figure 2: Conceptual Framework with Coefficients

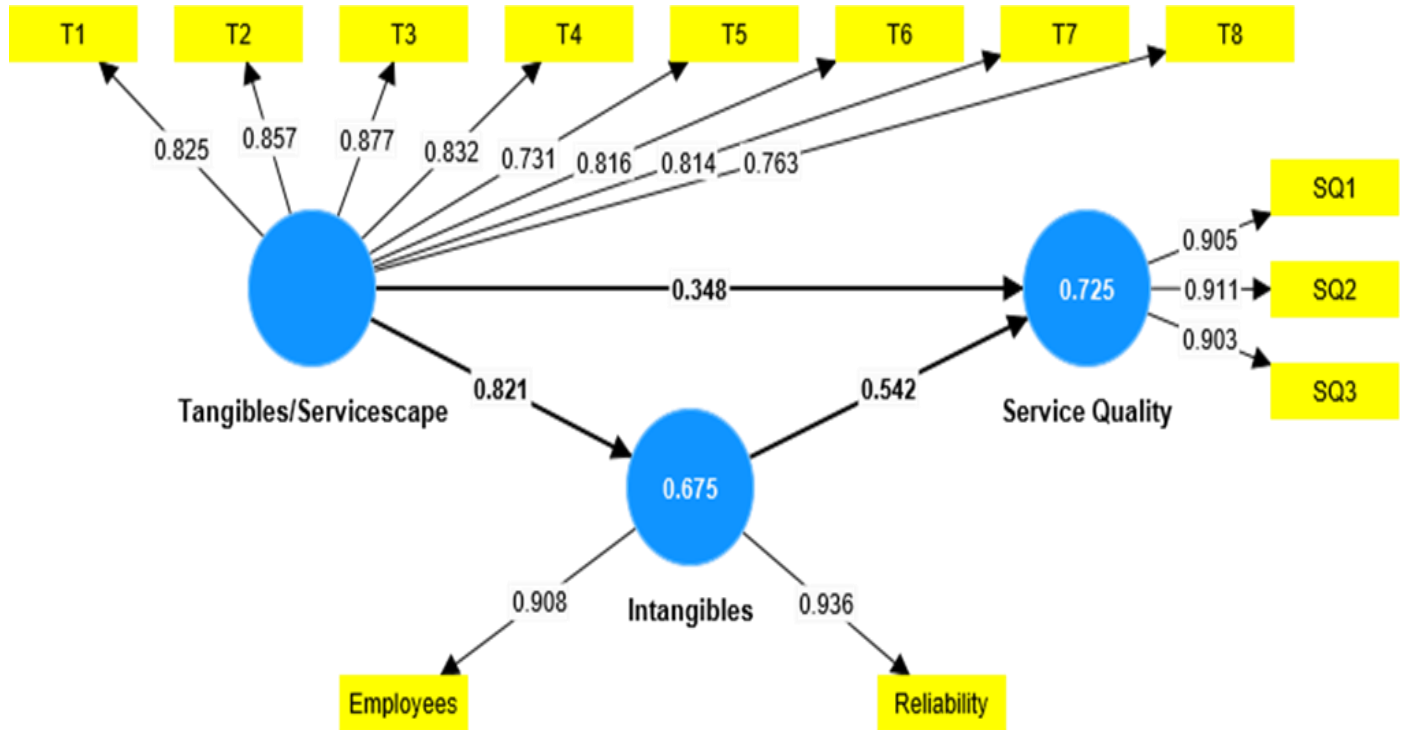


Figure 3: Direct Impact of Servicescape on Perceived Service Quality

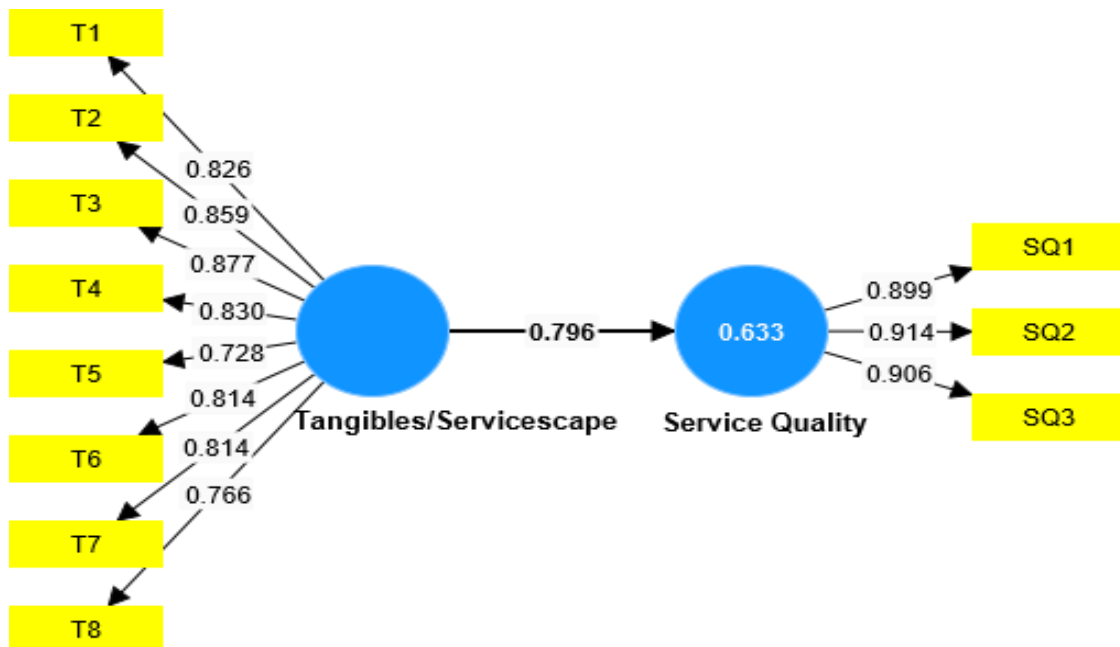


Table 3. Path Coefficient and p-value between Servicescape and Service Quality without the Mediation Effect

