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**THE IMPACT OF HOSPITAL SERVICESCAPES ON PATIENT LOYALTY
MEDIATED BY PATIENTS' EMOTION AND SATISFACTION: A STUDY AT
PRIVATE HOSPITAL IN INDONESIA**

Illona Andromeda, Ferdi Antonio

Universitas Pelita Harapan, Jakarta

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Corresponding author:

Illona Andromeda
illona.andromeda@gmail.com

Abstract. This study aims to analyze the influence of hospital servicescape towards patient loyalty mediated by patient emotion and patient satisfaction. The research model made based on the adoption of previous study in a healthcare facility, which was empirically tested on patients in a cardiovascular outpatient setting at a private hospital in Jakarta, Indonesia. Data was taken through a simple random sampling, with 162 eligible respondents. Data from respondents were derived through questionnaires using a Likert scale which was distributed online during September 2021 and analyzed using PLS-SEM. Results of this study showed that hospital servicescape has significant influence on mediating variables, namely patient emotion and patient satisfaction. Positive significant relationship was found on positive emotion, which appeared to have the strongest influence towards dependent variable. These findings confirmed the management theory based on servicescape, which had become one of the appealing topics especially with its relation in the healthcare industry.

Abstrak. Penelitian ini bertujuan untuk menganalisis pengaruh servicescape rumah sakit terhadap loyalitas pasien yang dimediasi oleh emosi pasien dan kepuasan pasien. Model penelitian dibuat berdasarkan adopsi penelitian sebelumnya di fasilitas kesehatan, yang diuji secara empiris pada pasien dalam pengaturan rawat jalan kardiovaskular di sebuah rumah sakit swasta di Jakarta, Indonesia. Pengambilan data dilakukan secara simple random sampling, dengan jumlah responden yang memenuhi syarat sebanyak 162 orang. Data dari responden diperoleh melalui kuesioner dengan menggunakan skala Likert yang disebarakan secara online selama bulan September 2021 dan dianalisis menggunakan PLS-SEM. Hasil penelitian ini menunjukkan bahwa servicescape rumah sakit berpengaruh signifikan terhadap variabel mediasi; yaitu emosi pasien dan kepuasan pasien. Hubungan signifikan positif ditemukan pada emosi positif, yang tampaknya memiliki pengaruh paling kuat terhadap variabel dependen. Temuan ini menegaskan teori manajemen berbasis servicescape, yang telah menjadi salah satu topik menarik terutama dalam kaitannya dengan industri kesehatan. Model penelitian ini memiliki akurasi prediksi yang besar sehingga dapat dikembangkan untuk penelitian lebih lanjut.

INTRODUCTION

Indonesia's healthcare has been growing into a very competitive industry, especially within the private hospitals market (PERSI, 2018). Many innovations were done to attract customers, such as introducing the center of excellence from each hospital. These centers of excellence were vast in variation, ranging from cardiovascular center, neuroscience center, trauma center, women and children center, and aesthetic and breast center. A lot of aspects can be evaluated to enhance these centers of excellence, one of which was the medical servicescape. Thus, medical servicescape can be an essential concept to adapt to in hospital marketing to compete in the healthcare sector.

In 2001, the Institute of Medicine announced the shift of service principle from doctor-centered to patient-centered. Therefore, with the increasing competition in the healthcare industry, many healthcare providers were ought to rely to this principle. Many measures and innovations were done to enhance patients' experience and thus satisfaction. In recent years, one of the most appealing topics was to innovate based on the servicescape principle. This principle was initially introduced by Bitner in 1992 and was first reviewed into the healthcare environment by Hutton & Richardson in 1995 (Bitner, 1992; Hutton & Richardson, 1995). This concept of hospitality meets healthcare was known and had been adapted by many healthcare providers ever since (Hall, 2012). This strategy was considered unique by healthcare providers to compete within the industry (Sag, Zengul, & Landry, 2018).

