

Total Quality Management, Customer Relationship Management, Patient Satisfaction as Determinants of Behavioral Intention to Use Private Hospital Services

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ABSTRACT

Optimal service quality is expected to meet patient expectations, which is essentially an effort to exceed their expectations of the services they receive. This study analyzed the influence of total quality management dimensions and customer relationship management dimensions on patient satisfaction and behavioral intentions in private hospitals in Indonesia. This study applied a management approach. This study adopted a judgmental sampling method. The criteria for the sample population were patients who have received treatment at the Siloam Hospital outpatient clinic in Jakarta. The sample size in this study was 241 respondents. As results, total quality management had a positive effect on patient satisfaction. Customer relationship management had a positive effect on patient satisfaction. Customer relationship management had a positive effect on behavioral intention. Patient satisfaction was proven to mediate the relationship between customer relationship management and behavioral intention. Patient satisfaction had a positive effect on behavioral intention. As conclusion, the results of this study also show that there is a contribution of something new in this research model, namely the influence of three dimensions of customer relationship management variables that directly affect patient satisfaction and behavioral intention at Siloam Hospital Jakarta. The dimensions of this variable include customer service, communication, and information technology usage.

Keywords: total quality management; customer relationship management; behavior intention; patient satisfaction

INTRODUCTION

Over the past few decades, the business sector has undergone upheaval. Globalization has heightened rivalry, particularly in the industrial and service industries. According to several studies,⁽¹⁻³⁾ competition is thought to be more difficult than it has ever been. Businesses must adapt to new problems in order to compete.⁽⁴⁾ Restructuring operations, culture, and implementing customer-focused systems to fulfill client expectations and deliver quality are some strategies that firms can take to become competitive.⁽⁴⁻⁶⁾ Therefore, the ability to provide the best quality to customers is key to surviving and competing globally.^(7,8) Providing superior service quality will improve organizational performance and increase customer satisfaction.⁽⁹⁾ Implementation of quality strategies such as total quality management (TQM) is a one-way organizational effort that seeks to provide quality services to consumers.⁽⁹⁾ Siloam Hospitals is a leading private hospital chain in Indonesia that has set standards for quality health services in the country. However, in 2015, the average patient satisfaction (PS) rate at Siloam Hospitals reached 79.3%, which then increased to 79.7% in 2016, indicating an increase of 0.4%. However, in 2017 from January to September, the average patient satisfaction rate reached 78.5%. During the past three years, the patient satisfaction rate has not reached the target set by Siloam Hospitals Group, which is 85%. Hospitals as complex health institutions, with a wealth of large and diverse resources in the field of technology, have complex challenges. Optimal service quality is expected to meet patient expectations, which is essentially an effort to exceed their expectations of the services they receive. This can ultimately contribute to increasing the bed occupancy ratio (BOR) and hospital revenue.

Research by⁽⁹⁾ found that hospitals, as a service provider industry, can use TQM effectively even though they have shortcomings in several aspects from the patient's perspective. Reza & Sarraf⁽⁹⁾ study revealed that the Upper West Regional Hospital's implementation of TQM did not yield a statistically significant impact on both internal and external customer satisfaction. Contrary to the findings of Reza & Sarraf,⁽⁹⁾ which indicated that patient satisfaction and perceptions of service quality were significantly impacted by TQM, patient satisfaction is positively impacted by perceptions of service quality. According to the aforementioned research, there is still more unanswered questions about the relationship between TQM and patient happiness. Based on the research gap above, this study will further examine the influence of TQM and patient satisfaction at Siloam Hospital Jakarta.

Hospitals are increasingly aware of the importance of providing the best patient care in an increasingly competitive environment. Minister of Health Regulation Number 43 of 2016 stipulates that service quality is a very important component and cannot be separated from hospital operations. Assessing service quality will evaluate significant differences between patients' actual experiences and the services they receive in the hospital at a given time. This affects patient satisfaction and their goals.⁽⁹⁾

In 2015, the average patient satisfaction rate at Siloam Hospitals reached 79.3%, which then increased to 79.7% in 2016, indicating an increase of 0.4%. However, in 2017 from January to September, the average patient satisfaction rate reached 78.5%. During these three years, the patient satisfaction rate has not reached the target set by Siloam Hospitals Group, which is 85%. Hospitals as complex health institutions, with a wealth of large and diverse resources in the field of technology, have complex challenges. Optimal service quality is expected to meet patient expectations, which in essence is an effort to exceed their expectations of the services they receive. This can ultimately contribute to increasing the BOR and hospital revenue.

