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Service Quality Dimensions and Patients' Loyalty: A Developing Country Perspectives

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Abstract

This study attempts to investigate the impacts of service quality dimensions on patients' satisfaction and loyalty in Bangladesh as a developing nation. A quantitative survey was carried out at different privately owned healthcare institutions at Rajshahi in Bangladesh, and collected 164 usable data using convenience sampling technique. The Partial Least Squares–based Structural Equation Modeling (PLS-SEM) was utilized for analyzing the collected data. The estimation revealed that physical environment has a significant positive role on patients' loyalty, while communication, responsiveness, medical care, nursing care, and cost do not have in this case. At the same time, physical environment, communication, and responsiveness significantly impact patients' satisfaction, whereas, their satisfaction is not influenced by medical care, nursing care, and cost. However, patients' satisfaction directly influences patients' loyalty. In addition, patients' satisfaction has a significant indirect effect on the relationships between physical environment, responsiveness, cost, and patients' loyalty, whilst, it is not capable to mediate the relationships between communication, medical care, nursing care, and patients' loyalty. The implications, conclusions, and future research directions are also outlined at the end of this paper.

Keywords: Service quality dimensions, Patient satisfaction, Patient loyalty, Bangladesh.

1. Introduction

Over the decades, healthcare is considered as one of the most dynamic and rapidly growing service industries worldwide [20]. It isa vibrant service sector that earns revenues and inversely incurs expenditure at the local and global levels. However, unexpectedly, the service quality issue triggers a trend of going abroad for healthcare services [3]. With the less standard services, scarcity of equipment and supplies, lengthy waiting periods, deficient infrastructure and logistics support, lack of professionalism among doctors, nurses and staff, the developing nations especially Bangladesh is experiencing the outflows of patients abroad. This results in massive financial losses, deterioration in the balance of payment, and a substantial decline in patients' satisfaction, and loyalty [42]. Although the health sector is continuously and rapidly expanding, the Medicare issues in developing countriesbecome more crucial and facing intense competition especially in privately owned healthcare institutions [20]. Moreover, competition becomes an unavoidable reality for private healthcare institutions in a free-market economy [8]. In the extremely volatile and competitive environment, understanding, measuring and managing customer satisfaction can be the key success indicators that generate patients' loyalty and enhance profitability and growth [35].

On the other hand, customer satisfaction and loyalty eventually rely on service quality dimensions which are commonly explored in the relevant literature [29]. However, most of the previous studies in this area have been conducted in developed economies [11,12,51], and less explored in the context of a developing nation [3]. This calls the need for an exclusive investigation on the impacts of service quality dimensions on patients' satisfaction and loyalty in

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privately owned healthcare institutions in the context of a developing nation. Therefore, this study aims to investigate the impacts of service quality dimensions on patients' satisfaction and loyalty in the context of Bangladesh as a developing nation. The current study has looked at the impacts of service quality dimensions (i.e., physical environment, communication, responsiveness, medical care, nursing care, and cost), on patients' satisfaction, and loyalty. The study further looked into the potential mediation role of patients' satisfaction on the relationships between service quality dimensions and patients' loyalty.

The study first offers a systematic literature review accompanied by the development of a conceptual framework and hypotheses. Next, methodological aspects followed by analysis, results, discussions and implications are explained. Finally, the limitations and future research directions are reported.