In Indonesia, there were two main types of healthcare institution providers, the public and private hospitals. Interestingly, the latter occupy an absolutely dominant position in the medical service market. In fact, Indonesia's government has implemented medical reforms to encourage social capital to enter the medical sector. As a result, numbers of private hospitals has a steeper growth compared to the public hospitals (PERSI, 2018). Again, with this growth, private hospitals compete with each other to maintain patients' comfort and experience. It can be said that at this time, healing or health is not the only "core product" of a hospital, but rather the comfort and pleasant experience felt by the customers. Customers' – or in this case, patients' expectations and demands can be considered as a reference for hospital managers to enhance patients' need and satisfaction. In competitive market conditions, the key to generate profit is to provide high quality service which leads to customer satisfaction (Han & Ryu, 2009). When high quality service and pleasant patients' experience were not met, certain hospitals might fail to compete and thus won't be able to meet its economic target.

This concept of hospital servicescape have been applied and put into practical work in many developed countries. However, reported on its effectiveness and impact towards loyalty in developing countries, such as Indonesia, are still limited. Therefore, our study aims to empirically analyze the influence of hospital servicescape towards patient loyalty mediated by patient emotion and patient satisfaction in an outpatient setting at a private hospital in Indonesia.

LITERATURE REVIEW

Customer satisfaction is a psychological term which is often associated with service. According to Oliver (1999), satisfaction occurs when one's experience is aligned with one's expectations or hopes. Whereas, Kotler and Armstrong (2016) defines customer satisfaction as "*a person's feelings of pleasure or disappointment that results from comparing a product or service perceived performance (or outcome) to expectations. If the experience falls short of expectations, the customer is dissatisfied. If it matches expectations, the customer is satisfied. If it exceeds*

expectations, the customer is highly satisfied or delighted.” Thus, customer satisfaction is considered to be a reaction or final purpose of customer’s evaluation process.

Customer satisfaction is also tightly related to customer loyalty. When satisfaction is gained from a customer based on his/her previous transaction, then loyalty becomes a consequence or purpose on the upcoming transactions. According to Oliver (1999), loyalty is defined as “*a deeply held commitment to rebuy or repatronize a preferred product or service consistently in the future.*” Generally, satisfied customer can be considered loyal, thus loyalty can be the main consequence of customer satisfaction. Therefore, factors that influence customer satisfaction and loyalty become crucial to be evaluated thoroughly by business players.

Many measures can be done to enhance customer loyalty. Several options and elements were available based on the management and even psychological point of views, which are applicable for an organization to increase its customer loyalty. Customer satisfaction is derived from “cognitive-affective judgments,” which is associated with customer’s experience during transactions or services. This is supported by the stimulus-organism-response (SOR) model by Mehrabian & Russell (1974), stating that psychologically, there is a holistic response towards environmental elements. Based on this environmental psychology theory, tangible signs in the environment can be a stimulus that influences customer emotions in getting experience at a certain environment, where these emotions can then determine their approach-avoidance behavior.

The concept of servicescape was initially introduced by Bitner (1992), who reviewed the role of physical environment in service industry. The term servicescape referred to the style and appearance of a physical environment, which also includes other elements from service environment that shaped customer experience. The servicescape concept includes 3 (three) environmental dimension, which were 1) ambiance; 2) spatial layout, and 3) signs, symbols, and artifacts (e.g. decorations). All in all, the servicescape concept is applicable for service provider organizations as an effort to create pleasant impressions and experience for customers (Bitner, 1992).

Based on previous studies, hospital servicescape has significant effect towards patient emotions (Mody, Suess, & Dogru, 2020). Servicescape is an initial element that influence patient behavior – through cognitive processes and affective processes. In the affective process, patients’ emotions were involved (Lin, 2004). A study by Kim et al. (2017) reported that hospital servicescape, which was assessed based on atmosphere, medical activity, services by nurse, and services by doctors, influenced patients’ emotions. The better hospital servicescape created by a certain hospital, the more positive emotions felt by patients during their treatment, and vice versa. This statement was then supported further by Mody et al. (2019), which revealed that healthcare facilities that adapted hotel-like attributes have successfully created better perceived well-being. Based on this perceived well-being, patients tended to feel more energetic, healthy, emotionally stable, as well as more positive emotions during the course of treatment. Other studies also reported a significant influence between hospital servicescape and patients’ emotions (Hermawan & Yusran, 2015), brand image, as well as pleasure feeling (Loueiro, 2015). In the context of private hospitals, hospital managers need to pay attention to the environment, atmosphere, as well as hospital attributes in the concept of hospital servicescape so that positive emotions can be achieved. Thus, hypothesis can be formulated as follows:

H1. Hospital servicescape is positively related to PE

H2. Hospital servicescape is positively related to NE

Patient satisfaction is a crucial factor in the success of a hospital in providing services. Therefore, attention must be paid to patient perceptions regarding service quality (DCunha, Suresh, & Kumar, 2021). Hospital servicescape according to Kim et al. (2017) had an influence towards

patients' satisfaction during treatment, which was properly reviewed based on both their satisfaction towards the healthcare facility and doctors. Furthermore, the same study reported that hospital servicescape had a positive significant relationship towards patients' satisfaction. Other study also emphasized that physical facility along with modern appearance of a hospital, equipped with advanced medical technologies significantly increased patients' satisfaction. Thus, hypothesis can be formulated as follows:

H3. Hospital servicescape is positively related to satisfaction with doctor

H4. Hospital servicescape is positively related to satisfaction with hospital

Emotions play an essential role in customer reactions and experience (Lee, 2006). Emotions also play as a mediating role between cognitive reaction and other outcomes that were associated with customer satisfaction and loyalty (Lin, 2004). The influence of emotion in environmental psychology has been widely highlighted and reported by many studies, especially in the healthcare sector (Ladhari et al., 2017; Petzer et al., 2012). Patient emotions in health services, according to Kim et al. (2017), can be divided into 2 (two) dimensions, which were negative and positive emotions. The same study also reported that there was a positive influence between patient emotion and patient satisfaction. Patient satisfaction was assessed based on patients' satisfaction with healthcare facility and satisfaction with doctors who provided the medical services. This study was supported by Ladhari et al. (2017) and Pinna et al. (2018) that also reported positive relationships between emotions and patient satisfaction within healthcare sector. Furthermore, a study by Vigolo et al. (2019) reported a positive significant relationship between positive emotions and patient satisfaction, while also reporting a significant negative relationship between negative emotions and patient satisfaction. In the cognitive process, patients will evaluate the overall treatment experience, such as the hospital environment and the overall quality of services provided by the hospital (Lin, 2004). Thus, factors affecting patients' emotions become essential to be evaluated. As a result, hypothesis can be formulated as follows:

H5. PE is positively related to satisfaction with doctor

H6. PE is positively related to satisfaction with hospital

H7. NE is negatively related to satisfaction with hospital

H8. NE is negatively related to satisfaction with doctor

Customer loyalty remains the main goal of a transaction and is influenced by many factors, one of which is emotion (Lin, 2019; Yoon, 2005). In the health sector, increased patient loyalty can be achieved by improving the quality of services and healthcare as well as paying attention to good doctor-patient relationships (Huang et al., 2021). Psychologically, patient loyalty begins with perceived value so that a commitment mediated by trust is formed (Lin, 2004; Morgan & Hunt, 1994). Positive emotions towards an organization will trigger repeat purchases, so that customers are currently in a loyal phase (Oliver, 1999). In the process, the patient will first evaluate the experience while carrying out treatment, then determine whether to commit, then finally establish loyalty to the medical service provider facility (Huang et al., 2021). Therefore, patient loyalty is very dependent to how a hospital can manage a service that can create good emotions for patients. A study by Kim et al. (2017) reported a significant relationship between patient emotion and patient loyalty. Positive emotion has a positive relationship with patient loyalty and vice versa. This finding was supported further by Huang et al. (2021) who reported a significant relationship between high perceived value and patient loyalty. Hospital managers need to pay attention to aspects affecting patients' emotions in an outpatient setting since it can influence patients' loyalty. Therefore, hypothesis can be formulated as follows:

H9. PE is positively related to PL

H12. NE is negatively related to PL

The concept of customer loyalty is a major element in the field of marketing, as well as patient loyalty which grows from customer loyalty in the business sector (Toufaily, 2013). Based on the literature, patient loyalty departs from patient satisfaction with a medical service which then lead to patient trust and loyalty (Lin, 2004; Liu et al. 2021). Liu et al. (2013) elaborated factors that can be assessed in terms of patient satisfaction in the medical field, which were environment of the facilities, medical services, and costs. A study by Kim et al. (2017) reported a significant relationship between patient satisfaction and patient loyalty. Patient satisfaction was reviewed based on 2 (two) aspects, namely satisfaction with healthcare facility and satisfaction with doctor. These two aspects were considered suitable to represent the overall patient satisfaction with the healthcare service experience. Moreover, a study by Lui et al. (2021) revealed similar finding that there was a significantly positive relationship between patient satisfaction and patient loyalty, which was mediated by patient trust. Hypothesis can be formulated as follows:

*H10. Satisfaction with hospital is positively related to PL**H11. Satisfaction with doctor is positively related to PL*

METHODOLOGY

Data collection

Data were collected from patients at a cardiology outpatient clinic in a private hospital through purposive sampling. Questionnaires were distributed through a Google form link in September 2021.

Measures

All constructs were measured with multiple items developed in previous studies and scored using a 5-point Likert scale, ranging from “1 = strongly disagree” to “5 = strongly agree.” Emotion was classified into 2 dimensions based on the Mehrabian Russell’s Pleasure-Arousal-Dominance (PAD) framework, as well as the PANAS scale according to Watson & Clark (1988). Satisfaction was divided into satisfaction with doctor and satisfaction with hospital. Measures for 2 satisfaction was on the basis of Oliver and Swan’s study (1999) as well as previous study by Kim et al (2017). Whereas, for loyalty, measured items were adopted from Han’s study (Han, Kang, & Kwon, 2018).

RESULTS

Profile of respondents

Table 1 shows the respondents’ demographic profile. Most of the respondents were from the age group of > 50 years (70.9%), followed by 41 – 50 years (24.5%), and 31 – 40 years (4.5%). This finding shows that most patients undergoing outpatient treatment at the cardiology clinic are from the age group > 50 years. Based on gender, 54.5% of the respondents were male, while the rest were female (45.5%). This shows that there is no significant difference in the gender of the patients. As for the educational background, it was found that 69.1% of respondents were undergraduate school graduates, followed by high school (30%), and middle school (0.9%). With the background of most patients belonging to higher education, it can be considered that the majority of respondents were able to understand the questions in the questionnaires properly. In regards to occupation, 35.% of respondents were housewives, followed by private employees (30.9%), entrepreneurs (10.9%), civil employees (10%), and professionals (4.5%). Data related to

payment methods showed that 46.4% of respondents used the BPJS Kesehatan facilities, followed by own/family payments (27.3%), private insurance (18.2%), and company reimbursements (8.2%).

Table 1. Respondents' demographic profile

Measurement of reliability and validity

The first stage in the analysis of the outer model is to analyze the reliability indicator (Hair et al., 2019) – which was assessed using the outer loading value. The minimum value limit was required as a limit for each indicator so that it can be said to be reliable. In PLS-SEM, an indicator is said to be reliable if the outer loading value is more than 0.708 (Hair et al., 2019).

Table 2. Outer loading values

Table 2 shows the outer loading values, indicating that 23 indicators from all variables in this research model have an outer loading values above 0.708. Therefore, all indicators in this study are reliable to measure their respective constructs.

Second, an analysis then proceeded by evaluating the construct reliability or reliability consistency (Hair et al., 2019; Sarstedt et al., 2017). This reliability consistency test referred to the value of Cronbach's Alpha and composite reliability. The required result was Cronbach's alpha value above 0.7 as the lower bound, while the composite reliability value was expected to be between 0.7 to 0.95. The composite reliability value of 0.95 can be considered as the upper bound, if a value greater than this value was found, then it can be assumed that there was redundancy in the indicators used (Hair et al., 2019). Table 3 showed the results of the reliability consistency test.

Table 3. Construct reliability values

Based on Table 3, it was found that all variables had Cronbach's Alpha values above 0.7. Composite reliability for patient loyalty, positive emotion, satisfaction with doctor, and satisfaction with hospital showed values between 0.7 to 0.95, thus no redundancy was found. From the data from the consistency test, it can be concluded that all indicators in this research model were reliable to be able to measure their respective constructs.