This research is based on the existence of gaps in previous research, such as research conducted by several studies as follows. The Reza & Sarraf,⁽⁹⁾ study's findings indicate that patient satisfaction and customer relationship

management (CRM) have a strong positive link. The findings of the Marino⁽¹⁰⁾ which contends that CRM is positively correlated with customer satisfaction, lend support to this. Research by Cavaliere,⁽¹¹⁾ among others, also demonstrate the beneficial impact of CRM on customer satisfaction. CRM significantly improves customer happiness and loyalty, according to a number of studies Alshurideh.⁽¹²⁾ Nevertheless, the findings of other investigations differ from those of the previous studies. According to Alam,⁽¹³⁾ CRM has a negligible and unfavorable impact on client loyalty and satisfaction. This indicates that a gap remains in the research. Therefore, this study will further discuss the effect of CRM on patient satisfaction at Siloam Hospital. Based on initial survey data at Siloam Hospital Jakarta from August 2023, it shows that the level of patient satisfaction and behavioral intention (BI) of patients at Siloam Hospital Jakarta is still low. This shows the need to increase PS to encourage patients to return every month. For this reason, research is needed on the influence of the TQM dimension and the CRM dimension on PS and BI at Siloam Hospital Jakarta.

Hypothesis

Total Quality Management on Patient Satisfaction

Nguyen and Nagase,⁽²³⁾ studied the effect of TQM by healthcare facilities on perceived service quality and PS. Self-administered questionnaires were given to 516 inpatients treated in April 2018 at a tertiary hospital in Vietnam. TQM had a significant effect on perceived service quality and PS; perceived service quality had a positive effect on PS. TQM is a tool used to improve patient satisfaction in the healthcare sector.⁽²⁴⁾ One way to improve patient satisfaction is to improve the quality of healthcare services. Liu⁽²⁵⁾ reported that service quality had a positive and significant effect on PS, and patient trust and commitment significantly affected patient loyalty. Therefore, the following hypothesis is proposed: H1-TQM has a positive effect on PS.

Customer Relationship Management on Patient Satisfaction

Abekah-Nkrumah et al.⁽²⁶⁾ who examined the effect of CRM on PS and patient loyalty, controlling for other socio-demographic characteristics. The study used a two-stage sampling process and a structured questionnaire to collect data from 788 patients from three health facilities (public, quasi-public and private) in Greater Accra, Ghana. The results showed that CRM was significantly positively correlated with PS and patient loyalty, with PS also being significantly correlated with patient loyalty. It is important for service providers to take CRM seriously as a good relationship between service providers and their clients can lead to client satisfaction which has been identified as an important determinant of loyalty. It has also been established that satisfaction plays a major role in securing customer loyalty.⁽²⁷⁾ Evidence from the existing literature suggests that CRM is positively related to customer satisfaction, trust and knowledge. Therefore, the following hypothesis is proposed: H2-CRM has a positive effect on PS.

Customer Relationship Management on Behavioral Intention

This study was conducted to gain insight into CRM and customer purchasing behavior, through the lens of the theory of planned behavior (TPB). As far as the literature is concerned, the relationship between CRM and purchasing behavior has not been investigated using the TPB before, despite its potential application to the concept. Schreiber et al. ⁽²⁸⁾ empirically tested the interrelationships between customer relationship management, attitudes, subjective norms, and perceived behavioral control, and their effects on intentions to purchase anti-aging products and services. A mixed methods approach was used to collect and examine the data. Quantitative data were collected from a sample of 460 respondents using an online survey, for structural equation modeling analysis.⁽²⁹⁾ Therefore, the following hypothesis is proposed: H3-CRM has a positive effect on BI.

Customer Relationship Management has an effect on Behavior Intention through Patient Satisfaction

The implementation of a CRM program can have an impact on customer satisfaction and customer information for various reasons.⁽³⁰⁾ Likewise, the use of customer satisfaction strategies and customer experience are susceptible to impact. CRM ensures that its customers go home happy and strengthens their interactions with consumers, and such activities strengthen the relationship between sales representatives and clients. Customer satisfaction has important consequences for the economic performance of banking companies because customer loyalty and user behavior can be improved, and customer complaints and the risk of customer defection can be minimized. Customers are supported more effectively by customer relationship management systems and more reliable data in daily operations. When different problems require fewer meetings with clients, customer satisfaction increases.⁽³¹⁾ BI is a perfect predictor of usage behavior. To perform a certain action, BI plays a formative role. If employees of an organization show BI to use new technology such as CRM system, they will also show usage behavior to implement the system. Therefore, the following hypothesis is proposed: H4-PS can mediate the relationship between CRM and BI.