2. Literature Review

2.1 Underlying Theories

SERVQUAL is the widely reviewed model to explore the service quality dimensional relationship [44,39,46,15]. However, this study utilized Service Profit Chain (SPC) theory, and S-O-R theory as the research foundation. These theories endorse a causal relationship in the service industry by pointing out how satisfied employees' key features (i.e., responsiveness and nursing care) as internal supportive dimensions which can contribute to boosting service quality benchmark that subsequently yields customer satisfaction and loyalty [26]. It depicts that numerous internal service quality drivers have a causal correlation in upgrading the service quality [25]. Therefore, improving front liners' performance orientations and dimensions drive towards enhancing service quality, generating customer contentment and loyalty [26]. More specifically, an ordered and structural link among fundamental notions such as- service quality, employee commitment, customer satisfaction, customer loyalty, and revenue growth are established by the service profit chain model [43]. On the other side, the S-O-R model has established and sharpened the relationship between service quality, customer satisfaction, and customer loyalty [57]. It comprised three key elements which are stimulus, organism, and response [38]. This paradigm reveals that any stimuli within an environment that affect the individual organism can cause some behavioral responses in the form of feedback or output [38]. Utilizing Stimulus-Organism-Response theory, the service quality (stimulus) is prone to exercise significant influence on customer satisfaction (Organism) and satisfied buyers ultimately affect customer loyalty (Response). Therefore, the current study solicits for the extension and justification of these theories through this empirical investigation.

2.2 Service Quality Dimensions

The service quality dimensions have turned into the researchers' major attention and have been widely utilized by experts and practitioners to improve the service excellence [52]. Service quality varies across the diversified industries and countries [8]. It is termed as the differences between customer expectation and the exact performance of services presented at a particular time [52]. Service quality is measured by responsiveness, tangibles, reliability, assurance, and empathy dimensions, known as the SERVQUAL model, which has briefly presented the notion of service quality and its elements to diagnose service quality-linked issues and offer rational implications [52]. Furthermore,[13] employed the SERVQUAL measurement scale in the health

care field to assess service quality from the Asian perspective, which has found the existence of tangibles, responsiveness, reliability, assurance, and empathy dimensions in hospital service quality assessment. Contextually, the hospital's service quality, especially in a developing country, comprises of seven dimensions: personnel quality, administrative process, infrastructure, clinical care process, the overall experience of medical care, safety, and social responsibility [23]. Primarily, the service quality of hospitals depends on patients' evaluation and assessment of the hospitals' overall services, such as interaction, association, and cooperative mentality among the patients, physicians, nurses, and staffs [31]. Meanwhile, the public hospital's service quality (PubHosQual) depends on five aspects: admission, overall service, medical service, discharge process, and social responsibility [1]. Particularly in the USA, considering a developed country context, the admission process, physician care, compassion to family and friends, nursing care, pleasantness of surroundings, and discharge process are the key determinants to test hospital's service quality [49]. Looking at the opinions of other investigators, the health care service quality depends on three dimensions that lead to service quality perceptions; physical environment (comprising ambient condition, tangibles, and social factor), interaction quality (comprising attitude and behavior, process quality and expertise), and outcome quality (patient satisfaction, comprising waiting time and loyalty [14]. Both for public and private hospitals, there are six service quality dimensions namely empathy, professionalism, the physical situation, food, prioritizing the inpatient needs, and the relationship between workforce and patients [8]. Similarly, quality dimensions of healthcare services are interaction, infrastructure, qualified staff, administrative and clinical processes, medical and nursing care, safety indicators and the service providers' responsibilities [14,23]. In this regard, the patients, for instance, can compare the doctors' and nurses' skills when they avail services, including treatment from them [55]. Furthermore, understanding the patients' perception of the hospital services significantly influences the patients' overall experiences [63]. Correspondingly, medical advice and treatment compliance are significantly associated with service quality and health outcomes [32]. However, the current study utilized physical environment, communication, responsiveness, medical care, nursing care, cost as the service quality dimensions.

2.3 Patients' Satisfaction

Customer satisfaction is thought to be one of the most extensively researched ideas in the marketing literature [53]. It is also considered as an effective measure to set the quality standard for healthcare services [42,55]. Many researchers previously tried to define customer satisfaction [61], though they have failed to establish a definition acceptable to all [58]. Customer satisfaction is a debatable issue because some investigators acknowledged it to be a process, others regard it as an outcome [17]. However, researchers have addressed customer satisfaction in a variety of ways. In general, customer satisfaction is the judgment and opinion about a product or service feature which offers a delightful consumption experience in fulfilling the needs and wants [48]. It is about nurturing and fulfilling the preferences and expectations of the customers so that the delivered value can be augmented [50]. In fact, it is a judgment formed by consumers about the product and service quality they receive and the cost they must incur [62]. Again, the clients' post-purchase state of the mind between prior expectations and the actual performance, which expresses their liking or disliking is pointed out as customer satisfaction [60]. Hence, it results from the experience of the clients' end and relies on the assessment between anticipated and actual performance [17]. In particular, patient satisfaction has been explained as an evaluation of different healthcare dimensions, which may be viewed as one of the predicted outcomes of hospital care [45]. Comparably, it is the observation of patients on their perception of health care