	Original sample (O)	P values
Servicescape -> Perceived Service Quality	0.796	0.000

Table 4. Path Coefficient and P-Values with the Mediation Effect

	Original sample (O)	P values
Intangibles -> Perceived Service Quality	0.542	0.000
Servicescape -> Intangibles	0.821	0.000
Servicescape -> Perceived Service Quality	0.348	0.000

Table 5. Specific Indirect Effect

	Original sample (O)	P values
Tangibles/Servicescape -> Intangibles -> Service Quality	0.446	0.000

Table 6. Total Effect

	Original sample (O)	P values
Intangibles -> Perceived Service Quality	0.542	0.000
Servicescape -> Intangibles	0.821	0.000
Servicescape -> Perceived Service Quality	0.793	0.000

The path coefficient without considering the mediating effect of the servicescape on perceived service quality is 0.796, indicating a positive and significant effect at the 5% significance level (Table 3). Further, the servicescape explains 63.3% of the total variation in service quality. When considering the direct impact of servicescape on service quality, with the mediation effect, the path coefficient is 0.348, positive and significant at the 5% significance level. Intangible elements also have a positive and significant impact on the perceived service quality, with a coefficient of 0.542. Further, there is a coefficient of 0.821 between servicescape and intangibles. Hence, H1, H2, and H3 hypotheses are supported. The data analysis reveals a partial mediation effect of intangibles in the relationship between servicescape and perceived service quality; thus, the H4 hypothesis is supported. The total effect refers to the sum of the direct and indirect effects. Because there is a specific indirect effect, the total effect exceeds the direct effect of servicescape on perceived service quality, with the mediation effect. Further, tangibles and intangibles together explain 72.5% of the total variation in service quality.

Table 7. Results of Hypothesis Testing

Hypothesis	Coefficient	P-value	Result
H1: Servicescape has a significant positive impact on perceived service quality.	0.348	0.000	Supported
H2: Servicescape has a significant positive impact on intangible service quality dimensions (employees and reliability).	0.821	0.000	Supported
H3: Intangible service quality dimensions (employees and reliability) have a significant positive impact on perceived service quality.	0.542	0.000	Supported

H4: Intangible service quality dimensions (employees and reliability) mediate the relationship between servicescape and perceived service quality.	-	0.000	Supported
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DISUCSSION

The statistical analysis concluded that the servicescape positively and directly affects service quality in the hotel sector. It is concluded that maintaining a good servicescape within the organisation will enhance consumers' perception of service quality. Previous studies support the current test result, while others indicate a partially supported relationship. In terms of services, there is a higher level of credence qualities. Therefore, consumers cannot make inferences before or after consuming the service because they have no knowledge or experience in the particular field. The tangibles/servicescape has search qualities, providing customers with visual cues, and, based on these search qualities, consumers may perceive the quality of the service. Therefore, it is important to pay attention to the organisation's servicescape.

Further, there is a high covariance between tangibles and intangibles. These findings challenge prior literature, which implied that servicescape and intangible factors are independent. According to the current study, the coefficient between servicescape and intangibles is 0.821. The servicescape is not only an indicator of service quality but also affects evaluations of intangible dimensions. The intangibles have a positive and direct impact on service quality, with a coefficient of 0.542. Services, unlike commodities, have no product specifications and features. Consumers evaluate the service based on their experience. Therefore, employee behaviour and reliability are also significant.

All in all, the PLS-SEM algorithm indicates that servicescape has a significant positive impact on service quality, both directly and indirectly through intangibles. Further, intangibles act as a mediator showing a partial mediation.

Implications From Research

It is difficult for a service organisation to attract and retain customers unless it provides an essential service or is the only service provider. In that situation, service quality as a competitive dimension plays a considerable role. Apart from the generic service quality models, the HOLSERV model specifically focuses on explaining service quality in the hotel industry. The current study, with a focus on the servicescape of service organisations, reveals that it directly and indirectly impacts perceived service quality, indicating a partial mediating effect of intangibles.

As a suggestion for future study, the opinions of foreign travellers are important to consider, given the economic impact of tourism in Sri Lanka. Collecting data in person without electronic media provides access to fresh experiences, which can enhance data quality. Moreover, experiences can vary depending on the length of the stay, such as one-day visits and overnight stays. Future studies can check the moderating effect of the length of stay on the current conceptual framework.

The positive and direct correlation between servicescape and service quality suggests prioritising the maintenance of an appealing and conducive physical environment. Mainly, the service organisations are recommended to invest more in the servicescape, especially for the hotel industry. The initial investment will be useless unless proper maintenance is ensured. By looking at the hotel's servicescape, visitors may perceive how their employees will treat them and the service's reliability. A hotel may be modern-looking and luxurious, but the intangibles, such as employees, may not provide a luxury service to the visitors. Hence, when the tangibles are well invested and maintained, the other components of the service quality must be aligned.

Policymakers can set industry-specific guidelines and standards for minimum servicescape requirements, especially in a developing country like Sri Lanka, where tourism plays a huge role in the economy. These

standards should specifically cover the cleanliness, accessibility, safety, and consumer-friendly designs. Further, skilful employees and business reliability are under consideration and can be supported through skill training and development programs. Both policymakers and service providers can integrate new technologies to improve service quality.

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