Patient Satisfaction and Behavior Intention

Jandavath & Byram⁽³²⁾ and Truong et al.⁽³³⁾ found that PS has a significant positive effect on BI. There are not many previous studies that examine the direct effect of PS on BI. The study found that service quality affects PS, which positively affects BI, such as loyalty. This study shows that customer satisfaction plays a role in BI. Therefore, the following hypothesis is proposed: H5-PS has a positive effect on BI.

METHODS

This study applied a management approach, specifically regarding the influence of TQM and CRM on PS and BI. The first independent variable was TQM with dimensions: 1) process; 2) interaction; and 3) environment. The second independent variable was CRM with dimensions: 1) customer service; 2) communication; 3) IT usage. Furthermore, the mediating variable in this study was PS which will connect the independent variables mentioned with the dependent variable, namely BI.

This study adopted a judgmental sampling method. Subjects were selected according to the researcher's wishes by assessing their suitability with the population to be studied. The criteria for the sample population were patients who have received treatment at the Siloam Hospital outpatient clinic in Jakarta. To determine sample size, this study adopted power analysis which emphasizes the use of power and alpha in determining the expected

sample size using Partial Least Square - Structural Equation Modeling (PLS-SEM) modeling.⁽¹⁴⁾ This study adopted an alpha of 0.05 with an effect size of 0.35. In addition, with degrees of freedom of 5. In this study, the sample size used was 241 respondents. This research was conducted in compliance with all required ethical standards. These ethical requirements include maintaining confidentiality of information, respecting respondent autonomy, avoiding harm to respondents, and treating them fairly.

Overall, the explanatory research approach used the PLS method. In this context, hypothesis testing was carried out by examining the t-statistic and probability values. To evaluate the relationship between existing variables, this study applied PLS-SEM. PLS (Partial Least Square) is a structural equation analysis (SEM) based on variance, which is able to test the measurement model as well as test the structural model.

RESULTS

This section presents the characteristics of the sample in Table 1. Then for each hypothesis question, descriptive frequency statistics are shown containing mean, min, max, and variance data. Cronbach's alpha must be above 0.7 as the lower bound and the composite reliability value must be between 0.7 and 0.95 in order for the results to be considered satisfactory. If the composite reliability score is more than 0.95, it can be inferred that the indication has redundancy. The statistics shown in Table 2 demonstrate that the Cronbach's alpha value for each variable in this study is more than 0.7. There is no duplication because the composite reliability value for all variables falls between the lower and higher bounds of 0.7 and 0.95, respectively. The researcher came to the conclusion that these indicators are accurate for gauging the various structures based on the information from the test results.

Table 1. Distribution of demographic characteristics of respondent

	Profile	Number	Percentage
Gender	Male	107	44.39
	Female	134	55.61
Age	18-45 years	152	63.07
	46-65 years	89	36.93
Domicile Gender	Jakarta	63	26.14
	Bogor	44	18.26
	Depok	39	16.18
	Tangerang	48	19.92
	Bekasi	47	19.50
Age	Civil servant	43	17.84
	Private employee	59	24.48
	Student	22	9.13
	Professional	50	20.75
	Self-employed	51	21.16
	Other	16	6.64

Table 2. The results of construct reliability analysis

Variable	CA	CR (rho_a)	CR (rho_c)	Results
Process (P)	0.781	0.783	0.873	Reliable
Interaction (I)	0.879	0.879	0.943	Reliable
Environment (E)	0.813	0.817	0.914	Reliable
Communication (C)	0.832	0.842	0.899	Reliable
Customer service (CS)	0.873	0.874	0.922	Reliable
IT usage (IU)	0.877	0.877	0.942	Reliable
Patient satisfaction (PS)	0.899	0.899	0.929	Reliable
Behaviour intention (BI)	0.927	0.928	0.945	Reliable