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services whether having been fulfilled or not, linked to technical and interpersonal care dimensions [27]. Although the view of the researchers varies concerning its conception and definition, it is undoubtedly one of the most significant indicators to long term profitability [48]. Most importantly, it helps to increase hospital image, which turns into more demand for services and increased market share [35]. Thus, consumer satisfaction can guide controlling and improving the present and potential performance of businesses [35].

2.4 Patients' Loyalty

Scholars outline customer loyalty in distinctive styles while one of its accepted definitions refers to customers' repurchase behavior [29]. Researchers claimed that there are mainly two categories of consumers: the shoppers who are loyal to a store or a brand and the potential buyer who prefer choosing a new brand from competing offerings for every purchase [18]. For the first category; customer loyalty is dealt with the customer's eagerness to repurchase a product or service that is attached to a psychological bond and carries positive sentiments toward a product or its organization [22,59]. Marketing literature features customer loyalty in two distinct ways [40]. First, in a general sense, patient loyalty refers to the patient's rebuying behavior in specific conduct [5]. Second,accordingly, customer loyalty is a positive attitude toward a brand or a store where patients are willing to recommend them to others [24]. Thus, the service providers must fulfill patients' requirements and expectations to produce customer loyalty. It is a critical business strategy to hold clients by offering stronger service quality in the long run. Extracting from many definitions of loyalty argues that patient loyalty is not only a cognitive construct (attitude) but also a shopping behavior [21]. However, loyal customers are considered as the base and competitive assets to thrive [55, 21]. Since it performs a crucial job in creating a competitive entry barrier [2], it is also one of the key elements in determining market share and predicting the profitability [10].

2.5 Hypotheses Development

Organizations are hunger after financial profitability and growth indicators, which rely on service quality and excellence, satisfaction of service receivers and their loyalty [26]. This study's conceptual framework (Figure 1) was designed on proposing six exogenous service quality dimensions (i.e., physical environment, communication, responsiveness, medical care, nursing care, and price) that shape patients' satisfaction, and loyalty. Diversity and inconsistent results in service quality dimensions are acknowledged in the extant literature. This calls the need for further test and validation on service quality dimensions. Thus, this study attempted to propose a positive link between service quality dimensions and, patients' satisfaction and loyalty. Previous studies acknowledged that physical environment [28,47,15], communication [28], responsiveness [46,15], medical care [4, 47], nursing care [47], and cost [5,7] have a significant positive influence on patients' satisfaction. However, other studies claimed that patients' satisfaction is not adequately influenced by physical environment [44,46], and responsiveness [44]. Therefore, based on the above discussions and arguments this study leads to the following first set of hypotheses:

H1: Service quality dimensions [(a) physical environment (b) communication (c) responsiveness (d) medical care (e) nursing care, and (f) cost] of a healthcare institution have a significant positive influence on patients' satisfaction.

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Similarly, it is strongly evident that service quality dimensions (i.e., physical environment, communication, responsiveness, medical care, nursing care, and price) have a strong predictive power to influence patients' loyalty towards a particular healthcare institution [28,7,5]. Previous studies also supported that physical environment [28, 46], communication [28], responsiveness [28, 46], medical care and nursing care [28,46], and cost [7,5] have a significant positive influence on patients' loyalty. However, other studies claimed that physical environment [5] and responsiveness [5] were not capable to influence patients' loyalty. In turn, since a delightful consumer experience is one of the reasons for customer loyalty development, customer satisfaction can produce a feasible direct effect on customer loyalty [35,19]. Therefore, the study proposes the following second set of hypotheses:

H2: Service quality dimensions [(a) physical environment (b) communication (c) responsiveness (d) medical care (e) nursing care, and (f) cost] of a healthcare institution have a significant positive influence on patients' loyalty.