Third, analysis was continued with a convergent validity test or convergent validity. In testing the convergent validity, the reference value was the average value of the variance or average variance extracted (AVE). A variable can be assumed as valid to be measured by its indicators if the AVE values were more than 0.50 (Hair et al., 2019). Results are shown in Table 4.

Table 4. Average Variance Extracted values

Based on the Table 4, AVE values of the variables in the research model had values greater than 0.50 (Hair et al., 2019). The smallest AVE value of 0.743 was found in the indicator of the hospital servicescape variable. Thus, the indicators in this research model have been considered valid to jointly measure their respective constructs.

Fourth, validity testing was done by assessing the discriminant validity in the model (Hair et al., 2019). This test was conducted to determine whether a construct or variable had well-discriminated indicators to measure the construct specifically. The method used in the discriminant validity test was to see the value based on the Fornell-Lacker criteria. Table 5 concluded that all indicators in the research model had been well discriminated so that they can measure their respective constructs specifically.

Table 5. Discriminant validity using the Fornell-Lacker criteria

Based on the four parameters of the reliability and validity test results on the outer model as mentioned before, namely the reliability indicator (with the outer loading value), construct reliability (with Cronbach's alpha and composite reliability values), construct validity (with the average variance extracted value), and discriminant validity (using the Fornell-Lacker criteria) a general conclusion can be drawn that all indicators were reliable and valid to measure their respective constructs specifically.

Structural model

Analysis of the model was continued by assessing the quality of the research model based on the R-square value. The R-squared value or the coefficient of determination of a model can be seen from two aspects; 1) explanatory power or how much ability the independent variables in the research model can explain the dependent variable, 2) predictive accuracy or the strength of the independent variables in the research model to predict the dependent variable to a certain degree, which was classified into weak, moderate, and strong (Hair et al., 2019; Cohen, 1988). The R-squared value is said to be substantial or strong when it is 0.75, moderate when it is equal to 0.50, and weak when it is equal to 0.25. However, if the R-squared value is found above 0.9, it can be considered overfit. (Hair et al., 2019). The results of the model test through bootstrapping resulted in the R2 value for each variable, as shown in Figure 1.

Figure 1. Structural model – dashed red arrows represents a statistically insignificant relationship between variables.

The next stage in the analysis of model quality with PLS-SEM was the Q-squared test. This test determines the predictive relevance of a latent variable in the research model. The Q-squared value is in the range of 0 to 1 (Hair et al., 2019). If it is found that the Q-squared value is more than 0 to 0.25, it is said to have small predictive relevance. If the Q-squared value is between 0.25 to 0.5, it is said to have medium predictive ability relevance. If the Q-squared value is more than 0.5, it is said to have large predictive relevance. The greater the Q-squared value obtained or the closer to the value 1, the more accurate the predictive ability of a variable to predict research output, which is relatively the same if there is a change in data parameters (Hair et al., 2019). So, it can be said that this value can indicate the quality of the proposed model for empirical testing. The value of Q-squared was obtained from the results of calculations using the blindfolding menu on PLS-SEM.

Based on Figure 1, it can be seen that patient loyalty has a large predictive relevance with a Q^2 value of 0.664. Thus, this research model can be considered to have a large predictive ability on the patient's perception that the hospital has sought services that will result in patient loyalty.

Hypothesis testing

In the analysis of the structural model, the next stage focuses on answering research questions through a significance test on the 12 paths in this research model. The test aims to determine the significance of the influence between variables in the research model, thus it can be generalized at the population level. This test was carried out using the bootstrapping method using re-sampling and processed with SmartPLS™ 3.3 (Ringle et al., 2015). The results of hypothesis testing can be assessed by looking at two empirical test values, namely the significance and coefficient value. Direction of the coefficients must be in accordance with the direction of the

proposed hypothesis since the nature of this hypothesis is directional, or one-tailed. If the t statistic value derived from bootstrapping is greater than the T-table value, 1.645 (with an alpha of 0.05), the relationships between variables are said to be significant (Ringle et al., 2015). The analysis of this research model was carried out using a one-tailed hypothesis test with a significance level of 0.05.