In order to enable population-level generalization of the research model, hypothesis testing seeks to ascertain the importance of the influence between variables in the model. The bootstrapping approach with resampling was used to conduct this test, and SmartPLS® 4.0.9.9 was used for processing. Two analytical result values—the significance value (p-value) and the coefficient value—can be used to evaluate the outcomes of this hypothesis test. If the p-value <0.05, then the research hypothesis can be said to be supported. The magnitude of the coefficient number reflects the magnitude of the influence of the variable, while the positive direction of the coefficient indicates that the nature of the hypothesis is in accordance with that formulated. This is because the formulated hypothesis has determined the nature of its influence, so the test carried out is one-tailed. The results of the hypothesis test in this study can be seen in table 3. The researcher made 5 construct hypotheses, namely:

Based on Table 3, it can be seen that of the 5 hypotheses used in the research model tested, all have a coefficient value direction that is in accordance with the hypothesis and is significant. Therefore, it can be concluded that 5 hypotheses are supported. It is known that the H2 hypothesis is supported by two data analysis results. The first data is the p value found <0.05 (p 0.000) so it can be said that the effect is significant. This is in accordance with the confidence interval (CI) value where no value of 0 or 1 is found in this interval range (0.523 - 0.722, CI 95%), therefore the H2 hypothesis can be said to be significant. It is known that the H3 hypothesis is supported by two data analysis results. The first data is the p value found <0.05 (p 0.000) so it can be said that the effect is significant. This is in accordance with the confidence interval (CI) value where no value of 0 or 1 is found in this interval range (0.680 - 0.825, 95% CI), therefore the H3 hypothesis can be said to be significant. It is known that the H4 hypothesis is supported by two data from the analysis results. The first data is the p value found <0.05 (p 0.000) so it can be said that the influence is significant. This is in accordance with the confidence interval (CI) value where no value of 0 or 1 is found in this interval range (0.211 - 0.359, 95% CI), therefore the H4 hypothesis can be said to be significant. The second data is the standardized coefficient value, which is 0.280, with a positive value indicating that the direction of influence is in accordance with the H4 hypothesis. It is known that the H5 hypothesis is supported by two data analysis results. The first data is the p value found <0.05 (p 0.000) so it can be said that the effect is significant. This is in accordance with the confidence interval (CI) value where no value of 0 was found in this interval range (0.338 - 0.578, CI 95%), therefore the H5 hypothesis can be said to be significant.

Table 3. The results of hypothesis test analysis

	Hypothesis	Standard coefficient	CI 5.0%	CI 95%	p-value	Information
H1	HOC TQM -> PS	0.272	0.161	0.371	0.000	Supported
H2	HOC CRM -> PS	0.618	0.523	0.722	0.000	Supported
H3	HOC CRM -> BI	0.758	0.680	0.825	0.000	Supported
H4	HOC CRM -> PS -> BI	0.280	0.211	0.359	0.000	Supported
H5	PS -> BI	0.454	0.338	0.578	0.000	Supported

Table 4. The results of mediation test analysis

Direct effect	Std coef	p-value	Indirect effect	Std coef	p-value	Results
CRM -> BI	0.758	0.000	CRM -> PS -> BI	0.280	0.000	Partial mediation

Table 5. Importance and performance of constructs and indicators

Indicator	Indicator importance	Indicator performance	Construct	Construct importance	Construct performance
P1	0,014	65,837	Process (P)	0.034	68.451
P2	0,014	73,755			
P3	0,013	65,975			
I1	0,053	66,528	Interaction (I)	0.101	69.806
I2	0,054	73,133			
E1	0,039	67,773	Environment (E)	0.075	67.987
E2	0,043	68,188			
C1	0,174	69,917	Communication (C)	0.480	71.347
C2	0,209	70,332			
C3	0,172	73,859			
CS1	0,052	66,390	Customer service (CS)	0.135	66.416
CS2	0,049	65,007			
CS3	0,050	67,773			
IU1	0,099	65,145	IT usage (IU)	0.190	65.285
IU2	0,102	65,422			
PS1	0,151	66,252	Patient satisfaction (PS)	0.512	67.636
PS2	0,144	74,689			
PS3	0,143	65,145			
PS4	0,147	64,454			
Mean	0,091	68,188	Mean	0.218	68.133

The next inner model analysis is the mediation effect of the PS variable on the relationship between CRM and BI. In Table 4, the results of the indirect and direct effects tests from the PLS-SEM bootstrapping can be seen.⁽¹⁵⁾ The indirect effect of the independent variable through PS is proven to be significant with a p value <0.05. The coefficient value was also found to have a positive value (0.280). The direct effect data can also be compared. The direct effect data of CRM to BI was found to have a p value <0.05 and with a coefficient that was also positive (0.758). Because without the indirect influence of PS, CRM can still have a significant direct influence on BI, the mediation effect of PS is partial. If PS increases, it will also increase the influence of CRM to BI that previously existed.