H3: Patients' satisfaction has a significant positive influence on patients' loyalty.

H4: Patients' satisfaction significantly mediates the relationship between service quality dimensions [(a) physical environment (b) communication (c) responsiveness (d) medical care (e) nursing care, and (f) cost] of a healthcare institution and patients' loyalty.

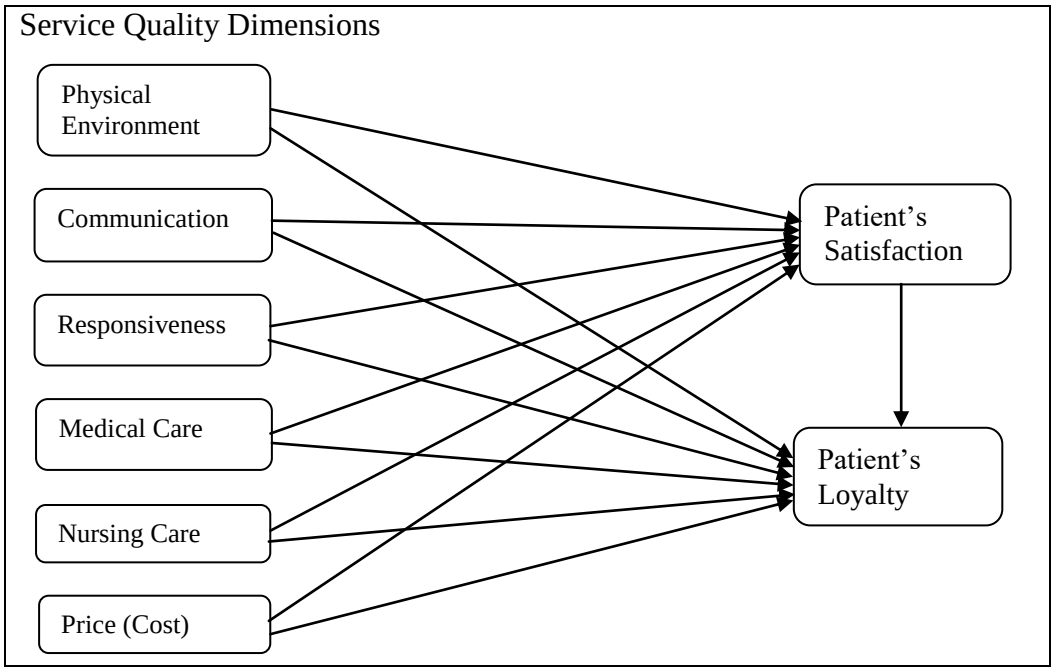

Figure 1: Conceptual Framework

3. Research Methods

A quantitative survey was carried out by collecting data to test the significance of the proposed relations in the conceptual framework (figure 1). In total, 26 items and five basic demographic questions (e.g. age, gender, marital status, education, and level of income) were used in the survey instrument. The measurement items on service quality dimensions, more specifically,

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physical environment [44], communication [6], responsiveness [46], medical care [4], nursing care [23], and cost [7] were adopted from the previous relevant studies. The items on patient's satisfaction were borrowed from the study of [46], and the items on patient's loyalty were extracted from the study of [7]. Respondents were asked to rate their opinion using a Six-point Likert scale where one was *strongly disagree,* and six was *strongly agree*. Therefore, the study recruited patients using convenience sampling technique at different privately owned healthcare institutions at Rajshahi town in Bangladesh. In total, 171 responses were received, and 164 of which were usable whilst rest seven responses were discarded as they were disproportionate or incomplete. Based on the suggested sample size by various scholars [37,56], the sample size used in this study met the minimum sample to perform data analysis method i.e. Partial Least Squares-Structural Equation Modeling (PLS-SEM). It is also evident in many previous studies, for example [41]. It is important to note that participation in this survey was totally voluntary and the respondents' prior consent has been duly obtained.