Table 6. Hypothesis testing

Table 6 shows the results of hypothesis testing of the 12 hypotheses in this research model. There are 9 hypotheses that are significant with coefficient values in accordance with the direction of the proposed hypothesis, and there are 3 hypotheses that are not significant.

DISCUSSION

Practical Implications

Findings of this study can provide managerial implications in the form of suggestions for hospital managers or owners, especially type C private hospitals to be applied based on the concept of hospital servicescape. Management needs to observe that the environment and atmosphere in the hospital needs to be supported by several attributes and resources so that it can create a pleasurable experience for patients. Based on our findings, several suggestions can be given as practical implications, which are as follows; First, related to satisfaction with hospital. Hospital managers can improve this indicator by distributing surveys or feedback sheets from cardiology outpatients regarding aspects needing improvements. As a result, the hospital can improve the facilities, layout, and services of the cardiac polyclinic based on the patient's expectations.

Second, hospital needs to pay attention to factors related to the patient's positive emotions. In managing comfort for patients during treatment, it is expected that hospitals will become more adaptive, for example in the current COVID-19 pandemic situation. Due to the many things that are newly discovered and developing rapidly, the concept of hospital servicescape must also adapt according to these conditions, such as implementing health protocols that are in accordance with the support of certain facilities. This includes implementing the use of appropriate personal protective equipment (PPE) for all medical personnel, providing disinfectant facilities for patients, controlling physical distancing flows, ensuring the cleanliness of the patient waiting room, and others. That way, patients at the hospital can more comfortable and protected.

Third, hospital managers or administrators can incorporate components of hospitality-based products and services into healthcare. Hospitals do not need to design a luxurious environment at the expense of patient-focused service quality, but on the contrary, these findings suggest the need to add practical products and services that can complement each other to turn the tangible into intangible, so as to provide a better treatment experience. better (Pizam, 2015). Improving the services provided can be a good starting point. Thus, training and interventions are needed for health workers to develop and implement service skills that promote better quality of care for patients (Sirgy & Jackson, 2015; Steele, Jones, Clarke, & Shoemaker, 2015). Hospital managers need to pay attention to the images that arise in patients at the cognitive level. Cognitive services in this study can be in the form of a medical clinic atmosphere (cleanliness, lighting, overall color, aroma, temperature), medical activities (medical care, diagnostic time, consultation hours), and services by health workers (kindness, professionalism, communication, care). of plans). The different elements of the hospital servicescape indicate that hospital managers need to monitor the variety and quality of medical services, the environment and health personnel.

Limitations and Future Research

Several limitations were found in the study and should be considered for future studies. First, respondents in this study were limited to patients undergoing outpatient care at the cardiology care of a type C private hospital, so that the ability to generalize the results of this study's findings was limited. It is recommended for future studies to include more hospital units, e.g. inpatient and emergency department, or even the hospital as a whole. That way, number of respondents becomes larger and the assessment related to the hospital servicescape in the health service units can be more more accurate to generalize.

Second, type C hospitals are generally smaller than type B and A hospitals which are obviously bigger in terms of space and facilities. Therefore, it is recommended for this research model to be tested in type B and A hospitals so that the number of respondents and assessments related to the hospital servicescape becomes larger and more representative at the population level.

Third, research data collection was carried out during the COVID-19 pandemic period, where most outpatients tended to decrease and avoid visiting the polyclinic if it was not an emergency. Although patients should have regular check-up visits every month, most patients preferred not to come and only make routine drug dispensing through pharmacies.

Conclusion

The structural model of this study was known to have strong predictive accuracy and large predictive relevance for patient loyalty. It can be concluded that this research model can predict patient loyalty adequately and thus can be suggested to be replicated and tested in different populations.

Findings of this study also confirmed the servicescape theory (Bitner, 1992), where this theory can be implemented in the context of hospital organizations. Moreover, this study also supported previous empirical research models (Kim et al., 2017) and showed new contributions to the importance of the hospital servicescape in private hospital management, especially in the context of type C private hospitals.

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