IPMA analysis is carried out to place indicators and constructs in a model into four quadrants that reflect four different results (Figure 1). The X-axis reflects the degree of importance of an indicator or construct (importance), while the Y-axis describes its performance (performance). Quadrant A has high importance, but low performance, so it must be prioritized; Quadrant B has high importance and performance, so it must be maintained; Quadrant C has low importance and low performance, so it is the last priority; and Quadrant D has low importance but high performance. The average relevance and performance values for the constructs and indicators are shown in Table 5. Construct performance and importance averages are 68.133 and 0.218, respectively. It is accepted that readings above this average are high and values below it are low. Two lines can be formed from this data to group the four quadrants in a graph (Figure 1).

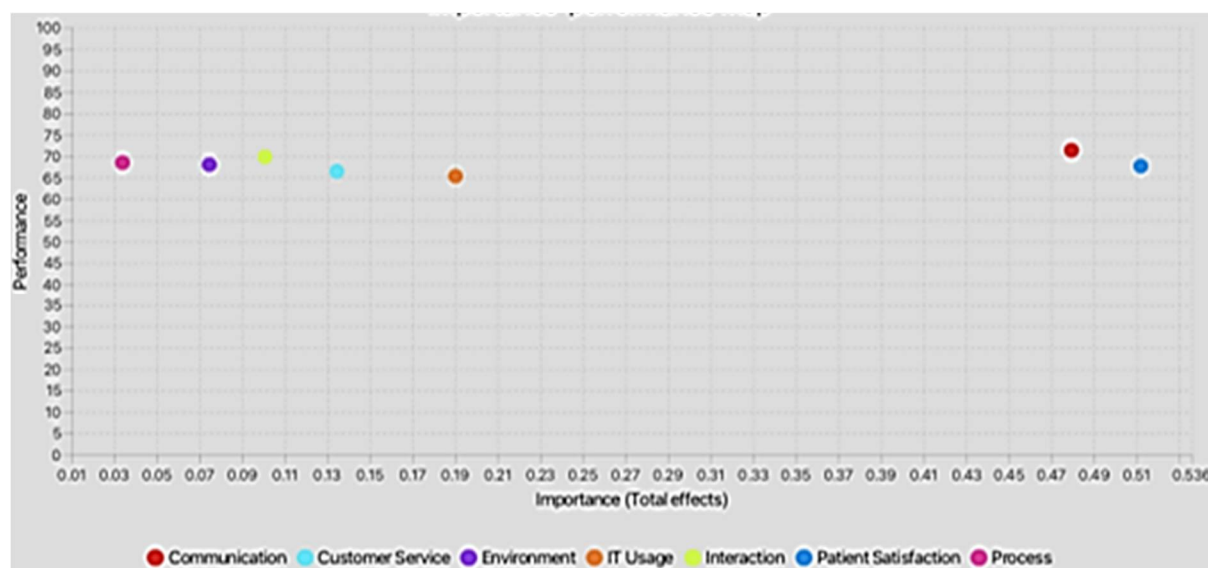


Figure 1. IPMA construct graph

The target construct of the research model in quadrant A / bottom right is PS. This quadrant shows an important area but its performance is still not good. Therefore, important steps are needed to improve PS as a priority for hospital management to improve patient service capabilities in order to achieve PS so that patient BI can increase. In quadrant B / top right, is communication. From this data, it can be concluded that the hospital can maintain communication with patients because it has high interests and performance. Furthermore, in quadrant C / bottom left are IT usage, customer service, and environment. This quadrant shows low performance but also with low interests, so it is not a priority for the hospital to improve patient BI. Finally, in quadrant D / top left are process and interaction which have low interests but are already performing well (Figure 2).