4. Data Analysis

This study employed PLS-SEM to test the causal relations between the constructs of the proposed model. This analytical technique is more appropriate for exploratory and confirmatory research that aims to examine the extent of the relationships between the exogenous and endogenous constructs where independent constructs predict the ultimate dependent construct [33,54]. In assessing the study framework in the PLS-SEM procedure, this study firstly performed factor leading, composite reliability, average variance extracted, and Fornell and Larcker's (1981) and Heterotrait-Monotrait (HTMT) criterion in reflective constructs were assessed by using different suggested threshold values. Lastly, bootstrapping and blindfolding procedures were performed to test the significance of the structural model. The effect size of the estimated relations and the predictive relevance of the structural model was also performed in the analysis [33,54].

5. Results

This study was performed descriptive statistical analysis to check the frequencies and percentages of the participants (patients). Table 1 shows the results on the demographic questions of age, gender, marital status, education, and participant's level of income.

Table 1: Summary of sample structure

Characteristics	**(N=164)**	**(%)**	**Characteristics**	**(N=164)**	**(%)**
Age of Respondents:			**Education**		
18–20 years	1	.6	Less than SSC	20	12.2
21–30 years	56	34.1	SSC	22	13.4
31–40 years	38	23.2	HSC	45	27.4
41–50 years	46	28.0	Graduation	60	36.6
Above 50 years	23	14.0	Post-graduation	17	10.3
Gender:			**Income:**		
Male	71	43.3	Less than 20000	37	22.6
Female	93	56.7	Tk. 20001-30000	54	32.9
Marital Status:			Tk. 30001-40000	53	32.3

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Single	32	19.5	Tk. 40001-50000	13	7.9
Married	132	80.5	Tk. 50001-60000	7	4.2

Note: Characteristics = characteristics of respondents' profile, N = number of respondents, % = valid percentage.

5.1 Measurement Model

The measurement model performs factor loading, composite reliability (CR), and average variance extracted (AVE) to establish the convergent validity [30]. Particularly, Table 2 illustrates that loading values of all items that exceeded the suggested threshold value of 0.5 [34],and CR values of the study constructs exceeded the standard critical level of the recommended value of 0.708 [33]. Lastly, the study found AVE values for all the study constructs which were greater than the suggested value of 0.5 of the AVE which were adequate for convergent validity [9,30]. Therefore, all three requisites of the convergent validity of the reflective model were met.

Table 2: Confirmatory Factor Analysis

Construct	Item	Description	Loading	CR	AVE
Physical Environment (PE)	PE1	Neat appearance of polyclinic service	0.68	0.80	0.51
	PE2	Visually appealing facilities	0.58		
	PE4	Adequate modern equipment	0.78		
	PE5	Neat appearance of employees	0.79		
Communication (COM)	COM2	Doctors willingness to answer	0.91	0.76	0.61
	COM3	Adequate information of treatment	0.63		
Responsiveness (RES)	RES2	Prompt service from the employees	0.77	0.70	0.51
	RES3	Willingness of employees to help	0.66		
Medical Care (MC)	MC2	Knowledgeable nurses	0.50	0.75	0.51
	MC3	Knowledgeable staffs	0.72		
	MC4	Prevention of hospital acquired disease	0.87		
Nursing Care (NC)	NC1	Courtesy of the nurses	0.71	0.89	0.73
	NC2	Prompt and timely attention of nurses	0.94		
	NC3	Emotional and physical care	0.89		
Price (COST)	COST1	Cost vs. service	0.95	0.94	0.88
	COST2	Reasonable cost	0.93		
Patient's Satisfaction (PS)	PS1	Satisfactory medical service	0.65	0.88	0.71
	PS2	Successful medical service	0.93		
	PS3	Fulfilment of patients' requirements	0.92		
Patient's Loyalty (PL)	PL1	Positive word of mouth	0.73	0.90	0.75
	PL2	Recommending healthcare to others	0.92		
	PL3	Willingness to reuse the services	0.92		

Note: The item PE3, COM1, RES1, and MC1 were removed due to poor factor loadings.

Discriminant validity was further assessed by using the test suggested by Fornell and Larcker's (1981) criterion as the traditional method [30], and Henseler, Ringle, and Sarstedt (2015)HTMT criterion as a superior method [36]. The traditional method suggests that the square roots of the AVEs were greater than the correlation values for each research constructs pairing (see Table 3). The superior method suggests that the threshold value of below 0.90 between two study constructs is acceptable to establish discriminant validity. The $HTMT._{90}$ (see also Table 4) means

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that the result is below the recommended critical value of 0.90 for each group-specific model estimation. Thus, it also met the tests of discriminant validity.

Table 3: Square Root of the AVE and Correlation of Coefficient

Fornell and Larcker Criterion								
	COM	COST	MC	NC	PE	PL	PS	RES
COM	**0.78**							
COST	0.38	**0.94**						
MC	0.34	0.25	**0.72**					
NC	0.29	0.36	0.54	**0.85**				
PE	0.38	0.15	0.30	0.13	**0.71**			
PL	0.38	0.34	0.30	0.25	0.53	**0.86**		
PS	0.39	0.32	0.32	0.34	0.39	0.78	**0.84**	
RES	0.20	0.06	0.18	0.23	0.31	0.23	0.33	**0.72**

Note: Bold diagonal values represent the square root of the AVE, and the off-diagonal value represents the correlation of coefficient.

Table 4: HTMT Result

Constructs								
	COM	COST	MC	NC	PE	PL	PS	RES
COM								
COST	0.56							
MC	0.56	0.38						
NC	0.47	0.41	0.77					
PE	0.78	0.19	0.37	0.22				
PL	0.63	0.40	0.37	0.30	0.69			
PS	0.60	0.37	0.38	0.40	0.50	0.83		
RES	0.27	0.32	0.23	0.21	0.70	0.14	0.81	

5.2 Structural Model

In the structural model, the bootstrapping procedure was used to test the path relations. This analytical technique ensures the exactness and significance of the path relations between the study constructs [33]. In this case, a total of 5,000 subsamples were taken from the original sample. The results from the bootstrapping procedure (also see Table 5) illustrate that the direct effects of PE and PS on PL, and PE, COM, and RES on PS were positive and significant. Therefore, hypotheses H1a, H2a, H2b, H2c, and H3 were supported. However, the direct effect of COM, RES, MC, NC and COST on PL, and MC, NC, and COST on PS were negative and insignificant. Thus, hypotheses H1b, H1c, H1d, H1e, H1f, H2d, H2e, and H2f were rejected. Furthermore, the mediation effects of PS on the relationships between PE, RES and COST, and PL were positive and significant, while, the indirect effects of COM, MC, and NC on PL through PS were negative and insignificant. Therefore, hypotheses H4a, H4c, and H4f were supported, and the hypotheses H4b, H4d, and H4e were rejected.Next, the predictive relevance of the structural model was further evaluated by using the blindfolding procedure [33,54]. More specifically, the proportion of variance in the endogenous construct was assessed by using the coefficient of determination (R^2), which was predicted from the independent variables. The structural model also assessed the cross-validated predictive relevance by using the criterion of Stone-Geisser's (Q^2). The R^2 and Q^2 values for PL were 0.69 and 0.49 and for PS were 0.32 and 0.20 respectively. This suggested that 69% of the variance in PL was explained by PE, COM,

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RES, MC, NC, and COST, and PS that 32% of the variance in PS was explained by PE, COM, RES, MC, NC, and COST. The results of the structural model also established the predictive relevance, as their Q^2 values for PL and PS were 0.49 and 0.20 respectively which were greater than 0 (zero).