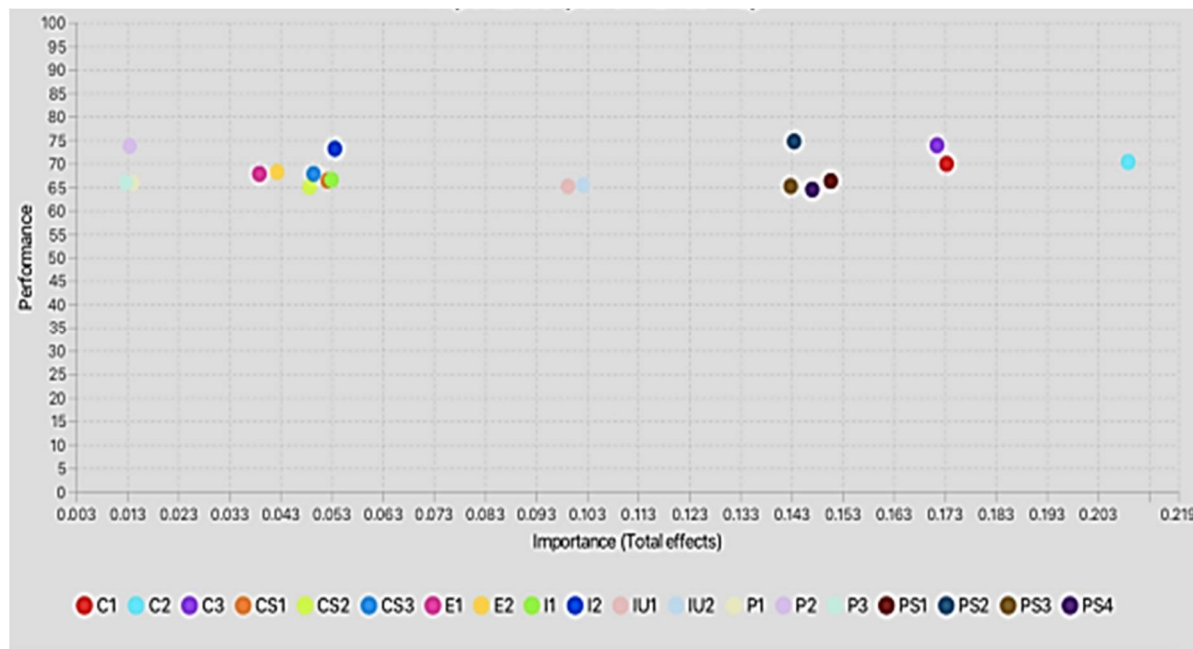


Figure 2. IPMA indicator graph

Furthermore, a more specific IPMA analysis of the indicators can be carried out. Table 5 also displays the average value of the importance and performance aspects of each indicator. The average indicator importance is 0.091 and the average indicator performance is 68.188. As a priority for hospital leadership, indicators IU1, IU2, PS1, PS3, and PS4 need to be improved because they are included in the quadrant with high importance but have not performed well to realize patient behavioral intentions. Indicators C1, C2, C3, and PS2 are in the upper right quadrant, which means that communication in the hospital is running well with high importance, so it can be maintained. Indicators P1, P3, I1, E1, E2, CS1, CS2, and CS3 are in the lower left quadrant, which means that their importance and performance are low. This indicator is the hospital's last priority to be improved. Finally, in the upper left quadrant are P2 and I2, which are indicators with low importance but have good performance.

DISCUSSION

Drawing on the previously reported analysis of the H1 hypothesis test, it is possible to conclude that H1 is accepted, indicating a positive relationship between TQM and PS. This demonstrates how the TQM system raises PS by improving service quality. As a result, if Siloam Hospital can satisfy its clients by offering services in accordance with standards, it is considered to have excellent service. When a customer's satisfaction is not only high but also tends to be consistent with the services offered, then Siloam Hospital Jakarta's services are considered high quality. It also pays attention to the emotional aspect of the customer experience—that is, the customer's emotional reaction to the services received—and consistently considers innovation by offering services that go above and beyond expectations. The health service organization under investigation has adopted TQM in an effort to enhance service quality, hence elevating patient happiness and loyalty.⁽¹⁶⁾

Based on the previously provided H2 hypothesis test, it may be inferred that H2 is accepted, indicating that PS is influenced by CRM. The above analysis's findings indicate that CRM service providers should take it seriously since PS at Siloam Hospital Jakarta has been found to be a significant determinant of loyalty, and a positive relationship between service providers and their clients can lead to this outcome. Customer satisfaction and CRM are positively correlated, according to evidence from the literature currently in publication.⁽¹⁷⁾ Increased customer satisfaction is another benefit that organizations who properly adopt CRM are advised to reap. Based on the results of this study, it shows that the management of Siloam Hospital Jakarta has been able to manage the service management process in the form of increasing ease in registering patient services, improving handling of patient complaints, and improving the ability to build ongoing relationships with patients. This is indicated by Siloam Hospital having a telephone number that can be contacted, telephone calls to Siloam Hospital being answered promptly, and Siloam Hospital providing customers with information about the latest services.