In addition, the effect sizes (f^2) that specified the extent of the relative effect of a particular independent variable on a dependent variable was substantial [16]. Particularly, results explained the biggest effect size of PS followed by PE and its significant strongest positive relation to PL that are (f^2= 0.23) and (f^2= 0.18) respectively. Table 5 also shows the effect sizes between the other constructs used in this study.

Table 5: Results of the Structural Model

Direct Effect	**Beta**	**S.E.**	**t-value**	**p-value**	**5.00 %**	**95.00 %**	**Decision**	**f^2**	**R^2**	**VIF**	**Q^2**
H1a: PE -> PL	0.27	0.06	4.99	0.00	0.18	0.39	Supported	0.18	0.69	1.37	0.49
H1b: COM -> PL	0.00	0.05	0.05	0.96	-0.09	0.11	Rejected	0.00		1.43	
H1c: RES -> PL	-0.07	0.06	1.16	0.25	-0.22	0.04	Rejected	0.01		1.21	
H1d: MC -> PL	0.02	0.06	0.27	0.79	-0.09	0.13	Rejected	0.00		1.56	
H1e: NC -> PL	-0.04	0.06	0.74	0.46	-0.15	0.07	Rejected	0.00		1.62	
H1f: COST -> PL	0.09	0.06	1.63	0.10	-0.02	0.20	Rejected	0.02		1.31	
H2a: PE -> PS	0.21	0.07	3.13	0.02	0.09	0.34	Supported	0.05	0.32	1.31	0.20
H2b: COM -> PS	0.16	0.08	2.00	0.05	0.02	0.30	Supported	0.03		1.39	
H2c: RES -> PS	0.18	0.07	2.53	0.01	0.04	0.31	Supported	0.04		1.16	
H2d: MC -> PS	0.06	0.08	0.74	0.46	-0.11	0.20	Rejected	0.00		1.55	
H2e: NC -> PS	0.13	0.08	1.66	0.10	-0.04	0.28	Rejected	0.02		1.60	
H2f: COST -> PS	0.15	0.08	1.92	0.06	0.01	0.33	Rejected	0.03		1.27	
H3: PS -> PL	0.37	0.06	4.66	0.00	0.58	0.76	Supported	0.23		1.46	
Post-hoc (Mediation)	**Beta**	**S.E.**	**t-value**	**p-value**	**5.00 %**	**95.00 %**	**Decision**				
H4a: PE -> PS -> PL	0.15	0.05	2.97	0.00	0.04	0.25	Supported				
H4b: COM -> PS -> PL	0.11	0.06	1.89	0.06	-0.01	0.21	Rejected				
H4c: RES -> PS -> PL	0.12	0.06	2.24	0.03	0.03	0.23	Supported				
H4d: MC -> PS -> PL	0.04	0.05	0.78	0.44	-0.06	0.14	Rejected				
H4e: NC -> PS -> PL	0.09	0.05	1.68	0.09	-0.01	0.19	Rejected				
H4f: COST -> PS -> PL	0.13	0.05	2.35	0.05	0.01	0.21	Supported				

**p < 0.01, *p < 0.05, S.E. = standard error.

6. Discussions and Implications

The study illustrates the influence of different service quality dimensions (i.e., physical environment, communication, responsiveness, medical care, nursing care, and cost) on patients' satisfaction and loyalty. This also focuses to examine the mediating role of patients' satisfaction between several service quality dimensions, and patients' loyalty in the context of Bangladeshi privately owned healthcare institutions. The study adopts different variables to develop the hypotheses and test their effects on boosting patient loyalty. The study revealed mixed findings which support eight hypotheses and reject eleven hypotheses out of a total of nineteen

hypotheses. The current study has clearly demonstrated the significant effects of physical environment on patients' loyalty as its t-value was 4.99 and beta value was 0.27. This finding is similar to the findings of many previous studies [28,46]. Similarly, physical environment, communication, and responsiveness have a great influence on patients' satisfaction as their t-values were 3.13, 2.00, and 2.53, and their beta values were 0.21, 0.16, and 0.18. This finding is similar to the many previous studies for physical environment [28,47,15], for communication [28], and in case of responsiveness [46,15]. Alternatively, the finding, in case of physical environment is inconsistent with other studies [44,46], and for responsiveness [44]. Furthermore, patients' satisfaction has an influential role to enhance patients' loyalty as its t-value was 4.66, and beta value was 0.37.