The H3 hypothesis test that have been presented previously, it can be concluded that H3 is accepted, which means that there is an influence between CRM on BI. This shows that the implementation of CRM at Siloam Hospital Jakarta is the most important element in the health service system. All of this increases the need for an

effective and well-coordinated customer approach that has an impact on customer intention at Siloam Hospital Jakarta. CRM helps businesses use human resources to gain insight into customer behavior and the value of those customers.⁽¹⁸⁾ Customer relationship management (CRM) which has an important meaning for any business is no less important than hospital services. Therefore, the implementation of CRM in the health sector, especially in hospitals, will be very beneficial for patient services with the aim of improving health and improving the quality of clinical service.⁽¹⁹⁾

The H4 hypothesis test that have been presented previously, it can be concluded that H4 is accepted, which means that PS is proven to be able to mediate the relationship between the influence of CRM on BI. This shows that for hospitals, patient satisfaction is important because they tend to continue using hospital services and comply with the prescribed treatment plan and maintain their relationship with the hospital and recommend it to others.⁽²⁰⁾ In healthcare, CRM practices are basically Customer-focused strategies that involve effective management of the hospital's interface in interacting with Customers. For instance, a solid patient-doctor rapport may have a significant impact on strengthening the relationship between the patient and the service provider. CRM can therefore assist medical professionals in getting a deeper understanding of their patients, which can enhance care quality and benefit both parties. CRM can lessen the strain of competition and raise the behavior intention of new patients by referring them from satisfied existing patients.⁽²¹⁾ CRM can benefit patients through patient loyalty in addition to service providers. This can lead to better treatment outcomes, continuity of care, and a better awareness of patients' needs.

The H5 hypothesis test that have been presented previously, it can be concluded that H5 is accepted, which means that there is an influence between PS on BI. This shows that the services provided by Siloam Hospital Jakarta have been proven to provide satisfaction with good service quality. PS plays an important role in estimating the quality of hospital services. Satisfaction can be used as a consideration and decision for patient assessment of the success of the service.⁽²²⁾ PS is one measure of the quality of care services and is a reliable tool for planning, implementing, and evaluating hospital service systems. Good quality hospital services have an impact on PS and patient BI, this makes patient BI towards the quality and patient services at Siloam Hospital Jakarta show a sense of satisfaction. It is a must for Siloam Hospital Jakarta to commit to improving the quality of health services provided to its patients by understanding the elements that influence increasing customer satisfaction.

This study provides quite good implications about the ways that can be used to achieve Patient satisfaction. Therefore, managers and service providers in the health care sector, especially at Siloam Hospital Jakarta, who aspire to increase customer satisfaction and their functional capacity and provide added value to the organization, may benefit from this study. The problems explored and described in this study help in building a useful service quality model.

The limitations of the study are that this study collected respondent data online which was distributed via Google Form. This can affect the answers given because there is no direct supervision of the filling process. There is no control over the conditions or environment in which respondents fill out the questionnaire, so external interference or other factors can affect their concentration or understanding of the questions. Another limitation is that this study has heterogeneous data, where respondents have different backgrounds, have different reasons for seeking treatment so that their conditions can affect how respondents understand and answer questions in the questionnaire. For further research, it is recommended that data collection be carried out using a more controlled method, for example by direct interviews or filling out questionnaires under the direct supervision of researchers.

CONCLUSION

This research model uses survey data from patients aged 18 to 65 years who have received treatment at the Siloam Hospital outpatient clinic in Jakarta. Located at Siloam Hospital in Jakarta, the results of the study indicate that TQM has a positive effect on PS. CRM has a positive effect on PS. CRM has a positive effect on BI. PS is proven to be able to mediate the relationship between CRM and BI. PS has a positive effect on Behavior Intention.

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