On the other side, the influence of communication, responsiveness, medical care, nursing care, and cost on patients' loyalty was insignificant as their t-values were (0.05, 1.16, 0.27, 0.74, and 1.63) respectively, and beta values were (0.00, -0.07, 0.02, -0.04, and 0.09). These findings are inconsistent with findings of other studies [28,46,7], and in case of responsiveness, the finding is similar to the study of [5]. Furthermore, medical care, nursing care, and cost have no role to achieve patients' satisfaction as their t-values were 0.74, 1.66, and 1.92, and beta values were 0.06, 0.13, and 0.15 respectively. These findings are contradictory with the findings of previous studies [4,47,5,7]. In addition, patients' satisfaction has a strong indirect effect on the relationships between physical environment, responsiveness and cost, and patients' loyalty. However, patients' satisfaction does not play a role to mediate the relationship between communication, medical care and nursing care, and patients' loyalty.

The findings indicate that surrounding conditions, and resources positively affect patients' level of satisfaction and loyalty. The front liners' enthusiasm and courtesy to listen and answer patients' queries, exchange views, and provide health and treatment-relevant exact information can be the most useful techniques to make the patients satisfied and loyal. The doctors and nurses should be more careful about professionalism, prompt and timely attention, and more careful about patients' emotions. The authorities should reconsider the price they charged as current patients are not satisfied with the existing costs of private healthcare institutions. Thus, privately owned healthcare institutions should be more cautious about their level of internal communication, responsiveness, medical care, nursing care, and cost to gain patients' satisfaction and loyalty. As the contentment of service receivers generatesan intention to revisit the same healthcare institution, authorities should be more careful about patients' satisfaction. Finally, patients' satisfaction cannot always successfully mediate the relationship between the relevant service quality dimensions, the authorities, government, and high officials should workout at the policy level. Moreover, the doctors, nurses, staff, management and relevant stakeholders also should focus on reforming the quality of services and formulate useful policies and measures to safeguard patient satisfaction and loyalty.

7. Conclusions

In this extremely competitive market, ensuring customer satisfaction and loyalty is a key for gaining a sustainable competitive advantage and stimulating organizational growth [22]. In particular, customer satisfaction is an integral component for boosting health care institution's image and profitability in medical services [1]. Similarly, loyal clients are the companies' assets since retaining the existing customer is less expensive and easier than attracting new customers.

In addition, service quality bears significance from numerous angles in healthcare industry as the decline in customer satisfaction and loyalty level because of the inferior service quality turns out to be a matter of concern. On the contrary, high-quality services can easily attract new customers alongside retaining the existing customers and snatching competitors' customers[22]. Therefore, the current study aimed to investigate the relationship among different service quality dimensions, patients' satisfaction and patients' loyalty. Besides, the mediating role of patients' satisfaction between several service quality dimensions, and patients' loyalty is measured in the context of the Bangladeshi privately owned healthcare institutions. In fine, it is expected that the stakeholders will come out prioritizing the influential factors of service quality dimensions to upgrade overall patient satisfaction and loyalty in healthcare industry of Bangladesh.

8. Limitations and Future Studies

This study has three key limitations which can be addressed in the forthcoming investigations. First, the current study is conducted on privately owned healthcare institutions only at Rajshahi town in Bangladesh, while future studies can incorporate public hospitals or both public and private hospitals from a cross-national standpoint. Second, the study covers limited constructs of healthcare service quality dimensions, however, testing of other healthcare services quality dimensions like empathy, doctors' and nurses' professionalism, and appointment may include an exclusive input. Third, the data were collected using the convenience sampling method and employ a quantitative analysis technique. However, the scholars can utilize the random sampling method and approach mixed method to rigorously validate the findings.

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